Figure 26. Top: Feeder Ditch F.4509 cut by pad foundation F.4555. Bottom: Upper deposits of rubble and domestic waste within feeder ditches in slot 4152, looking east

Figure 27. Geological-level contour map with estimated projected course of feeder ditches from springhead source

Only the basal fills of the earliest Feeder Ditches F.4761 and F.4768-9 had not been removed by later recutting. Seen only in Slots 4152 and 4166, these consisted of dark grey charcoal-rich clayey silt, a small quantity of animal bone and pottery, and very little building material. Abundant charred wood with frequent cereals, seeds, dry land herbs and straw registered in the bulk soil samples and may indicate the use of cereal processing waste as tinder, kindling or fuel raked out from the hypocaust (see *Environmental Analysis*). Thereafter, successive recuts produced an increasing quantity and range of material with a continued frequency, but wider range, of charred wood and cereal waste. As well as containing the majority of the building's pottery and a complete lower ring of a rotary quern (Cat. No. 1855; Fig. 38), the character of material from the later ditches appears to take on an increasingly domestic form (Table 16; Fig. 26), with greater prevalence of spelt and wheat, as well as herbs, and quantities of butchered animal bone along with other dietary indicators that included fish bone and egg shell. This suggests that when no longer in use as a water source, the Feeder Ditches to the rear of Rooms 4 and 5 remained partially open when Structure 3.2 was in use, whereas at the rear of Room 3 they were entirely infilled to enable the room's remodelled extension.

Feature	Animal Bone (g)	Metal	Pottery no. (wt., g)	Shell	Tesserae	CBM no. (wt., g)
Surface	801	Fe x1 Cu x1	40 (1072)	.	7	32 (10425)
4509	8150	Fe x5	74 (1071)	26	90	273 (84,525)
4754	3605	Fe x4 Cu x1 Pb x1	55 (1800)	6	7	218 (81,483)
4761, 4768-9	207	.	20 (719)	3	4	141 (57,427)
Total	*12763*	*13*	*189 (5062)*	*35*	*108*	*664 (233,860)*

Table 16. Finds from Feeder Ditches, slots 4152, 4154 and 4178, on order of succession from bottom to top.

Structure 4

This was built of two rows of posts framed by a masonry wall aligned northwest-southeast on its long axis, parallel to the enclosure-compound, and with a porch on its northeast side. Two main phases of the building were evident (Structures 4.1 and 4.2; Table 17; Fig. 28). The post aisles of Structure 4.1 extended over 27m (5m wide) and the interior width between the walls was 13.5m. The datable coinage, seven coins, shows the building to have been in use from at least AD330-341 and was eventually dismantled by AD350-353, possibly owing to a fire. This was then replaced by Structure 4.2, a smaller aisled building with post aisles up to 17.5m long (5m wide) and its interior between the walls up to 13.5m wide, with a foundation plan almost mirroring that of Structure 4.1, except for a minor re-alignment and its reduced scale. Gable-end walls survived only as traces in the Structure 4.2, extending its length to 25.25m; Structure 4.1 may have been *c.* 10m longer.

	Structure 4.1		Structure 4.2	
	Ave width (m)	Ave depth (m)	Ave width (m)	Ave depth (m)
Post pits, South row	1.5	1.02	1.48	0.85
Post pits, North row	1.46	1.13	1.62	0.78
Post pits, corners	.	.	1.54	0.77
Wall robbing, South	1.04	0.29	0.55	0.17
Wall robbing, North	0.5	0.13	0.59	0.14
Wall robbing, East	.	.	0.54	0.05
Wall robbing, West	.	.	0.45	0.14

Table 17. Summary of Structure 4.1 and 4.2 feature dimensions.

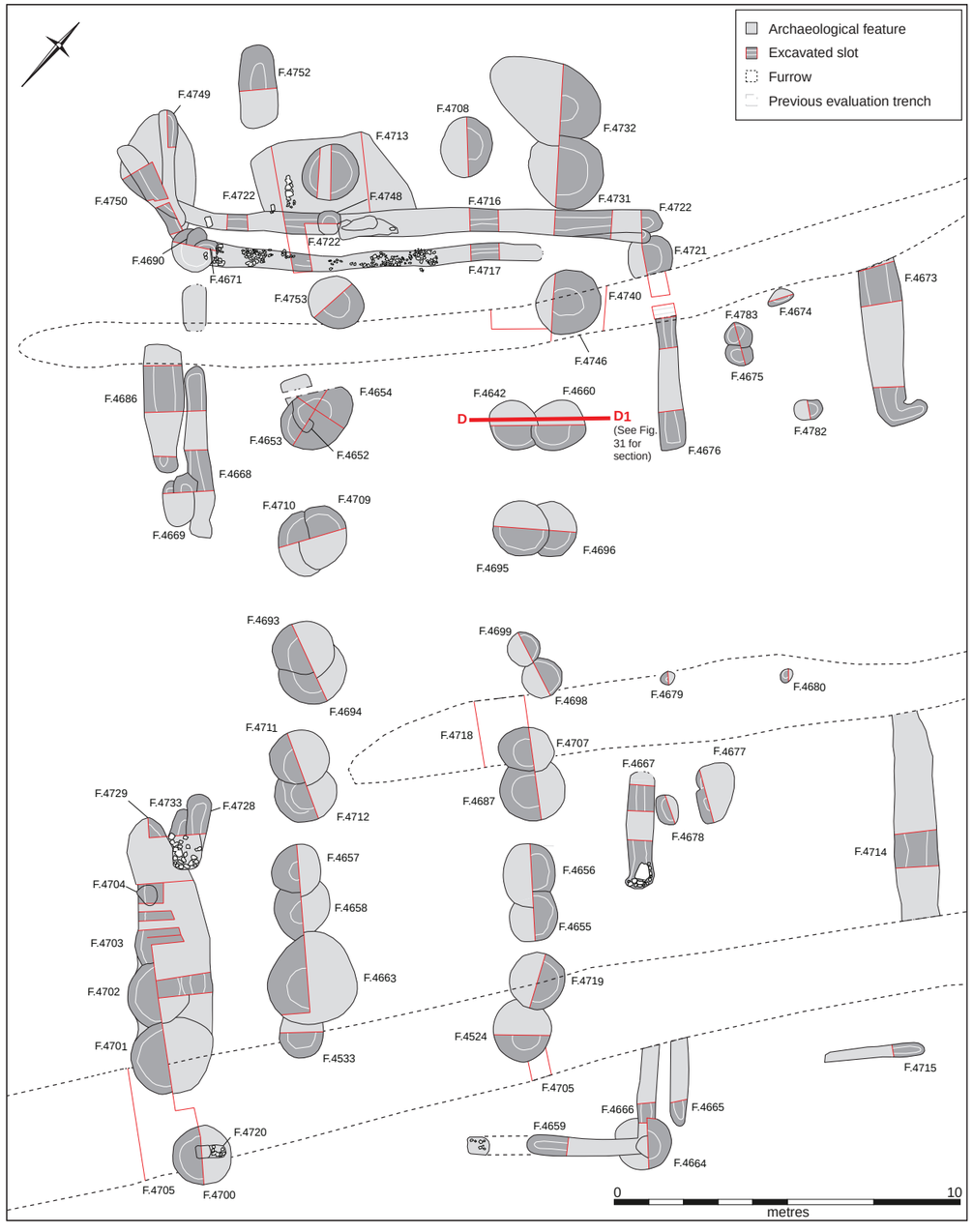


Figure 28. Structure 4

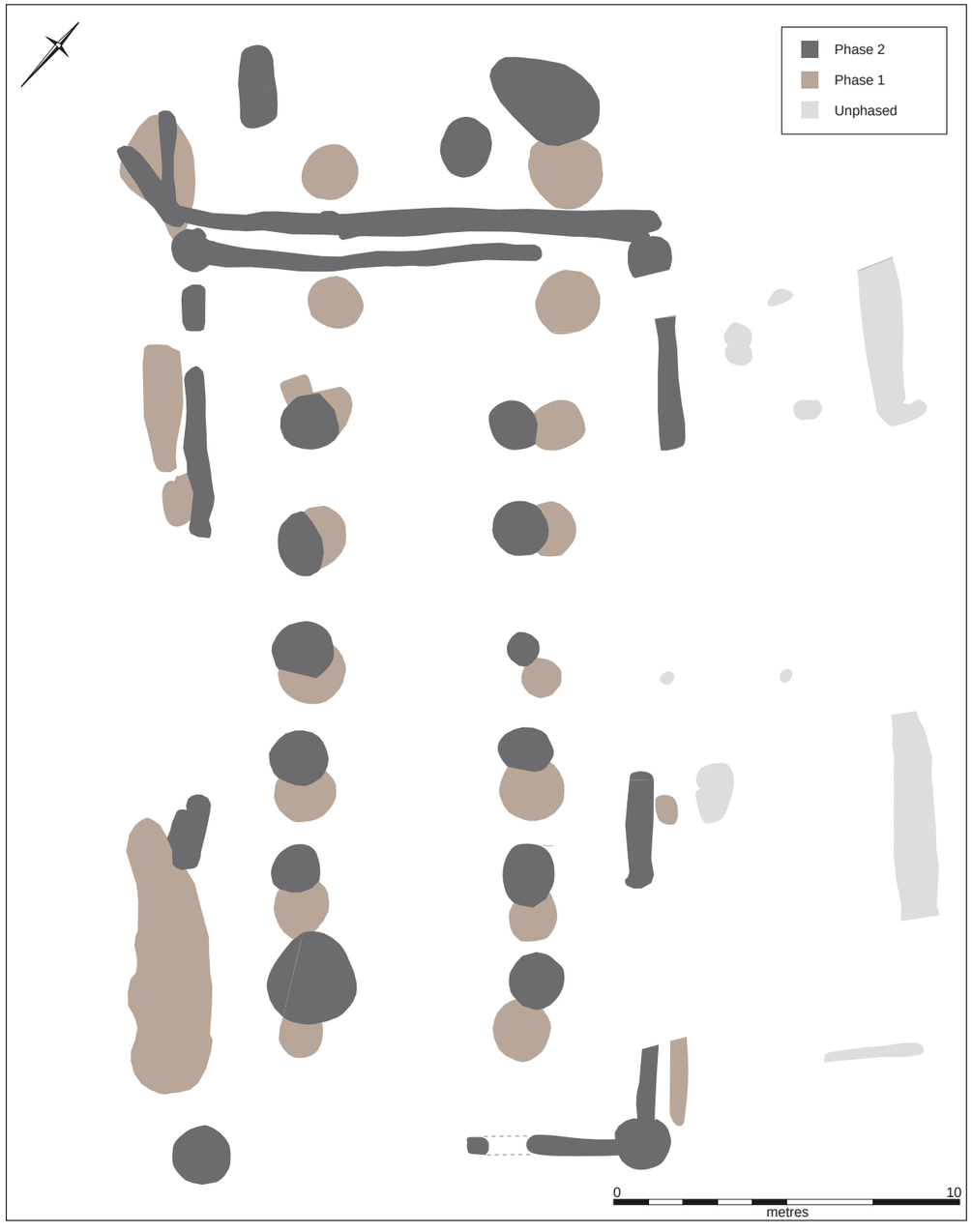


Figure 29. Structure 4 phase plan

Figure 30. Top: pre-excavation view (looking northwest) of post pits F.4655 (black) and F.4656 (white); F.4687 and F.4707 in background. Bottom: Stone in wall robber trench terminus F.4676, looking northwest

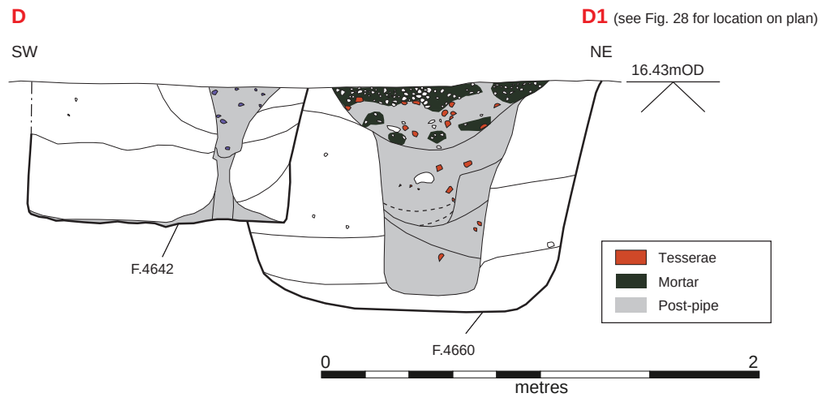


Figure 31. Photographs and sections of half-sectioned post pits. Top: F.4655 & F.4656. Middle: F.4657 and F.4658. Bottom: F.4642 and F.4660

	Animal Bone (g)	**Shell**	**Pottery**	**Metal**	**Tesserae**	**Stone tile**	**CBM no. & wt.** (g)
Structure 4.1 Post Pits	157	20	93	Fe x10 Cu x8	1913	7	397 (7127)
Structure 4.1 Walls	33	1	20	Fe x6 Cu x15	84	.	58 (319)
Structure 4.1 Total	*190*	*21*	*113*	*Fe x16* *Cu x23*	*1997*	*7*	*455 (7446)*
Structure 4.2 Post Pits	190	37	40	Fe x7 Cu x2 Pb x2	445	1	98 (2119)
Structure 4.2 Walls	.	3	6	Fe x1 Cu x1	202	1	9 (361)
Structure 4.2 Total	*190*	*40*	*46*	*Fe x8* *Cu x3* *Pd x2*	*447*	*2*	*107 (2480)*

Table 18. Overview of Structure 4.1 and 4.2 finds assemblages

Post-Medieval agricultural furrows, drains and ploughing had impacted upon localised portions of the building's upper profile to a maximum depth of 0.2m. Below this, the deposits were unaffected. Each structure produced a fairly small, but comparable, finds assemblage; ceramic building materials, though present, were mainly unidentifiable small fragments (Table 18). A greater frequency of cereals was recorded from Structure 4.1, which may indicate some change in use with the establishment of Structure 4.2.

Structure 4.1

Two rows of eight post pits extended over 27m forming a central nave 5.0m wide. The sides of the pits were either near-vertical or a steep concave profile, with flat bases, and averaged 1.02m deep on the south row and 1.13m on the north row; the pit widths in both rows averaged to *c*. 1.5m (Table 17). Substantial post pipes, 0.4-0.5m wide, were visible in 11 of the 16 pits, each encased by a firm packing of clay (Fig. 31). Lenses of charcoal were recorded in the base of four of these and in the upper fills of seven, with all displaying a moderate content of charcoal. No pads of any form were encountered in the base of the pits. Three of eight Roman coins from six of the pits – all from robbed post pipes - could be dated to AD330-348, AD335-341 and AD348-350.

Lines of an enclosing wall were visible as robber trenches along the long axis of the building but were absent at the gable-ends. Giving the building's interior an overall width of 13.25m, these formed narrow side-aisles set 2.5-3.5m from the edge of the post pits. The scale of the robber trenches on the building's southwest side was notably greater than on the northeast side (Table 17). Features F.4701-4 on the southwest side formed one length of robbing. Seemingly dug as interconnected sub-circular cuts, each was filled by the same homogenous yellowish brown silty clay. From these, a total of 13 Roman coins were recovered (Hoard 2). Most were too abraded for analytical detail, but two dated to AD337-341 and two were slightly later, respectively dating to AD343-348 and AD350-353.

A total of 1997 stone and ceramic *tesserae* were recovered from Structure 4.1, 97% of which were located in features on the building's northeast and southeast sides. Cereal grains from 12 of 15 samples in Structure 4.1 were not of a sufficient quantity to indicate that processing occurred, though it is possible that cereals were either stored or used as fodder, bedding or fuel. Post pits F.4655 and F.4658 to the southeast end of the building contained particularly rich charred assemblages within their upper profiles, which may point to a fire within that part of the building.

South post pits, Fs.4533, 4654, 4658, 4694, 4709, 4712, 4713, 4753; *North post pits*, Fs.4524, 4655, 4660, 4687, 4696, 4698, 4731, 4740; *South walls*, Fs.4662, 4669, 4686, 4701-4, 4733; *North walls*, Fs.4665, 4678

Structure 4.2

A 4th century AD *nummus* was recovered from the southeast wall robber trench F.4668 with another from post pit F.4657; both too abraded for dating, these may also have derived from the backfill of Structure 4.1 features.

Structure 4.2 was evidently a completely new 'project' of the first building, with two rows of six post pits cutting those backfilled after the demolition of Structure 4.1. This formed a central nave, again 5m wide, but which extended along 17.5m (i.e. a reduction of almost 10m from Structure 4.1). The sides of the pits were straight and vertical, with a flat bases; though of broadly similar widths to Structure 4.1's post pits, those in Structure 4.2 were *c*. 0.20-0.35m shallower (Fig. 31). Narrow post pipes, 0.15-.20m wide, were visible in five pits; four of these were charcoal-rich, often with degraded mortar. At the base of pit F.4663 was a deposit of ceramic tile fragments laid over roof slate; this being the only example of any form of padding. The pit fills were otherwise more homogenous than those of Structure 4.1, being of varying shades and consistencies of mid to dark yellowish brown silty clay. This made the pits almost indistinguishable from the natural geology were it not for a capping of chalk exposed from their uppermost fill, present either as just a few pieces or in some abundance (Fig. 30). Covering in some instances the entirety of the pits as a thin spread, and occasionally mixed with chunks of mortar, the chalk most likely derived from the demolition of the walls rather than representing the remnant of any floor surface. A dump of large pieces of faced chalk with mortar chunks ([17038]) filled the upper profile of pit F.4695 and supports this view.

The outline of the building's perimeter wall was fragmentary, but was evident as shallow 0.04-0.17m deep, *c*. 0.5m wide robbing trenches on each of its four sides (Table 17). No *in situ* masonry survived, though traces of a foundation of heat-affected and unmodified cobblestones was present in F.4659, F.4666, F.4668, F.4717, F.4720 and F.4728. Lumps of chalk and flecks of mortar were noted in the dark grey clayey silt fill of F.4676, and in the base of the east terminus of F.4667 was a large flat sub-rectangular sandstone and stone rubble tipped in against the cut; lacking any residue of mortar, this may represent a post pad and packing material (Fig. 30).

The walls enclosed an area of 25.25 x 13.25m (334.5sqm), forming with the post pit rows an 'aisle' of 3.5-4.0m at the building's gable-ends and 2.0-3.0m on its long sides. This outline was further bordered by post pits in each of the four corners: F.4664, F.4672, F.4700 and F.4721. These were of comparable proportions to the main aisle post pits and in each was a narrow (0.1-.15m diam.) charcoal and mortar-filled post pipe encased within a firm clay packing. Unlike the pit rows in which the upper profiles of the post pipes were masked, the pipes within the corner posts were visible on the ground surface. The walls overlay the packing fill of these post pits but terminated either side of the pipes, thereby giving some indication of the order of construction.

South post pits, Fs.4653, 4657, 4663, 4693, 4710, 4711; *North post pits*, Fs.4642, 4656, 4695, 4699, 4707, 4719; *South walls*, Fs.4668, 4728; *North walls*, Fs.4666, 4667, 4676; *East walls*, Fs.4659, 4720; *West wall*, Fs.4717

The Annex

Half a metre from the Hall's northwest gable was an 'annex' with its own two-phase sequence. Annex 1 was a gulley (F.4722) aligned with the gable walls of Structure 4.2 and respecting of the northern corner post pit, F.4731, from where it turned west; several metres on, it cut wall F.4662 of Structure 4.1 and there it terminated. Averaging 0.65m wide and 0.35m deep, the gulley was filled with dark yellowish brown silty clay but contained no finds other than two *tesserae*, and no inclusions of CBM. This was cut by a second gulley, F.4716, representing Annex 2. This projected from the building's northern corner post pit on the same alignment. A shorter, 3m gulley, F.4749, was set perpendicular to gulley F.4716 from the building's west corner. Both up to 0.5m wide and 0.15m deep, gulley F.4716 was filled with compact burnt pinkish mortar; whereas gulley F.4749 contained (mortar-free) dark grey charcoal-infused silt.

The largest feature within the 'interior' of the annex was an oval pit, F.4732 (2.1 x 0.85m) that was 0.65m deep. Although cutting post pit F.4731 of Structure 4.1, it produced an assemblage of Late Iron Age pottery (23 sherds) and the head of an adult human femur, all evidently intrusive; a sample from the pit was not informative. Also present were two shallow, 0.15m deep hollows, F.4708 and F.4752, filled with dark grey silty clay with small fragments of slate tile; three *tesserae* and an iron nail were found in F.4752. A concentration of small roof slate fragments was noted in the surface deposits 5m

west of the annex (Slot 4148) over an area of 2 x 3m, with fragments noted individually over a 10m radius beyond that.

Fs.4716, 4722 (and F.4750), 4749

The Porch

On the Hall's long northeast-side, gullies F.4673, F.4714 and F.4715 enclosed two sides of a 7.0 x 23.0m porch-setting. Owing to their shallow depth (*c*. 0.2m) the gullies had been heavily truncated by post-Roman agriculture. Despite this, three small shallow postholes containing cobblestones and *tesserae* were still visible: F.4679, F.4680 and F.4783. Four shallow silty-clay filled hollows containing flecks of CBM were also present: F.4674, F. 4675, F.4677 and F.4782. Together, the group produced just two sherds of pottery, three oyster shells and 42 *tesserae*. There was no indication as to whether this related to one or both Structures 4.1 and 4.2.

Fieldsystem and the Enclosure-Compound

A system of field-allotment and trackways was evident in Phase I (see Fig. 14). Of this system, ditch F.4648 passed beneath and was truncated by Structure 3, thereby illustrating the system's primacy within the sequence (Phase I.1). Structure 3.1 bath-house and attendant buildings were, therefore, apparently erected within an already established landscape (Phase I.2). The provision of water to the bath-house via the Feeder Ditches connecting with springheads to the northeast of the site is a key determinant of the sequence that saw the establishment of the double-ditched enclosure-compound once the Feeder Ditches had fallen out of use (and the project of Structure 3.2 was fully initiate; Phase II). The Feeder Ditches are considered elsewhere, along with Structure 3. Use of the fieldsystem may have continued into Phase II, but later recutting of the enclosure's outer ditch appears to have also truncated part of the fieldsystem that by then was seemingly infilled.

Fieldsystem

The pre-enclosure fieldsystem comprised a coaxial arrangement of ditches F.4500, F.4510, F.4521, F.4643 and F.4648, with a possible trackway aligned northeast-southwest on the site's northwest side paired by ditches F.4643 and F.4622. The scale of these ditches was consistent: *c*. 1.5m wide (F.4622 being the only wider example at 2.1m) and 0.45-0.60m deep. These were predominantly filled with one or two uniform deposits of mid or dark yellowish brown silty clay and there was no evidence that these had been recut. Finds were few and dominated by animal bone, mainly in ditches F.4510 (345g) and F.4643 (243g).

Fs.4500, 4510, 4521, 4622, 4643, 4644, 4692 (and Evaluation F.46)

The Enclosure-Compound

Framing the villa-estate's buildings was a rectangular enclosure (interior dimensions: 220 x 110m) laid upon a northeast-southwest axis and formed of two parallel ditches spaced *c*. 6.0m apart (Table 19), with an interior partition-boundary. The full extent of the enclosure lay beyond the northeast of the excavation area. The north arm of the its outer ditch and its interior partition were superimposed upon pre-existing fieldsystem boundaries. At one stage the outer enclosure ditch was entirely recut, and in all of the enclosure's ditches a three-tier deposit sequence was observed: basal, middle and upper (Fig. 32).

No interruption across the enclosure's circuit was exposed within the excavation area; nor were any obviously visible in the geophysical survey. Any entranceway must, therefore, correspond with a northeastern approach or else have been somehow bridged.

The Outer Ditch Circuit

The enclosure-compound's outer ditch (F.4506, F.4511 & F.4649) utilised field boundary F.4643 on its north arm, but was otherwise a 'fresh' cutting. Twenty-one slots were manually excavated across it circuit. Its sides were slightly concave to a near-flat base, splaying slightly wider along the centre of the west arm where the site's geology was sandier; its base and mid-profile were filled with pale silty clay. A band of light yellowish brown silty clay up to 0.1m thick was noted in a number of slots as a 'middle' band separating the upper from the basal deposits; this contained no finds. The ditch's upper profile was filled with mid brown clayey silt. The ditch produced a small finds assemblage overall, with animal bone (148g) and nine *tesserae* (328g) from its base deposits, and pottery (four sherds), animal bone (11g), shell (36g) and just 30g of CBM from its upper deposits.

The Outer Circuit Recut

Deepening the outer ditch by *c.* 0.15m, a narrow recut (F.4515, F.4576 & F.4650) along the entire ditch circuit had a profile of straight near-vertical sides and a flat base that was filled with mid- to dark grey clayey silt with occasional charcoal. The deposit boundaries were often distinguished by tip-lines of CBM, with domestic waste present in each of the fills. The basal, middle and upper deposits each produced 1.1-2.5kg of animal bone respectively. Small quantities of shell came from the basal (76g) and upper fills (140g), and in each deposit only a small amount of pottery (5-39 sherds) and metalwork (1-3 items per deposit in total) was recovered. The quantity of CBM from the basal deposits was minute (1147g) compared with the mid-profile (44,617g) and upper fills (31,983g), which together also accounted for 16 times more *tesserae* than from the base. However, these figures are skewed by the nature of CBM deposition, characterised by few large and localised dumps in the vicinity of Structure 4, particularly the mid-profile deposits of Slot 3987 (41kg, and all of the *tesserae*) and the upper fill of Slot 4093 (26kg; Fig. 33).

Feature	**Ave. Width** (m; min-max)	**Ave. Depth** (m)	**Pottery no.**	**Animal bone** (g)	**Tesserae no.**	**Metal no.** Fe Nails / Cu coins	**Glass no.** Vessel / Window	**Shell** (g)	**CBM** (g)
Outer Ditch									
4506	1.31 (0.5-2.7)	0.56	3	1288	5	3 / 0	1 / 0	6	1306
4511	2.01 (0.9-2.9)	0.59	2	159	9	2 / 0	.	30	135
4649	1.45	0.60	.	.	.	.	.	.	0
Outer Ditch Recut									
4515	1.86 (1.4-2.3)	0.72	48	5498	146	1 / 4	.	204	77890
4576	1.27 (0.6-2.1)	0.59	4	1235	2	7 / 1	.	4	1228
4650	1.55	0.75	2	173	.	.	.	.	1515
Inner Ditch									
4508	1.96 (1.6-2.9)	1.00	205	5084	207	28 / 7	1 / 1	2244	16556
4512	1.89 (0.8-3.1)	0.67	214	4486	37	21 / 38*	4 / 2	444	4064
4513	1.75 (1.0-2.5)	0.84	123	2619	18	10 / 0	4 / 1	394	18525
Interior Partition Ditch									
4500	1.35 (1.1-1.5)	0.49	761	12826	137	66 / 5	12 / 11	4200	27726
evals			383	7510	33	69 / 12	6 / 24	6145	19648
4521	1.60 (1.4-1.9)	0.61	157	2620	4	9 / 0	.	178	2069

Table 19. Summary of enclosure ditches' main attributes (*includes hoard of 28 coins).

The three coins in the outer ditch recut all came from the mid-profile fill of Slot 3987 ([16270]) near to Structure 4, one of which was dated to 342-348AD.

Figure 32. Enclosure inner ditch F.4508, slot 4061, southeast of Structure 4

Figure 33. CBM dump in enclosure outer ditch F.4515, slot 3987, south of Structure 4

The Inner Ditch Circuit

The enclosure-compound's inner boundary was similar in width to the outer boundary, but was also 0.1-.25m deeper with near-straight sides slightly inclining towards a flat base. Twenty-five slots were opened, wherein no sign of a recut was observed. The basal deposits were accumulations of moderately stiff pale greyish blue silty clay with occasional domestic waste, including bone (1820g), pottery (85 sherds) and shell (130g). As with the outer ditch, the CBM quantities were vastly greater in the upper (14,513g) and mid-profile (16,392g) deposits than from the base (2636g). Mid to dark grey clayey silt filled the upper and middle fills, often with charcoal flecks and near-equal amounts of domestic waste from each: pottery (253 total sherds), animal bone (9.9kg total) and shell (2.9kg total).

A hoard of 28 copper alloy coins (Coin Hoard 1, Cat. No. 2373) was found on the inner lip of the ditch surface of the enclosure's northwest arm; the time-line of 15 of these spanned AD330-337, and three dated to AD337-341, AD343-348 and to AD 350-388. Two other coins found separately from ditch's upper deposits covered a time-line of AD330-341AD. A coin from redeposited clay associated with the boundary between the middle and upper deposits in Slot 4015 ([16215]) was dated to AD 364-378AD. Backfilling of the ditch may, therefore, have occurred after AD364 and no later than AD388.

The Interior-Partition Boundary

The enclosure's interior-partition was formed of a recutting of part of the fieldsystem ditch F.4500 and, beyond this, a smaller segment of the F.4521 field boundary may have survived as a slight hollow over which Structure 1 was subsequently erected. This boundary was the focus for much of the 2009 and 2013 trench evaluations, from which it is now evident that the inner ditch of the enclosure's southeast arm turned northwest and into the partition boundary.

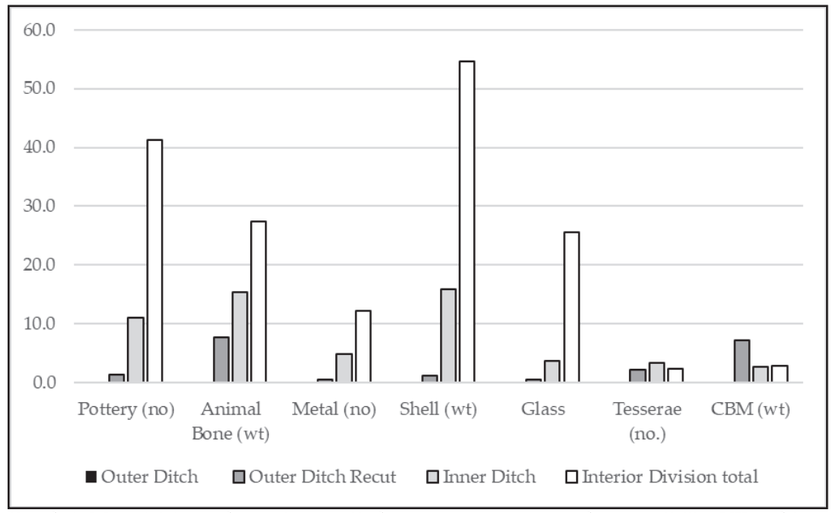
The same three-deposit sequence was evident within five of the eight hand-excavated slots within ditch F.4500. The quantity of material that this produced was substantial, amounting by weight to 54.6% of the site's overall shell count and 27.4% of its animal bone and, by sherd count, 41.3% of its pottery and 25.6% of its Roman glass (Table 20; Graph 1). The majority of this derived from the upper deposits, including 92.8% of the ditch's CBM (6940g), which, unlike the enclosure's outer ditch, was distributed across the length of the ditch rather than within localised dumps. One exception to this was at the intersection of the mid-profile and upper deposits within the ditch's northwest terminus. There, a substantial dump of chalk lumps spread for up to five metres; though with no signs that the chalk had been worked, this may be building material derived from Structure 1, which was situated just a few metres beyond this.

Twenty-two Roman coins were recovered from ditch F.4500. Twelve of these were forthcoming during the evaluation trenching, at which time only a two-horizon deposit sequence was identified and the coins were assigned to the uppermost of these. The most favoured interpretation was that deposition of the material into the ditch was best-dated by a coin minted AD364-375; coins minted in AD346-348 were considered to be redeposited (Cessford 2015, 49). From the most recent investigations only two coins collected from the surface of F.4500 could be accurately dated; one to AD330-341, and the other to AD337-341. Earlier than either of the dates previously suggested for the ditch's backfilling; nonetheless, it is possible that these earlier coins, within the range of AD346-348, instead relate to the deposition of material into the ditch's mid-profile, rather than representing earlier redeposited items.

Graph 1 and Table 20 are instructive for an appreciation of the comparative material character of the enclosure-compound's respective features from the view of the mid-profile and upper deposit assemblages and a comparison of their overall assemblages as an entire group.

	Pottery no.	**Animal Bone wt.**	**Metal no.**	**Shell wt.**	**Glass no.**	**Tesserae no.**	**CBM wt.**
Outer Ditch	0.1	0.2	0.0	0.2	0.0	0.1	0.0
Outer Ditch Recut	1.3	7.7	0.5	1.1	0.5	2.1	7.2
Inner Ditch	11.1	15.4	4.9	15.9	3.7	3.2	2.7
Interior Division	41.3	27.4	12.2	54.6	25.6	2.3	2.9
Total	*53.7*	*50.7*	*17.5*	*71.9*	*29.8*	*7.8*	*12.7*

Table 20. Combined enclosure ditch finds material as a percentage of the overall/total Site VII archive (including evaluation-phase finds).



Graph 1. Material from the enclosure ditches as a percentage of the overall Site VII archive.

Pit Alignments

Two rows of pits and/or postholes were aligned northeast-southwest within and parallel to the enclosure (see Fig. 11). Consisting of eight features, Pit Alignment 1 (PA1) was 14.0m inside of the enclosure's northwest arm; the nine features of Pit Alignment 2 (PA2) lay 17.5m inside of its southeast arm. The character of each alignment's feature group was markedly different and suggests that they did not share a common function.

Pit Alignment 1

The pits of PA1 were circular and, on average, 0.33m deep. Pit F.4523 was considerably larger at 0.8m deep and 2.2m in diameter and contained two thick and firm yellowish clay fills capped with dark grey silty clay. Medium and large building stones worked to shape were found in four pits, and a quantity of burnt stone in another (see Table 21); these may have been used as packing to hold small timber posts. A small amount of CBM was registered in F.4589, and the mouth of pit F.4545 was extended to a shallow oval into which animal bone and an iron chisel were deposited.

Feature no.	**L** (m)	**W** (m)	**D** (m)	**Burnt Stone no**. (g)	**Pottery no.**	**Bone** (g)	**Metal**	**Shell** (g)	**CBM** (g)
4523	.	2.20	0.80	.	2	20	.	.	8
4545	1.25	0.57	0.47	.	2	327	Fe Chisel	10	.
4571	.	0.65	0.26	.	.	.	.	.	.
4573	.	0.50	0.27	.	.	.	.	.	.
4587	.	0.55	0.30	.	.	.	.	.	.
4588	1.05	0.77	0.22	.	15	.	Fe Nail	24	.
4589	.	1.40	0.50	.	.	.	.	.	1581
4601	.	1.30	0.60	30 (28000)	.	.	.	.	.
Total	.	.	.	.	19	347	2	34	1589

Table 21: Features within Pit Alignment 1

Pit Alignment 2

PA2 pits were markedly different in character to those of PA1. Flat-based and 0.6-2.8m wide, they were filled to a depth of 0.23m with a single deposit of stone-free dark grey silty clay. These produced a small and broadly domestic finds assemblage.

The pits of PA2 (Table 22) were aligned with pit F.4501 that, identified during the 2014 evaluation, contained cattle-sized long bone fragments and was cut by the enclosure's interior-partition ditch F.4500 (Cessford 2015). If F.4501 formed an element of PA2 it may provide a stratigraphic relationship for it. This could situate PA2 as earlier than the fieldsystem, a part of which F.4500 later utilised. This seems unlikely, though; PA2 certainly predated the small ditches and gullies of Feature Group 10 (which cut pit F.4638) and was partially covered by the spreads of building rubble, F.4640-1 (Rubble Spread 1; see Fig. 34).

Feature no.	**L** (m)	**W** (m)	**D** (m)	**Pottery no.**	**Bone** (g)	**Shell** (g)	**CBM** (g)	**Glass no.**	**Metal no.**
4501	.	0.90	0.21	.	1611	.	.	.	.
4505	0.85	0.71	0.17	.	38	.	.	.	.
4528	1.95	1.20	0.32	1	.	.	.	1	.
4535	2.80	2.50	0.29	9	1	6	31	.	.
4612	1.17	0.80	0.22	3	.	.	10	.	.
4638	.	0.90	0.20	5	.	22	97	.	Fe x1
4681	.	0.60	0.14	.	.	.	.	.	.
4682	0.85	0.74	0.23	1	.	12	8	.	.
4683	1.00	1.17	0.26	.	1	.	169	.	.
Total	.	.	.	*19*	*1651*	*40*	*315*	*1*	*1*

Table 22: Features within Pit alignment 2 (Feature group 7).

Pit Groups

Four pit groups were recognised within Feature Groups 8 and 9 (see Fig. 11). All are phased to the Late Roman era, although in Pit Group 2 the presence of later Iron Age pottery and saddlequern amongst the otherwise Roman assemblages also points to some nearby element of earlier activity.

Pit Group 1 (PG1)

A three-pit intercutting group (F.4579, F.4580 & F.4581) that covered an area of *c*. 2m across at the southeast corner of Structure 1, to which it may be related. The pits had a concave scoop-like profile, 0.2m deep, and were filled with a single deposit of mid grey clayey silt (Table 23).

Feature	**Animal bone Wt** (g)	**Shell** (g)	**Pottery**	**CBM** (g)	**Worked Stone**
4579	*77*	18	8	.	Rotary quern x1
4580	158	.	27	485	.
4581	.	10	3	.	.
Total	*235*	*28*	*38*	*485*	*1*

Table 23. Pit Group 1 by quantity and weight (g)

Pit Group 2 (PG2)

Located west of PG1 and in the vicinity of Pit Alignment 1, the nine features that make up PG2 formed an oval distribution. The majority were circular, *c.* 0.4-1.0m diameter, with flat bases at a depth of 0.09-.3m. Three sherds of later Iron Age pottery came from one of these, and fragments of saddlequern within the burnt stone assemblage of two pits also signifies the presence of pre-Roman activity (Table 24). There was no particular indication for the duration over which the pit group was in use, except that pit F.4592 was cut by pit F.4593; the other pits were set apart from one another and from other features.

The material assemblage from PG2 illustrates a range of activities. This included the site's only spindlewhorl, made of bone, numerous burnt stones and, in pit F.4544, molten vessel glass. With the majority of the group's material finds, pit F.4544 and F.4586 are of particular interest. They may be considered as part of a single feature, a linear pit 3.7m long and 0.7m wide, cut to a maximum depth of 0.54m and oriented northwest-southeast. At its deepest point were three mid to dark greyish brown silty clay fills with charcoal and flecks of CBM throughout and most frequent towards the top. Fourteen shards of melted vessel glass were amongst the finds; no other finds, including seven fragments of window glass, showed signs of having been subject to high temperatures. On the same alignment and a few metres to the southeast, was a second linear pit, F.4585, up to 2.0m in length, though with no finds.

In truth, there is little that unites this grouping and it may be that – due to their shared saddlequern and glass finds' content – only F.4544/4586 and F.4582 should be associated. Accordingly, currently assigned to Phase I.2, it may be that some of these features should be attributed to Phase II. With at least four different vessels represented, the quantity of melted glass within F.4544/4586 is certainly unusual and Herring below speculates that they could reflect redeposited cremation grave-goods. There would, though, be no other evidence of this (e.g. burnt bone); nor did any of the pottery from those intercut features (104 sherds) display evidence of burning.

Feature	Animal Bone Wt (g)	Shell (g)	Pottery	Metal	Stone tile	CBM (g)	Tesserae	Glass	Burnt Stone	Worked Stone
4544/ 4586	33	72	104 (3 LIA)	Fe x2 Cu x1	2	2206	4	24	15	Rotary quern x4 Saddlequ ern x1
4577	.	.	1	.	.	.	.	.	123	.
4578	.	.	.	.	.	.	.	.	211	.
4582	.	.	.	.	.	.	2	1	134	Saddle quern x1 Hammer stone x1
4584	Spindle whorl	.	.	Fe x3	.	373	.	.	.	.
4585	.	.	.	.	.	.	.	.	.	.
4592	.	.	.	.	.	288	.	.	.	.
4593	.	.	1	.	.	.	1	.	.	.
4600	.	.	.	.	.	336	.	.	.	.
Total	*33*	*72*	*102*	*6*	*2*	*3203*	*4*	*24*	*15*	*5*

Table 24. Pit Group 2 by quantity and weight (g).

Pit Group 3 (PG3)

Thirteen shallow features were located in Pit Group 3 (PG3) in the south corner of the enclosure and south of Structure 3 (Table 25). These all contained a single deposit of very dark grey clayey silt with occasional flecks of brick or tile, but were otherwise homogenous in character.

These were in many respects similar to other isolated shallow features along the enclosure's inner east edge (F.4507, F.4684 & F.4688), with a sub-circular or oval shape in plan, sometimes quite irregular,

and an even shallow scoop profile with a limited artefact count. The distribution of these features was contained to the east of the west sides of Structure 3, and though a sherd of Post-Medieval glass (F.4610) and pottery (F.4538) was found in two of the features, a broad association with activities connected to Structure 3 and perhaps Structure 2 seems likely. It remains, though, unclear as to the exact nature of this relationship, such as pertaining to the buildings' use or demolition, remnants of out-building garden features, or otherwise.

Feature	L (m)	W (m)	D (m)	Animal Bone Wt (g)	Shell (g)	Pottery	Burnt Clay Wt (g)	Metal	Stone tile	CBM (g)	Tesserae
4538	2.75	1.65	0.3	.	92	17	.	Pb x1	.	2481	8
4603		1.45	0.26	260	.	1	6	.	2	171	2
4604	2.3	1.9	0.2	11	10	5	.	Cu x1, Fe x4	·	715	3
4606	4.6	3.6	0.22	5	.	.	.	.	·	.	.
4607	1.85	1.7	0.11	.	.	.	.	.	·	10	.
4608	1.96	1.6	0.17	.	.	.	.	.	·	5	.
4609	2.7	0.69	0.1	.	108	1	.	.	·	2492	.
4610	1.04	1	0.16	.	.	1	.	.	·	210	3
4611	1.5	0.9	0.12	.	.	.	.	.	·	35	.
4615	1.2	0.7	0.13	.	.	.	.	Fe x2	·	23	1
4616	0.9	0.75	0.07	.	.	.	.	.	·	.	.
4617	0.5	0.45	0.05	.	.	.	.	.	·	1	.
4618	0.5	0.4	0.05	.	.	.	.	.	·	.	.
Total				*276*	*210*	*25*	*6*	*8*	*2*	*6143*	*17*

Table 25. Overview of Pit Group 3 with finds by quantity or weight.

Pit Group 4 (PG4)

Situated between the east of Structure 3 and the west side of Structure 2 was a small group of four pits partially concealed by rubble spread [16899]. Each of moderate size (0.5-1.0m diameter, 0.26-.35m deep), these produced a moderate finds assemblage of mainly domestic debris with fragments of CBM too small for reference to type (Table 26). Direct association with particular structures or phases of use was indeterminate. The group's location also lay just beyond the terminus of gulley F.4770 that appeared to drain into, or channel from pit F.4623. Of moderate size (1.95 x 0.5m), this 0.47m deep pit cut through gulley F.4626 that may have had a structural relationship to Room 1 of the building and produced a range of domestic material and CBM (see *Structure 3*). Itself producing bone (314g), pottery (27 sherds), shell (4), *tesserae* (20) and other CBM (3502g), pit F.4623 appeared to have been associated with an early cut of the Feeder Ditches, F.4509, as a 1-3 stone thick rubble layer [16519] dipped into the ditch from the base of the pit that, once infilled by firm dark grey brown silty clay [16516], was subsequently truncated by the ditch's later re-cutting.

Feature	Bone Wt (g)	Shell (g)	Pottery	Fired Clay Wt (g)	Metal	Stone tile	CBM (g)	Tesserae	Glass	Burnt Stone
4685	85	52	35	38	Fe x3	1	450	14	.	1
4741	.	.	.	.	.	5	1031	4	.	.
4771	21	18	12	12	Fe x1 Cu x1	.	172	2	1	.
4772	5	32	7	.	Fe x1	.	298	.	.	.
Total	*111*	*102*	*55*	*50*	*6*	*6*	*1951*	*20*	*1*	*1*

Table 26. Roman Pit Group 4.

Figure 34. Top: Rubble Spread 1, looking east. Bottom: Pit Alignment 2 (F.4638, cut by small gulley F.4639) beneath Rubble Spread 1 (section in background)

Isolated Pits

Of the isolated features, only F.4599, a small pit or posthole, produced just later Iron Age pottery (five sherds). A few pits lay in isolation from the pit groups, but nonetheless share comparison with these. Similar to pits of PG2, but located south of them and east of Structure 4, pit F.4605 also produced three saddlequern fragments from its 52 burnt stones; a single sherd of pottery indicated that this too was of Late Roman date. Similar in character and distribution (i.e. east of Structure 3) to features of PG3, were single-fill, wide shallow scoops F.4507, F.4684 and F.4688, with a small quantity of animal bone (107g), pottery (18 sherds) and oyster shell (15).

Rubble Spreads

Discrete dumps of material were recorded individually from within the surface of shallow features, particularly linears in Feature Group 10, across the east and northeast of Structure 3. Two rubble spreads were notable for their size, quantity of building stone and CBM, amongst other finds (Table 27), and for overlying infilled cut features, but seemingly not being contained within them. Of these, Rubble Spread 1 (F.4640-1) was subject to detailed photogrammetry, in-field geological identification, recording of finds distribution, and manual excavation (primarily by volunteers during the public excavation). This overlay Pit Alignment 2 and F.4639 of the *Small Ditches and Gullies*. Rubble Spread 2, recorded as layer [16,899], partially overlay PG4 and was manually half-sectioned prior to final machine removal.

Rubble Spread 1 was allocated two feature numbers to distinguish a mainly stone dump (F.4640) from a smaller, but connected, *tesserae* dump (F.4641), but may in essence be treated as a single deposit. Its distribution lay upon a northeast-southwest alignment that was in keeping with the site's broader distributional axis, but may also point to some later furrow-derived disturbance, the stone mass seemingly thinning to the northeast. The 'mass' consisted of 700-800 small to large building stones, with many additional small fragments (the range of stone types is outlined in *Building Stone*; see Fig. 39). Amongst this were stones worked (cobbled) to a face, roofing slate, 849 stone *tesserae*, and various fragments of ceramic tile and brick. There was no sign that these had been shaped *in situ*. A few stones were burnt, amongst which was a saddlequern rubbing stone (Cat. No. 10889.02) of possible prehistoric date. A fragment of millstone grit rotary quern (Cat. No. 10890) was also present, along with 28 iron nails and four worn copper alloy coins (two identifiable only to the 4th century AD), and 171 sherds of later Roman pottery, also with six sherds of later Iron Age pottery. The mix here of Roman building materials and domestic refuse (e.g. 524g of bone and 259 oyster shells), with small quantities of prehistoric pottery and burnt saddlequern-related items, is instructive to explaining the presence in various pits noted above, particularly in PG2, of burnt saddlequern and Iron Age pottery with other Roman items.

Rubble Spread	Bone Wt (g)	Shell (g)	Pottery	Fired Clay Wt (g)	Metal	Stone tile	CBM (g)	Tesserae	Burnt Stone
1	524	1632	171 (6 LIA)	54	Fe x28 Cu x4	50	11442	849	4
2	244	242	.	.	.	6	4991	.	2
Total	*768*	*1874*	*171*	*54*	*32*	*56*	*16433*	*849*	*6*

Table 27. Selected rubble spreads.

Small Ditches and Gullies

Six shallow linear gullies were arranged to each side of Structure 2 on a northeast-southwest axis, though extending northeast beyond the limit of the barn's post arrangement (Table 28). These were 0.06-0.25m deep and generally around 0.6m wide, occasionally shallowing to up to 1.0m, and extended from to 3.0m (F.4730) up to 20m (F.4534) in length. Each ran straight, except for F.4639 that was slightly crescent-shaped with its arc to the southwest. A basic sequence of relationships was observed: linear F.4534 cut ditch F.4648 of the possible pre-enclosure fieldsystem; linear F.4639 cut pit F.4638 from Pit Alignment 2; and 'isolated' pit F.4688 cut linear F.4529.

The arrangement of the linears necessitates consideration of their possible status as building footings; the shallow, flat-based profiles were no different to the robbed wall footings of Structure 4, for example. A relationship between Structure 2 and the small gullies is, therefore, possible. Given the linears' misalignment with Structure 2's aisle posts it is unlikely that these ditches/gullies were actually structurally part of that building; however, they appear to have 'framed' it and must then have been associated. Accordingly, they have also been assigned to Phase I.2, their infilling probably relating to the demise of Structures 2 and 3.1, and the initiation of Phase II developments.

A characteristic of the linears, each containing just a single deposit of dark grey silty clay, was the presence of distinct dumps of material, as well as occasional finds. As an illustration of this, linear F.4534 contained multiple surface dumps/spreads of building stone (Slot 3950), with CBM (Slot 4085) and other mixed assemblages, such as in Slot 4056 that produced 185 tesserae, 24 complete shells with many hundreds of small fragments, and a small amount of pottery (13 sherds), iron nails (4) and animal bone (107g). While it is conceivable that these finds – especially the building materials (and, too, that in the adjacent Rubble Spreads) – may have related to Structure 2, it is perhaps more likely that Structure 3 was their source.

Feature	Bone Wt (g)	Shell (g)	Pottery	Burnt Clay Wt (g)	Metal	CBM (g)	Stone tile	Tesserae	Glass
4520	444	248	31	6	Fe x4	3890	4	3	1
4529/4689	3	587	17	.	.	338	.	.	1
4534	354	604	30	.	Fe x5 Cu x2	3248	13	281	.
4639	2	.	.	1	.	.	.	.	.
4691	2	.	.	4	.	.	.	.	.
4730	217	2	30	.	Fe x3 Cu x1	616	.	19	.
Total	*1022*	*1441*	*108*	*11*	*15*	*8092*	*31*	*303*	*2*

Table 28. Finds from shallow linear gullies.

Material Culture

While the size of the site's assemblages are certainly respectable, apart from the many categories of its building materials, they are not particularly substantial. Any such appraisal, though, must be gauged in relationship to what seems to be the relatively brief span of its main-phase usage; this is a theme further explored in the site's *Discussion*.

Romano-British Pottery – Francesca Mazzilli

The investigations produced 3,145 sherds (38.256kg) of Romano-British pottery (Fig. 35). Including the 2009 and 2013 trench evaluation assemblages, this equates to a total of 3,599 sherds (45.071kg) for the site, from which 325 vessels were identified, mainly dated to the Late Roman period (Tables 29 and 30). All tables include data from 2009, 2013 and 2018.

The assemblage was visually examined for details of fabric, form, decoration, use-ware and date – these factors being recorded in accordance with the guidelines set out by the Study Group for Roman Pottery (Darling 1994) and the National Roman Fabric Reference Collection (Tomber and Dore 1998) and using the coding employed for other recently excavated Roman assemblages in (Anderson in Cessford and Evans 2014; Mazzilli in Collins 2017; see Table 29). All the percentage figures used in this report are based upon sherd counts. Mean Number of Vessels (MNV) and Estimated Vessel Equivalents (EVE) have been measured from rims and included in the discussion, where appropriate.

The assemblages Mean Sherd Weight (MSW) of 12g is a relatively low value, implying various pre- and post- depositional agencies; this is further highlighted by the small size and surface wear noted on the majority of sherds. Of interest is the unusual frequency of burnt or scorched sherds, mainly comprising Late Roman finewares from Nene Valley, Oxford and Hadham industries (*c.* 168 sherds, 2303g; Table 33). Of these, some 16 sherds (206g) from bowls (of Oxford, Nene Valley, Hadham Verulamium or coarse sand oxidised wares) displayed burning to the external surface only, along the base or flange. This points to a use in cooking, for which bowls and dishes were commonly used, especially in Late Roman period; nearby examples have been found at Vicar's Farm (Monteil in Evans and Lucas 2019, 288).

Approximately 6% of the assemblage consists of good-sized and chunky sherds, including a small number of complete bases or semi-complete vessels (*c.* 180 sherds, 6580g). These were mainly 4th century AD Nene Valley jars, dishes and flanged bowls, a mid-3rd to 4th century AD Hadham flanged bowl, and a 3rd century AD Nene Valley greyware neckless jar.

Dating and Supply

Coarse wares usually dominate Roman assemblages in Cambridge and its hinterland, including major Roman settlements at North West Cambridge Site IV and Vicar's Farm (Anderson in Evans & Newman: 2010: 110-111; Perrin in Cessford 2015: 53-54; Table 31). It is therefore significant that finewares are dominant at Site VII. A high proportion of these were Late Roman, from Nene Valley (25.2% colour-coated), Hadham (10.7%) and Oxford (8.8% red-slipped) supplies (Table 29). The high frequency of shell-tempered wares (25.7%; Table 29) from the site is noteworthy, and more typical of Late Roman villas in the region, such as Fen Drayton and Teversham (Pullinger and White 1991, 48 ff.; Mazzilli in Robinson Zeki 2016, 18-19).

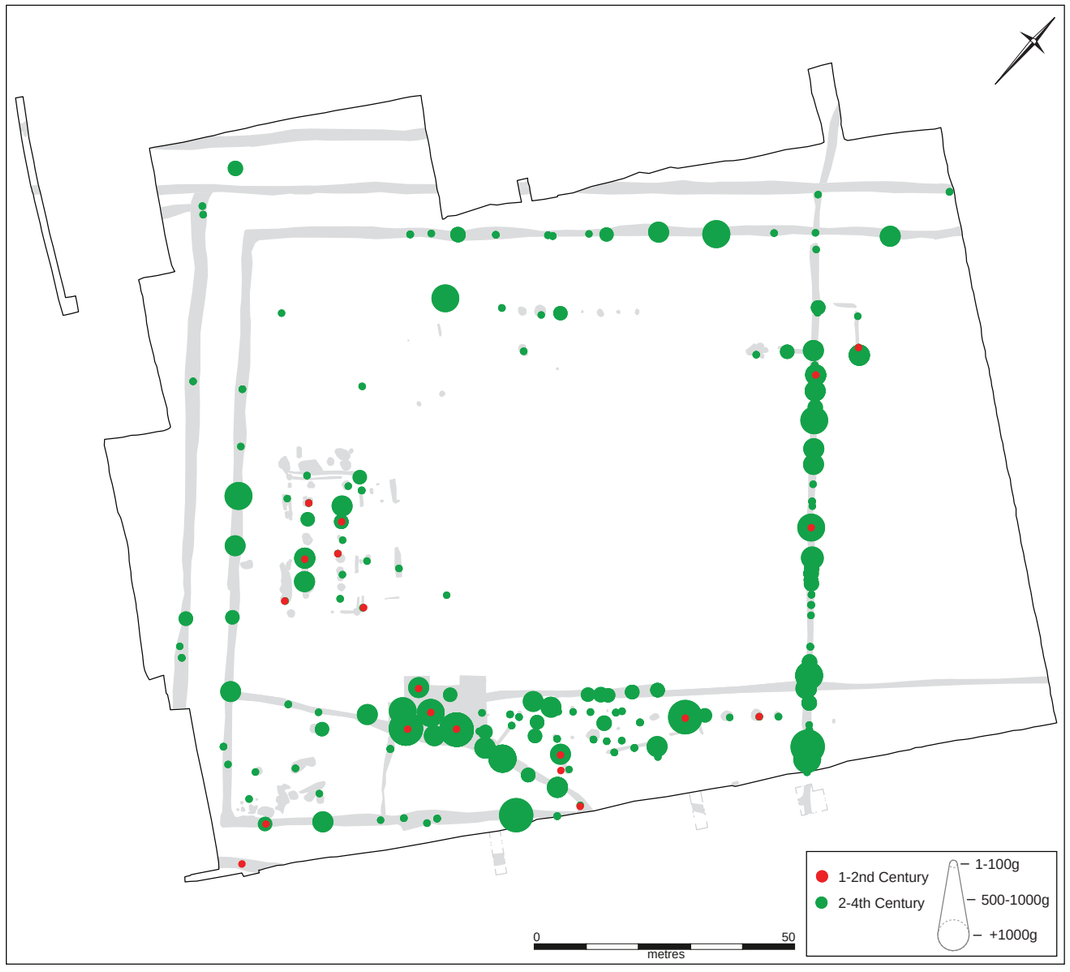


Figure 35. Roman pottery distribution

Fabric	No. Sherds	Wt (g)	EVEs	MNV	%
CNG TN	1	7			
BB1 IMIT	5	29			
BB2 IMIT	1	42	0.35		
BKSL	13	105	0.08	1	
BKSL (Evaluation No.1272)	2	20			
BUFF	10	156			
BUFF M	6	74			
CC	10	53	0.11	1	9.3*
CSGW	160	1331	1.56	10	
CSGW BB	31	405	0.32	2	
CSGW BB M	1	22			
CSGW M	4	57	0.2	1	
CSGW SAND	73	520	0.24	2	
CSGW SAND BB	24	81	0.15	1	
CSGW (Evaluation No.921)					38
CSGW (Evaluation No.1272)	13	204	4.9	1	6.2
CSGW M (Evaluation No.1272)	2	18	3.2	1	
CSOX	87	457	0.4	1	
CSOX (Evaluation No.1272)	20	248	2.6	2	9.5
CSOX M	2	4			
CSOX SAND BB M	10	15			
CSOX WS	1	17			
FSGW	44	640	0.42	2	

Fabric	No. Sherds	Wt (g)	EVEs	MNV	%
FSGW (Evaluation No.1272)	2	6			
FSGW BB	16	154			
FSGW BB M	1	8			
FSGW M	7	51			
FSGW SAND	1	3			
FSGW SAND M	1	41			
FSOX	39	218	0.06	1	
FSOX (Evaluation No.1272)	1	6			
FSOX M	2	9			
FSOX M (Evaluation No.1272)	2	24			
Grey slipped (Evaluation No.1272)	3	84		1	
GROG	7	113			
HADOX	330	2825	2.82	19	10.7
HADOX SAND	1	273			
HADRD	6	42	0.3	2	
HADOX (Evaluation No.921)					4.5
HADOX (Evaluation No.1272)	13	144	2.1	2	6.2
HORNGW	69	2808	0.34	3	
HORNGW (Evaluation No.1272)	1	24		1	
HORNGW M	1	46			
HORNGW SAND	8	169			

Fabric	No. Sherds	Wt (g)	EVEs	MNV	%
HORNOX BB	22	166			
HORNOX (Evaluation No.1272)	2	82		2	
MISC *(Evaluation No.1272)*	18	46			
NVCC	793	11675	10.58	60	25.2
NVCC (Evaluation No.921)					24
NVCC (Evaluation No.1272)	48	1017	26.2	13	22.9
NVGW	174	2464	3.53	23	
NVWW	32	877	0.62	6	
OXFRD	1	3			8.8
OXFRS	277	3438	2.23	19	
OXFRS (Evaluation No.921)				10	2
OXFRS (Evaluation No.1272)	14	300	2.1	10	6.7
OXFSW (Evaluation No.1272)	4	164	4.7	4	
OXFWW	13	525	0.27	2	
OXFWW (Evaluation No.1272)	3	76	2.3	1	
Q2	3	10			
Q2 SAND	4	2			
Q5	6	43	0.3	1	
Q6	3	17	0.08	1	
Q6 SAND	6	23			
Q7 (Evaluation No.1272)	1	4			
RDUS (Evaluation No.1272)	1	6			
SAM CG	6	29			0.2
SAM CG LMV	1	15			
SAM EG	1	35			
SHELL	810	7997	10.16	61	25.7
SHELL (Evaluation No.921)					24
SHELL (Evaluation No.1272)	59	874	36.8	16	28.1
SWNWS	2	5			
WATT IMIT M	12	86			
WW	7	71			
Sub Total	***3145***	***38256***	***35.12***	***219***	
(Evaluation No.921)	*244*	*3462*	*5.52*	*53*	
(Evaluation No.1272)	*210*	*3353*	*84.9*	*52*	
Grand Total	***3599***	***45071***	***125.54***	***324***	

Table 29: Romano-British assemblage by fabric
(*11.8% with HORNGW included)

Phasing	No of Sherds	Wt (g)	EVEs	MNV	% Wt	% Qty
C1	7	30	.	.	0.1	0.2
C1-C2	66	589	0.38	2	1.5	2.1
C2	20	255	0.65	5	0.7	0.6
C2-C3	175	2263	2.28	16	5.9	5.6
C2-C4	737	8102	3.34	22	21.2	23.4
C3	65	1496	3.73	22	3.9	2.1
C3-C4	1616	15859	13.31	87	41.5	51.4
C4	459	9662	11.43	65	25.3	14.6
Total	*3145*	*38256*	*35.12*	*219*	*100.0*	*100.0*

Table 30. Romano-British assemblage from the excavation by period.

Basic Fabric	No. Sherds	Wt (*g*)	MNV	EVES %
COARSE	1363	14756	84	13.77
COARSE (2009 eval.)	*c.* 170			
COARSE (2013 eval.)	123	1672	23	49.8
FINE	1773	23414	135	21.35
FINE (2009 eval.)	*c.* 74			
FINE (2013 eval.)	87	1681	29	35.1
IMPORT	9	86	0	0
Total	*3599*	*45071*	*324*	*125.54*

Table 31. Romano-British assemblage by basic fabric.

Following the 2009 and 2013 trench evaluations, a 2nd–4th century AD date was expected for the site, with a peak in the 3rd century AD noted by Anderson (in Evans and Newman 2010, 111; see also Perrin in Cessford 2015, 53-54). The full assemblage now shows the main phase of occupation as Late Roman, with the majority of the pottery falling within the 3rd-4th centuries (68% with 174 identified vessels, 28.47 EVEs) with a significant quantity attributed specifically to the 4th century AD (65 vessels; Table 30). Derived from this latest date was a number of chunky sherds and semi-complete vessels, but the majority of sherds from the overall 3rd-4th century AD assemblage was small and worn, including a significant number showing slight or complete burning, that may indicate that their use and deposition was also within the 4th century.

Present also was an extremely low count of small and worn early Roman sherds; these were found together with pottery dated to a later period (Tables 29, 30 & 33). Just two types of early imports were encountered: eight (non-diagnostic) Samian sherds and a single small fragment of likely central Gaulish micaceous Terra Nigra (Tables 29 & 31).

Reworked Sherds

Ten trimmed bases or lids were present, with three sherds displaying post-firing perforation. There was a small broken fragment of circular spindle whorl with central perforation made from a sherd of coarse sandy grey ware vessel. However, reworked sherds were mainly of 3rd-4th century AD Nene Valley colour-coated wares, of which notable examples include:

- A trimmed knob of a castor box lid (2nd-4th century);
- A knob from a castor box lid (2nd-4th century) with circular central perforation on top. It was completely worn out, with almost no colour coating;

- A semi-complete 4th century AD dish with post-firing circular perforation near to the rim and another perforation towards the base; these enabled repair of the vessel;
- Evidence for a broken perforation in a 3rd-4th century AD vessel base.

Forms

There was a high proportion (72.30%) of undiagnostic sherds that again point to abrasive pre-and post- depositional agencies. Common to Romano-British assemblages is the dominance of jars, followed by bowls and dishes; this pattern was also evident in the Site VII assemblage, composed mainly of Late Roman (4th century) finewares (e.g. Nene Valley coloured-coated jars with everted squared rim, bowls with flanged rims, and dog bowls). Occasional instances of 4th century AD flanged bowls in shell-temper were registered. A small number of beaker sherds were present, but none were diagnostic. Ten highly fragmented Late Roman mortaria were also present, mainly from Nene Valley and Oxford industries (see EVEs in Table 32).

Forms	No. of Sherds	Wt (g)	EVEs	MNV	% sherds
B	121	3516	5.98	53	14
B?	1	8			
B/J	1	13			
Bk	2	3			4.3
Bk?	36	63			
Bt	3	27	0.30	1	
Bt?	2	11			
C	3	17	0.10	1	
Cb	9	193	0.26		
Cb?	2	4			
D	70	1639	2.34	19	10.2
D?	19	489			
Fl	7	47	0.93	10	
Fl/Bt?	2	14	0.36	1	
Fl?	1	4			
J/Fl?	6	36	0.11	1	
J	408	6294	23.02	167	47.7
J?	8	26			
L	3	146	0.08		
M	104	2559	1.32	19	
SJ	63	2031	0.32	2	
Undiagnostic	2274	21116			72.30
Total	*3145*	*38256*	*35.12*	*219*	

Table 32. Romano-British assemblage by form.

Excavated Features

No striking differences in pottery were evident across feature groups, which all dated to the 3rd-4th century AD (Table 33). The enclosure partition (5d) and the feeder ditches (5f) had a notable 4th century AD component in their ceramic assemblage.

No re-worked sherds came directly from Structures 1, 3 or 4.

The site's few 1st-2nd century AD sherds were found to be residual to Late Roman contexts in Structure 3, Structure 4 and the enclosure's outer ditch (5b). Post-Medieval sherds were noted in deposits from Structures 1, 3 and 4, the enclosure's inner (5a) and partition (5d) ditches, and in isolated features. This illustrates later agricultural disturbance across the site.

Structure 2 - A small and fragmentary quantity of Late Roman finewares and 2nd-4th century AD coarse grey ware, including a 3rd-4th century AD Nene Valley coloured-coated trimmed base from posthole F.4559.

Structure 3 vs. Structure 4 - Difference of assemblage size was moderate between Structure 3 (250 sherds, 3302g) and Structure 4 (184 sherds, 2217g). Whereas the MSW was also similar between the two feature groups – 12 for Structure 3 and 11 for Structure 4 – the ratio of identified vessels and EVEs between these was considerably larger at 2.5 (Structure 3) to 1 (Structure 4; Table 33). Nonetheless, pottery from Structure 3 was mainly small and worn, whereas in Structure 4 a small number (5 sherds, 196g) of chunky fragments of shell-tempered jar with everted squared rim were present.

The small assemblage of early Roman pottery from these buildings is not especially meaningful. Other than one or two non-diagnostic Samian sherds from each building, their assemblages comprised 15 sherds (209g) of non-diagnostic local buff ware from Structure 4, and just one fragment of central Gaulish micaceous Terra Nigra from Structure 3.

Structure 4 - Other than the early Roman sherds noted above, which occurred in a higher number in Structure 4.1 (14 sherds) than in Structure 4.2 (6 sherds), the assemblage from the aisled hall is 3rd-4th century AD and displays no notable variation across individual features, except that the slightly greater quantity of Late Roman sherds produced by the post pits of Structure 4.1 (58 sherds, 861g) than in Structure 4.2 (50 sherds, 533g) were also moderately better preserved.

Enclosure and Feeder Ditches - These produced the site's largest quantity of pottery (1782 sherds, 25.618kg, 25.99 EVEs), mainly dating to the 3rd-4th century. The higher frequency of reworked pottery from the enclosure's inner (5a) and partition (5d) ditches and the feeder ditches (5f) suggests a 4th century AD date for these, which is further reinforced by relatively chunky fragments of 4th century AD date found in the enclosure's inner ditch and the feeder ditches (Table 34).

The enclosure ditches displayed a three-level deposit profile of base, upper and core groups that were examined for their ceramic assemblages, but illustrated no clear differentiation of either pottery date or type (Table 35). Pottery of the 4th century AD was identified in each deposit group of the inner ditch, and later agricultural disturbance was most evident within the partition ditch, which produced Post-Medieval pottery from both upper and base deposits (Tables 33 & 35).

Enclosure Inner Ditch (5a)			**Feeder Ditch (5f)**
Upper	**Core**	**Base**	
4th century AD Nene Valley coloured-coated complete base; trimmed base of a 2nd-4th century AD Horningsea jar	Semi-complete 4th century AD Nene Valley coloured-coated dish with post-firing circular perforation near to the rim. The perforation could have been used in repair of the vessel	Semi-complete Oxford mortaria and flanged Nene Valley 4th century-bowl	Chunky fragments from 17 Late Roman vessels, mainly 4th century AD Nene Valley and late 3rd/4th century AD shell-tempered vessels, with some from Oxford (74 sherds, 2491g)

Table 34. Fourth century AD pottery derived from enclosure-compound ditches.

Features	No. of Sherds	Wt (g)	EVEs	MNV	Dating	Preservation	Burnt/Reworked
Structure 1	140	1431	0.68	7	C3-C4 with C2-C4 and residual C2-C3	C4 complete Nene Valley coloured-coated base	- 9 burnt C1-C4 sherds (25g), recovered in a gully and a pit - A worn out trimmed base of a C3-C4 Nene Valley coloured-coated vessel with hardly any coat, recovered in a pit
Structure 2	27	141	0.15	1	C3-C4 with C2-C4		- 1 trimmed base from C3-C4 Nene Valley coloured-coated ware recovered in a post hole
Structure 3	284	3999	3.21	26	C3-C4 with a C4 component and residual C1-C2, C2-C3 and C2-C4	Hardly any chunky fragments	- 11 burnt Late Roman sherds (126g) from the robber cuts, the dark rubber layer, ditch and surface and layer Room 4
Structure 4	200	2592	1.46	9	C3-C4 with C2-C4 and residual C1-C2 and C2-C3	Chunky fragments of late C3-C4 shell-tempered jar	- 9 burnt C1-C4 sherds (138g), recovered in a Structure 4.1 robber cut and post pit
Enclosure Inner Ditch	429	5321	2.35	18	C3-C4 with a smaller component of C2-C4 and residual C2-C3		- 42 slightly burnt C2/C3 and Late Roman sherds (461g) - a trimmed knob of a C2-C4 Nene Valley castor box lid, recovered in the core layer of the ditch - a quarter of a trimmed base of a C3-C4 shell-tempered vessel, recovered in the upper layer of the ditch
Enclosure Outer Ditch	2	4			C2-C4		- reworked small circular perforation and small disk
Enclosure Outer Ditch recut	26	222	0.05	1	C3-C4 with C2-C4 and residual late C1-C2		- A trimmed base of a C2-C3 Nene Valley greyware vessel, recovered in the machined upper layer of the ditch - a broken spindle whorl from upper layer of the ditch. It is a fragment of coarse sandy grey vessel reworked into a circular shape and a small circular perforation in the middle
Enclosure Partition	1040	13150	15.74	48	C3-C4 with significant component from the mid-C3 to C4 and lesser C2-C4 with residual C2-C3		- 9 burnt Late Roman sherds (67g) mostly from upper layer, only 1 from the base - a knob of a C2-C4 Nene Valley coloured-coated castor box lid with circular perforation in the middle of the top of t. It is completely worn out, with almost no coat
Feeder Ditch	450	8498	7.31	39	C3-C4 with significant component from mid-C3 to C4; residual C1-C3	A large quantity of relatively chunky pottery fragments, including a	- 10 burnt Late Roman sherds (345g) - a trimmed base of C2-C4 Horningsea vessel, recovered in a ditch

Features	No. of Sherds	Wt (g)	EVEs	MNV	Dating	Preservation	Burnt/Reworked
						semi-complete C4 Nene Valley coloured-coated dish	- a trimmed base of a C3-C4 shell-tempered vessel, recovered in a ditch - a semi-complete C4 Nene Valley coloured-coated dish with post-firing circular perforation near the rim. This perforation could have been used for refitting the broken semi-complete vessel
Pit Alignment 1	16	141			C3-C4		- 9 fragmentary burnt Late Roman sherds (42g)
Pit Alignment 2	16	92			C3-C4 with C2-C4		
Pit Group 1	13	55			C3-C4 with a smaller component of C2-C4	Highly fragmentary	
Pit Group 2	102	667	0.18	1	C3-C4 with a smaller component of C2-C4	Mostly from F.4544/F.4586 (100 shs.)	
Pit Group 3	24	166	0.1		C3-C4 with a smaller component of C2-C4		- 1 slightly burnt Late Roman sherd (7g)
Pit Group 4	19	111			C3-C4 with a smaller component of C2-C4	Highly fragmentary	
Rubble Spread 1	177	1941	3.19	18	C3-C4 with C4 representation and lesser component of residual C1-C2.		- 1 burnt C1-C2 sherd - 34 C4 sherds - Evidence of a broken perforation of a C3-C4 Nene
Isolated pits	21	182	0.04		Mixed C2-C4, C3-C4 and C4 assemblages		
Small ditches & gullies	126	1239	1.36	8	C3-C4 with a smaller component of C2-C4 and very small C1-C3 representation	A couple of chunky pottery fragments of C4 Nene Valley coloured-coated and mid-C3-C4 Hadham oxidised jars	- 4 burnt sherds, all C3-C4 - 15 worn/fragmented sherds, C3-C4 and C4

Table 33a: Romano-British assemblage by features.

	Str1	Str2	Str3	Str4	Enc Inner	Enc Partition	Feeder Ditches	Pit Align1	PG3	PG4	Rubble spread 1	Sm ditch / Gullies	Surface	Furrow	*TOTAL*
Qty	12	1	12	9	49	41	18	9	1	2	1	7	1	6	*169*
Wt (g)	129	44	154	138	790	229	451	42	7	17	6	52	83	176	*2318*

Table 33b: Burnt Romano-British sherds.

Slots within the enclosures inner and outer ditches adjacent to Structure 4 were also examined as a separate group (Nos. 2987, 3984, 4015, 4016, 4017, 4021, 4022, 4025, 4061 & 4093). These contained mostly Late Roman pottery (74 sherds, 1070g) with clear evidence of a 4th century AD component (18 sherds, 511g). Finewares accounted for 70% of this group, mainly Nene Valley production (34 sherds, 714g), with Hadham (14 sherds, 46g) and Oxford (4 sherds, 86g) products also represented.

	5a. Enclosure Inner Ditch	5b. Enclosure Outer Ditch	5d. Enclosure partition
Upper			
No	39	13	478
Wt (g)	268	68	4322
Date	C3-4 (C4)	C3-C4 with C2-C4	C3-C4 with C2-C4
Core			
No	34	9	13
Wt (g)	409	126	433
Date	C3-C4	C3-C4	C3-C4
Base			
No	66	0	83
Wt (g)	907	0	7987
Date	C3-C4	.	C3-C4

Table 35. Romano-British assemblage by layers of ditches.

The small quantity of pottery from the trench evaluations originally dated Site VII to the 2nd-4th century AD with a 3rd century AD peak (Anderson, in Evans and Newman 2010, 111; Perrin in Cessford 2015, 53-54). Now, the complete assemblage indicates a 3rd to 4th century AD timeline, with areas illustrating a stronger 4th century AD horizon. Of significance to the assemblage, particularly to the context of Roman Cambridge and its hinterland in which such occurrence is comparatively rare, is the predominance of Late Roman finewares.

A preliminary comparison of fineware industries represented at North West Cambridge's Sites IV, VII and at Vicar's Farm (though here not taking into account period/phase specifics) further emphasises VII's elevated status by its greater percentage of Oxford and Nene Valley wares (Table 36).

Where settlement is evident over a longer duration than at Site VII, such as at Site IV and at Vicar's Farm, pottery occurs from the 1st to the 4th century AD and, dominated by coarse wares, also includes a substantial quantity of Samian ware (Anderson in Evans and Newman 2010, 110-111; Perrin in Cessford 2015, 53-54), the lack of which at Site VII only highlights its late emergence.

Fabric	NWC Site VII		Vicar's Farm	NWC Site IV	
	EVE	%	%	EVE	%
HADOX/RS	5.09	6.61	7.4	18	0.8
HADBS/BB	.	.	1.01	.	.
HADGR	.	.	1.01	.	.
HADRS	0.30	0.38	0	.	.
HADWS	.	.	0.04	.	.
NVCC	24.47	31.77	14.40	503	22.9
NVGW (BB)	7.27	9.44	0.31	.	.
NVWW	1.62	2.10	1.33	47	2.1
OXFRS	10.82	10.81	2.53	100	4.5
OXFWW	0.66	0.85	0.46	.	.
SHELL	14.63	19	13.56	66	3

Table 36. Comparison of some industries/fabrics of rims and bases among nearby sites (see Perrin in Cessford 2015, 21-27; Monteil in Evans & Lucas 2019).

Glass – Vicki Herring

The following is a visual assessment and quantification of the glass assemblage without inclusion of chemical analysis. The assemblage consists of 192 Roman glass fragments, with 106 vessel glass shards representing at least 47 vessels (Table 37; see Fig. 37).

Twenty-four shards of Post-Medieval vessel glass and three fragments of window glass of this period were also present and are catalogued below but not included in the overall quantifications. Although the material was very fragmented, and many pieces were too small to retain any diagnostic features that could aid identification and dating, the glass is otherwise in relatively good condition with only slight pitting and patination.

	Vessel Glass No	MNV	Window Glass No.	Personal Adornment
Structure 1	.	.	1	1
Structure 2	4	4	1	.
Structure 3	40	8	7	.
Structure 4	1	1	2	.
5a. Enclosure inner ditch	4	3	4	.
5d. Enclosure partition ditch	12	8	7	.
5f. Feeder ditches	15	9	5	.
Pit Group 2	14	4	7	.
Pit Group 4	1	1	.	.
Small ditches and gullies	2	2	.	.
Furrows	11	5	5	.
Surface finds	2	2	.	1
Total	*106*	*47*	*39*	*2*

Table 37. Overview of Roman glass.

The glass was analysed by Feature Group and distinguished as belonging either to a vessel, a window or an item of personal adornment. Vessel glass was recorded to a minimum number of vessels (MNV) and by type/form. Window glass was organised to minimum number of individual quarries with mould type, colour, and edges noted where possible. Other glass items were noted individually type.

Surface Finds

Vessel Glass: Two vessels (both Cat. No. 10069) were represented by part of the flat base of a large blue-green bottle commonly used during the 1st-2nd centuries (Price and Cottam 1998, 195) and a small body fragment from a Late Roman cup, bowl or beaker of greenish colourless glass. The precise form of this vessel cannot be determined from the fragment available, but it shows signs of horizontal, wheel cut abrasions and a trail scar similar to features on 4th century AD cups and bowls (Price and Cottam 1998).

Cat. No. 10069, SF.1979. Thickness: 0.7mm. Vessel. Cup/Bowl/Beaker. Colourless green tinge. Undiagnostic body fragment. Vessel form unknown. Possible thin-walled cup or bowl. Faint wheel cut abrasions and possible trail scars. Roman.

Cat. No. 10069, SF.1979. Thickness: 3.4-3mm. Vessel. Bottle. Blue green. Undiagnostic base fragment. Bottle form unknown. Common late 1st century AD onwards (Price and Cottam 1998, 195). 1st-2nd century.

Personal Adornment: A green biconical bead was collected as SF.2719 from a rubble spread [16899] to the east of Structure 3.

Cat. No. 10809, SF.2719 [16899]. Diameter: 5.1. Thickness: 1.5mm. Dress Accessory. Biconical bead. Green. Complete, plain biconical bead. Roman.

Structure 1

Window Glass: A fragment of Late Roman green 'Muff' manufactured window glass came from pit F.4540.

Cat. No. 895, F.4540 [16578]. Thickness: 2.4mm. Window. Quarry fragment. Green. Muff. Incomplete. No original edges. Ripple effect and bubbles. Late Roman.

Personal Adornment: A complete green cylinder bead was recovered from gulley F.4575.

Cat. No. 878, F.4575 [16292]. Diameter: 5.2mm. Thickness: 3.4mm. Dress Accessory. Cylinder bead. Green. Complete cylinder bead. Plain. Central perforation. Roman.

Structure 2

Vessel Glass: Three small, undiagnostic body fragments from three thin-walled vessels were recovered from postholes associated with Structure 2. All Roman, pale green or pale blue green in colour, the pieces were too small or fragmented to be identified by form. Although weathered, the surface of one of the fragments (Cat. No. 888) displayed deep scratches that could be cut decoration.

Cat. No. 888, F.4619 [16501]. Thickness: 1.6mm. Vessel. Unknown. Pale blue green. Undiagnostic body fragment. Deep scratches and wear. Possible cut decoration? Form unknown. Roman.

Cat. No. 889, F.4614 [16514]. Thickness: 0.8mm. Vessel. Unknown. Pale green. Undiagnostic body fragment. Form unknown. Thin-walled vessel. Roman.

Cat. No. 11205, F.4561 [16205]. Sample 1199. Thickness: 0.8mm. Vessel. Unknown. Pale blue green. Undiagnostic body fragment. Form unknown. Thin-walled vessel. Roman.

Cat. No. 11205, F.4561 [16205]. Sample 1199. Thickness: 2.5-1.8mm. Vessel. Unknown. Pale green. Undiagnostic rim fragment. Roman.

Window Glass: A single quarry fragment of 4th century AD 'Muff' manufacture, with grozing on one edge was found in posthole F.4633 (Cat. No. 894).

Cat. No. 894, F.4633 [16573]. Thickness: 2.3-1.1mm. Window. Quarry fragment. Green. Muff. Incomplete. Grozing on one edge. Rippled effect and elongated bubbles. Late Roman.

Structure 3

Vessel Glass: Totalling 40 glass fragments, a minimum count of eight vessels were represented, with 32 fragments belonging to one vessel (Cat. No. 873): an almost complete rim (made up of eight adjoining pieces) and 24 body fragments from the lower, thinner part of a bowl. Lacking decoration, the curved rim of this vessel, with its edge cracked off and left unworked, showed characteristics of a thick-walled 4th century AD convex bowl (Price and Cottam 1998, 126-127). This was recovered from the resultant trench of robbed wall F.4645 in Room 3. From the rubble [16249] filling of Room 3 came a curving rim fragment of conical beaker (Cat. No. 973) similar to an example found in the enclosure's partition ditch. The Room 3 example had a curved rim with a cracked off unworked edge and straight tapering sides, along with light, horizontal wheel abrasions visible just below the rim. A comparable example was recorded from Banwell, Wint Hill, Somerset (Harden 1960, 52, figures 8-9).

Though too fragmented for diagnostic precision, some interesting features were nonetheless noted on the remaining vessel pieces. A green cup, bowl, or beaker fragment of slightly out-turned, fire rounded rim with possible horizontal abrasions came from demolition fill [16761] of Room 3 (Cat. No. 901), for which there are similar Late Roman examples from Colchester (Cool and Price 1995, 92-93,

figure 5.17); the Site VII example confirms the belief that bowls with fire rounded rims are, over all, less common in this period than bowls with cracked off rims (*ibid*.).

From rubble [17365] overlying the infilled feeder ditches to the rear of the building, a green, fire rounded rim fragment of unknown form (Cat. No. 908) displayed scratches that suggest wheel cut or hand engraved 'figured' decoration similar to that on a glass hunting bowl from Banwell, Wint Hill, Somerset (Harden 1960, 44, fig. 1). Unfortunately, the fragment did not show enough decoration to identify what was depicted, nor the detail required to determine the form of the vessel, but most figured decoration that occurred in Britain is found on 4th century AD cups, beakers and bowls and is assumed to originate in the Rhineland, where vessels with figured decoration are found in large numbers (Price and Cottam 1998, 5, 36).

Cat. No. 873, [16249]. Diameter: 94mm rim. Thickness: 3.8-1.3mm. Vessel. Convex bowl with thick walls. Yellow green. Blown. Almost complete rim (eight pieces). Small body fragments x24 from lower, thinner part of bowl. Curved rim with edge cracked off and left unworked. No visible decoration. Characteristics of convex bowl with thick walls (Price and Cottam 1998, 126-127). Late Roman (4th century).

Cat. No. 873, [16249]. Thickness: 0.7mm. Vessel. Cup/bowl/beaker. Colourless green tinge. Body/possible rim fragment. Possible remains of curved rim with edge cracked off. Very worn with brown patina. Form unknown. Late Roman.

Cat. No. 891, [16542]. Thickness: 1mm. Vessel. Bottle. Pale blue. Undiagnostic body fragment. No features. Form unknown. Roman.

Cat. No. 899, [16697]. Thickness: 0.5mm. Vessel. Unknown. Colourless green tinge. Undiagnostic body fragment. No features. Form unknown. Thin-walled. Late Roman.

Cat. No. 900, [16698]. Diameter: *c*. 100mm rim. Thickness: 1-0.8mm. Vessel. Bowl. Yellow green. Blown. Rim fragment. Curved rim with edge cracked off and ground smooth. Faint horizontal abrasions below rim. Full form unsure. Convex bowl with indents? Thin-walled. Late Roman.

Cat. No. 901, [16761]. Diameter: *c*. 62-70mm. Thickness: 2.4-0.8mm. Vessel. Cup/bowl/beaker. Green. Rim fragment. Slightly out-turned, fire rounded rim with possible horizontal abrasions below. Upper body fairly straight, lower body not present. Full form unknown. Similar examples from Late Roman contexts in Colchester (Cool and Price 1995, 92-93, fig. 5.17). Overall less common than bowls with cracked off rims at this time (*ibid*.). Late Roman (4th century).

Cat. No. 908, [17365]. Thickness: 1.3mm. Vessel. Cup/bowl/beaker. Yellow green. Blown. Rim fragment. Out-turned, curved rim with edge cracked off and ground smooth. Form unknown, possible wheel cut cup or beaker, or bowl with indents (Price and Cottam 1998). Late Roman.

Cat. No. 908, [17365]. Diameter: *c*. 150mm rim. Thickness: 3.6-2.9mm. Vessel. Bowl. Green. Rim fragment. Rounded rim. Form unknown. Scratches suggest cut or engraved decoration similar to that on the bowl from Banwell, Wint Hill, Somerset (Harden 1960, 44, figure 1). Figured decoration found in large numbers in Rhineland sites and assumed to be produced in that region (Price and Cottam 1998, 5). Roman.

Cat. No. 973, [16249]. Diameter: *c*. 100mm. Thickness: 1.7-0.6mm. Vessel. Conical beaker with curved rim. Yellow green. Blown. Rim fragment. Curved rim with cracked off and unworked edge. Straight sides tapering toward base. Light, horizontal wheel abrasions just below rim. Again, very similar to the example from Banwell, Wint Hill, Somerset (Harden 1960, 52, figs. 8-9). Late Roman (4th century).

Window Glass: As in other areas of the site the window glass from the Masonry Building was dominated by green or yellow Late Roman muff glass, with seven fragments making up a minimum of four quarries (Cat. Nos. 865, 900, 904 & 908).

Cat. No. 865, F.4555 [16131]. Thickness: 1.8mm. Window. Quarry fragment. Pale green. Muff. Incomplete. No original edges. Rippling effect and elongated bubbles. Late Roman.

Cat. No. 900, [16698]. Thickness: 1.4mm. Window. Quarry fragment. Pale green. Muff. Incomplete. No original edges. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 900, [16698]. Thickness: 1mm. Window. Quarry fragment. Pale green. Muff. Incomplete. No original edges. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 904, [17189]. Thickness: 2.3mm. Window. Quarry fragment. Yellow green. Muff. Incomplete. No original edges. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 908, [17365]. Thickness: 2.2mm. Window. Quarry fragment. Green. Muff. Incomplete. No original edges. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 908, [17365]. Thickness: 1.8mm. Window. Quarry fragment. Yellow green. Muff. Incomplete. No original edges. Rippled matt surface on one side. Bubbles. Late Roman.

Cat. No. 908, [17365]. Thickness: 3.4-3mm. Window. Quarry fragment. Green. Muff. Incomplete. One cut edge and corner with tool marks. Both sides appear matt and slightly pitted from weathering. Slightly elongated bubbles. Slightly uneven thickness. Late Roman

Structure 4

Vessel Glass: A single, undiagnostic body fragment of a Roman vessel came from Structure 4.

Cat. No. 898, F.4660 [16679]. Thickness: 0.4mm. Vessel. Unknown. Colourless green tinge. Undiagnostic body fragment. No features. Form unknown. Roman.

Window Glass: Two fragments of window glass came from Structure 4.2 post pit F.4642. This was of a yellow green quarry of 4th century AD 'Muff' manufacture.

Cat. No. 897, F.4642 [16651]. Thickness: 1.5mm. Window. Quarry fragments. Yellow green. Muff. Incomplete fragments x2. No original edges. Rippled effect and elongated bubbles. Late Roman.

Enclosure and Feeder Ditches

Roman glass was recovered from the enclosure's inner and partition ditches (none from the outer ditch) and the 'feeder' ditch.

Vessel Glass: Twenty-nine fragments of vessel glass represented a minimum of 18 vessels. The glass was fairly mixed and fragmented, making precise forms unidentifiable in many cases.

The most noteworthy of the vessel glass was that representing a minimum of six Late Roman bowls and cups/beakers from feeder ditch F.4509 (Ditch 5f), located to the rear of Structure 3. Three were identifiable to type. One of these was a pale green 4th century AD Conical Beaker with curved rim cracked off to an unworked edge, with straight sides tapering to a small concave base pushed up to a point (Price and Cottam 1998, 121-122; Cat. No. 890). Light, horizontal wheel abrasions were present just below the rim and on upper and lower body, and a suitable parallel has been recorded at Banwell, Wint Hill, Somerset (Harden 1960, 52, figures 8-9).

Greenish colourless (Cat. No. 868) and yellow green (Cat. No. 903) body fragments with small oval indents also from Feeder Ditch F.4509 were identified as two convex bowls with indents (Price and Cottam 1998, 128-129). Such thin-walled vessels with small oval indents have parallels at Colchester, Essex (Cool and Price 1995, 104-105, fig. 6.8).

5a. Enclosure Inner Ditch

Cat. No. 892, F.4508 [16547]. Diameter: c.130mm rim. Thickness: 2.3-1.4mm. Vessel. Bowl. Pale green. Blown. Rim/body fragment. Curved rim with edge cracked off and ground smooth. Faint horizontal abraded bands below rim. Possible Convex bowl with indents (Price and Cottam 1998, 128-129). Late Roman (4th century).

Cat. No. 893, F.4512 [16557]. Thickness: 5.2-3.2mm. Vessel. Square bottle. Blue green. Base fragments x2. Flat base. Good quality glass. Grozing on one edge of one fragment suggests

possible re-use. Square bottle, very common from late 1st century AD onwards (Price and Cottam 1998, 195). 1st-2nd century.

Cat. No. 11200, F.4513 [16195]. Sample 1085. Thickness: 1.1mm. Vessel. Unknown. Pale blue green. Body fragment. Roman.

5d. Enclosure-Partition Ditch

Cat. No. 857, F.4500 [16020]. Thickness: 1.8mm. Vessel. Unknown. Pale green. Undiagnostic body fragment. Fairly straight walled vessel. Form unknown. Thin opalescent patina. Roman?

Cat. No. 857, F.4500 [16020]. Thickness: 1.5mm. Vessel. Unknown. Pale green. Undiagnostic body fragment. Convex curve. Bubbly. Form unknown. Roman.

Cat. No. 857, F.4500 [16020]. Thickness: 1.8mm. Vessel. Cup/Bowl/Beaker. Yellow green. Tiny rim fragment. Curved rim with edge cracked off and ground smooth. Remains of semi-circular depressions just below rim could be decoration? Form unknown. Late Roman.

Cat. No. 857, F.4500 [16020]. Thickness: 0.7mm. Vessel. Unknown. Colourless green tinge. Tiny, undiagnostic body fragment. Form unknown. Roman.

Cat. No. 857, F.4500 [16020]. Thickness: 0.2mm. Vessel. Unknown. Colourless. Tiny, undiagnostic body fragments x3. Very thin-walled. Form unknown. Roman.

Cat. No. 10409, F.4500. Thickness: 0.3mm. Vessel. Unknown. Colourless green tinge. Undiagnostic body fragments x3. Thin-walled vessel. Form unknown. Thin brown patina in places. Roman.

Cat. No. 10412, F.4500 SF2322. Thickness: 0.6mm. Vessel. Bowl/cup. Colourless green tinge. Undiagnostic body fragment. Vessel form unknown. Thin-walled cup or bowl with horizontal wheel abrasions. Very fine opalescent patina. Roman.

Cat. No. 10417, F.4500 SF2327. Thickness: 1mm. Vessel. Unknown. Yellow green. Undiagnostic body fragment of thin-walled beaker/cup/bowl. Form unknown. Scar from applied horizontal trail or other decoration. No Patina. Roman.

5f. Feeder Ditches

Cat. No. 858, F.4509 [16049]. Thickness: 0.4mm. Vessel. Conical beaker? Colourless. Blown. Undiagnostic body fragment. Form unknown. Thin-walled. Bubbles. Possible Conical beaker (Price and Cottam 1998). Late Roman (4th century?).

Cat. No. 867, F.4509 [16146]. Thickness: 1.3mm. Vessel. Cup/bowl/beaker. Yellow green. Body fragment with indent. Vessel form unknown, bowl or jar with indents. Part of 903. Roman.

Cat. No. 867, F.4509 [16146]. Thickness: 1.7mm. Vessel. Conical beaker. Yellow green. Undiagnostic body fragment. Unknown form. Part of conical beaker. Roman.

Cat. No. 867, F.4509 [16146]. Thickness: 0.4mm. Vessel. Cup/bowl/beaker. Colourless. Undiagnostic body fragment. Form unknown. Very thin-walled. Possible horizontal wheel abrasions. Thick brown/black patina. Roman.

Cat. No. 868, F.4509 [16158]. Thickness: 0.6mm. Vessel. Convex bowl with indents. Colourless green tinge. Blown. Body fragments x4. Thin-walled. Remains of oval indents. Convex bowl with Indents (Price and Cottam 1998, 128-129). Parallels at Colchester, Essex (Cool and Price 1995, 104-105, figure 6.8). Late Roman (4th century).

Cat. No. 890, F.4509 [16538]. Diameter: 30mm base, *c.* 84mm rim. Thickness: 1.1-0.6mm. Vessel. Conical beaker with curved rim. Pale green. Blown. Base, body fragments x2, and rim fragment. Curved rim with cracked off and unworked edge. Straight sides taper to small concave base (pushed up to point). Light, horizontal wheel abrasions just below rim and on upper and lower

body. Parallel from Banwell, Wint Hill, Somerset in Price and Cottam (1998, 122, fig. 50a). Late Roman (4th century).

Cat. No. 903, F.4509 [903]. Thickness: 1.6mm. Vessel. Convex bowl with indents. Yellow green. Body fragment. Part of oval indent. Good quality glass. Possible convex bowl with indents but precise form unknown. Late Roman.

Cat. No. 903, F.4509 [17186]. Thickness: 1mm. Vessel. Cup/bowl/beaker. Pale green. Undiagnostic body fragment. Form unknown. Thin-walled. Bubbly glass. Late Roman.

Cat. No. 11191, F.4509 [16146], Sample 1006. Thickness: 0.6mm. Vessel. Unknown. Pale green. Undiagnostic body fragment. Form unknown. Very thin-walled. Roman.

Window Glass: All the window glass fragments recovered from the ditches were Roman. These were all of a green or pale green colour. Three fragments (Cat. Nos. 872 and 887) were identified as possible Matt-glossy, so called because of its rough matt underside having been poured into a tray mould, as was common in the 1st to 3rd centuries (Allen 1998, 56-57); it is possible that weathering may also account for the matt surfaces. The remaining fragments were identified as Late Roman (4th century) 'Muff' glass.

5a. Enclosure Inner Ditch

Cat. No. 896, F.4508 [16628]. Thickness: 1.7mm. Window. Quarry fragment. Green. Muff. Incomplete. No original edges. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 10511, F.4513 [2421.01]. Thickness: 0.8mm. Window. Quarry fragment. Pale green. Muff. Incomplete. No original edges. Rippled effect on one side and lots of bubbles. Late Roman.

Cat. No. 11221, F.4508 [16580] Sample 1225. Thickness: 1.8mm. Window. Quarry fragment. Green. Muff. Incomplete. No original edges. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 11221, F.4508 [16580] Sample 1225. Thickness: 0.8mm. Window. Quarry (tiny) fragment. Pale green. Muff. Incomplete. No original edges. Late Roman.

5d. Enclosure Partition Ditch

Cat. No. 872, F.4500 [16242]. Thickness: 3-2.4mm. Window. Quarry Fragment. Green. Matt-glossy? Incomplete. Remains of one rounded edge. One matt side, though both sides are weathered. Rippling and bubbles. 1st-3rd century.

Cat. No. 905, F.4500 [17245]. Thickness: 3-2.3mm. Window. Quarry fragment. Pale green. Muff? Incomplete. One rounded, tooled edge. Rippled effect and elongated bubbles. Matt weathering - more so on one side which also has an opalescent patina. Roman.

Cat. No. 10407, F.4500 [2317]. Thickness: 2.1mm. Window. Quarry fragment. Pale green. Muff. Incomplete. No original edges. Rippled effect and bubbles. Late Roman.

Cat. No. 10409, F.4500. Thickness: 1.9mm. Window. Quarry fragment. Green. Muff. Incomplete. Remains of one grozed edge. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 10422, F.4500 [2332]. Thickness: 1.4mm. Window. Quarry fragment. Pale green. Muff. Incomplete. No original edges. Bubbles. Some scratches/wear. No patina. Late Roman.

Cat. No. 10433, F.4500 [2343]. Thickness: 2.1mm. Window. Quarry fragment. Pale green. Muff. Incomplete. No original edges. Rippled effect and bubbles. No patina. Late Roman.

Cat. No. 10452, F.4500 [2362]. Thickness: 1.4mm. Window. Quarry fragment. Pale green. Muff. Incomplete. Grozing on one edge. Ripples and bubbles. No patina. Late Roman.

5f. Feeder Ditches

Cat. No. 866, F.4509 [16137]. Thickness: 3.1mm. Window. Quarry fragment. Green. Muff. Incomplete. Grozing on one edge. Rippled effect on one face and elongated bubbles. Late Roman.

Cat. No. 867, F.4509 [16146]. Thickness: 3.4-1.8mm. Window. Quarry fragment. Green. Muff. Incomplete. Grozing on two edges. Rippled matt surface on one side. Lots of bubbles. One large elongated burst bubble on glossy surface. Late Roman.

Cat. No. 886, F.4509 [16497]. Thickness: 1.7mm. Window. Quarry fragment. Green. Muff. Incomplete. Possible remains of one original, slightly curved edge. Rippled effect, more so on one side. Tool marks. Elongated bubbles. Late Roman.

Cat. No. 887, F.4509 [16498]. Thickness: 2mm. Window. Quarry fragment. Green. Matt-glossy? Incomplete. Possible original cut corner. One matt surface. Bubbles. 1st-3rd century.

Cat. No. 906, F.4522 [17272]. Thickness: 2.5-2.1mm. Window. Quarry fragment. Green. Muff. Incomplete. One rounded edge. Rippled effect on one side. Bubbles. Late Roman.

Pit Group 2

Comprising the total glass from Pit Group 2, the assemblages from F.4544 and F.4586 may be treated as a single feature deposit and may be highlighted for their melted vessels and unaffected window glass. This totalled four represented vessels mostly unidentifiable to form.

Vessel: Of note is the assemblage from F.4544 and F.4586. These form an elongated pit with a near black fill situated on the southwest line of Pit Alignment 1, but with a character that is unusual by comparison to other features within the site. These produced an assemblage of 14 glass shards that, subject to intensive heat, had reached melting point. Addressing the features as one single feature, a minimum of four vessels was counted; however, the character of the vessels points to the result of exposure to fire rather than the product or waste from any manufacturing process.

Cat. No. 881, F.4586 [16332]. Thickness: 5.3mm. Vessel. Melted unknown. Green. Thick melted fragment. Possible jug handle? Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Cat. No. 881, F.4586 [16332]. Thickness: 2.4mm. Vessel. Melted unknown. Pale blue green. Melted fragment. Base fragment. Possible flask or phial. Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Cat. No. 881, F.4586 [16332]. Thickness: 4.7mm. Vessel? Melted unknown. Pale green. Melted fragment. Unidentifiable vessel. Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Cat. No. 881, F.4586 [16332]. Thickness: 3.7-2.8mm. Vessel? Melted unknown. Pale green. Melted fragment. Unidentifiable vessel. Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 6.1-3.5mm. Vessel. Melted unknown. Yellow green. Melted fragments x4. Unidentifiable vessel. Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 13.5-3.1mm. Vessel. Melted unknown. Pale blue green. Melted fragments x2. Unidentifiable vessel. Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 3.9mm. Vessel. Melted unknown. Pale green. Melted fragment. Unidentifiable vessel. Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 2.4mm. Vessel. Melted unknown. Pale green. Melted fragment. Unidentifiable vessel. Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 4.6mm. Vessel. Melted unknown. Pale green. Melted fragment. Unidentifiable vessel. Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 3.5mm. Vessel. Melted unknown. Pale blue green. Melted fragment. Unidentifiable vessel. Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 1.4mm. Vessel. Melted unknown. Pale blue green. Melted fragment. Unidentifiable vessel. Heat affected. Discarded after destruction by fire or disturbed and re-deposited cremation burial? Roman.

Window Glass: Features 4544 and 4688 were also the exclusive producers of Pit Group 2's window glass. When again considered as a single entity, the assemblage totalled seven shards representing a minimum of four quarries. Unlike the vessel glass from these features, the window glass was not heat affected. All the fragments are of Late Roman 'Muff' manufacture (Allen 1998, 57).

Cat. No. 902, F.4688 [16917]. Thickness: 3.1-1.8mm. Window. Quarry fragment. Green. Muff. Incomplete. One rounded edge. Slightly squashed towards edge with tool marks. Rippled effect on one side. Bubbles. Late Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 2.6mm. Window. Quarry fragments. Green. Muff. Incomplete fragments x2. No original edges. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 2.4-2mm. Window. Quarry fragment. Pale green. Muff. Incomplete. Possible remains of cut and tooled edge/corner. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 3.1mm. Window. Quarry fragment. Yellow green. Muff. Incomplete. One small area of grozed edge remains. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 880, F.4544 [16330]. Thickness: 3.3mm. Window. Quarry fragment. Green. Muff. Incomplete. No original edges. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 883, F.4544 [16428]. Thickness: 2.7mm. Window. Quarry fragment. Pale blue green. Muff? Incomplete. Remains of one grozed edge. Rippled effect, more so on one surface. Both surfaces weathered. Bubbles. Late Roman.

Cat. No. 883, F.4544 [16428]. Thickness: 3.1mm. Window. Quarry fragment. Green. Muff? Incomplete. One grozed edge. Rippled effect, more so on one surface. Bubbles. Late Roman.

Pit Group 4

Vessel Glass: A single sherd of Roman vessel glass was recovered.

Cat. No. 907, F.4771 [17287]. Thickness: 1.5mm. Vessel. Unknown. Pale blue green. Undiagnostic base fragment. No features. Form unknown. Roman.

Small Ditches and Gullies

Vessel Glass: Two sherds of Roman vessel glass were found in two gullies.

Cat. No. 859, F.4520 [16063]. Diameter: *c.* 50mm base. Thickness: 1.3mm. Vessel. Flask or phial. Pale blue green. Blown. Base fragment. Part of high, possibly pointed base kick. Vessel form unknown. Bubbles. Roman.

Cat. No. 10520, F.4529 [2430]. Thickness: 1.2mm. Vessel. Cup or bowl. Pale green. Undiagnostic body fragment of thin-walled cup or bowl. Slight curves suggest an out-turned rim. Vessel form unknown. Some bubbles. No patina. Roman.

Furrows

Vessel Glass: Vessel glass from furrows was very fragmented and mixed, with both Roman (11 shards) and Post-medieval (14 shards) vessels represented. Most fragments were too small to show diagnostic features suitable for detailed identification, but three Roman vessels are of interest in this collection. A cup or beaker (Cat. No. 870) from F.4526 has an out-turned, curved rim with edge cracked off and ground smooth. The precise form remains undetermined, but this rim type is a typical style of 4th-5th century AD cups and bowls (Allen 1998, 48). The same rim style is observed on a yellow green, convex bowl with indents from F.4567 (Cat. No. 875). A rim fragment of bowl with out-turned, fire rounded rim (Cat. No. 863) shows similarities to 2nd-3rd century AD examples from Colchester, Essex (Cool and Price 1995, 100, no. 693, fig. 6.4).

Cat. No. 863> F.4549 [16116]. Diameter: *c.* 100mm. Thickness: 2.1-0.8mm. Vessel. Bowl. Colourless. Blown. Rim fragment. Out-turned, fire rounded rim. Start of straight, deep upper body. Bowl with out-turned, fire rounded rim (Price and Cottam 1998, 106-107). Similar to example from Colchester, Essex (Cool and Price 1995, 100, no. 693 fig. 6.4). Late 2nd-3rd century.

Cat. No. 870, F.4526 [16163]. Thickness: 2mm. Vessel. Cup/Beaker. Yellow green. Rim fragment. Out-turned, curved rim with edge cracked off and ground smooth. Form unknown, possible wheel cut cup or beaker, or bowl with indents (Price and Cottam 1998). Late Roman.

Cat. No. 875, F.4567 [16256]. Thickness: 0.8mm. Vessel. Convex bowl with indents. Yellow green. Blown. Body fragments x5. One fragment has part of indent. From bowl or jar with indents. Small indent makes it most like convex bowl with indents (Price and Cottam 1998, 128-129). 4th-5th century.

Cat. No. 875, F.4567 [16256]. Thickness: 0.2mm. Vessel. Unknown. Colourless. Undiagnostic body fragment. No features. Form unknown. Possible small flask or phial? Roman.

Cat. No. 877, F.4570 [16260]. Thickness: 0.5mm. Vessel. Unknown. Pale green. Undiagnostic body fragment. Thin-walled vessel. Form unknown. Roman.

Cat. No. 10555, F.4543 [2465]. Diameter: *c.* 70 base. Thickness: 3.9-1.2mm. Vessel. Bottle/flask. Blue green. Blown. Base fragment. High, pointed base kick with pontil scar. Vessel form unknown. No patina, some bubbles. Roman.

Cat. No. 10673, F.4552 [2583]. Thickness: 3.4mm. Vessel. Unknown footed vessel. Green. Rim fragment of foot. Domed shape. Wear on underside from standing. Rounded rim. Deep vertical scratch on outer surface. Thin brown patina. Roman.

Window Glass: Like the vessel glass the window glass from furrows is also a mix of Roman (five shards) and Post-medieval (three shards). For the Roman window glass, the rippled effect and high proportion of elongated bubbles in these relatively even, thin, and transparent quarry fragments are suggestive of early cylinder 'Muff' glass, cut from a blown cylinder that is cut along its length and flattened out; this became common in the 4th century AD (Allen 1998, 57).

Cat. No. 860, F.4541 [16103]. Thickness: 2.8mm. Window. Quarry fragment. Green. Muff? Incomplete. No original edges. Rippled matt surface on one side. Bubbles. Late Roman.

Cat. No. 870, F.4526 [16163]. Thickness: 2.7mm. Window. Quarry fragment. Green. Muff. Incomplete. No original edges. Rippled effect and elongated bubbles. No patina. Late Roman.

Cat. No. 875, F.4567 [16256]. Thickness: 1.5mm. Window. Quarry fragment. Green. Muff. Incomplete. No original edges. Slight rippling and elongated bubbles. Late Roman.

Cat. No. 877, F.4570 [16260]. Thickness: 2mm. Window. Quarry fragment. Pale green. Muff. Incomplete. No original edges. Rippled effect and elongated bubbles. Late Roman.

Cat. No. 10668, F.4551 [2578]. Thickness: 2.5mm. Window. Quarry fragment. Pale olive green. Muff. No original edges. Rippled effect and high proportion of elongated bubbles suggestive of early cylinder of 'Muff' glass (Allen 1998, 57). Good condition, no patina. Possible Late Roman (post 3rd - pre 18th century).

Overall, the glass from Site VII is in a fragmentary condition. The majority is of Late Roman date with a few surviving fragments of earlier Roman glass. Assemblages mixed with Post-Medieval glass were largely confined to furrows and the upper profiles of ditches.

Vessel glass from pits F.4544 and F.4586 – considered as part of a single feature – was notable for having been severely heat-affected, as compared with the accompanying window glass that showed no signs of having been subject to heat. A range of events could account for the melting of the vessel glass, including accidental building fires, for example. Vessels used as funerary accompaniments in cremation fires also return to a molten state (Price and Cottam 1998, 8). Whatever process these are the outcome of, there is no evidence to suggest that these are related to glass working or manufacture.

Unsurprisingly, the glass in the Feeder Ditches to the rear of Structure 3 closely matches that within the building, albeit a little more fragmented and less identifiable to form.

The glass from Structure 3 stands out as being a little less fragmented and more easily identifiable than the rest of the collection. The vessels are mostly fine and of good quality glass, suggesting that they were imported rather than locally made, and point to relatively elevated wealth and status. Evidence for glassmaking sites in Britain suggests the industry utilised recycled glass both for basic vessels as well as for finer glassware imported from the 1st century AD onwards (Allen 1998, 12-17). An illustration of this from Structure 3 was a possible 'figured' fragment cut from a vessel form common to the Rhineland (Price and Cottam 1998, 5), from where it may have originated. The Site VII collection would need to undergo chemical analysis to determine the make-up and origin of the vessels with greater certainty.

The site's window glass is almost all of good quality, Late Roman 'muff' manufacture, typical of that used in this period. Too little survives from Structures 1, 2 and 4 to provide much of a comprehensive comparison with Structure 3. What has survived from these is also highly fragmented, but is consistent in type and quality across each of the feature groups. Again, this would also need chemical analysis to determine clearly its ingredients, production and origins.

Fired Clay – Marcus Brittain

Analysed in conjunction with the site's building mortar and plaster, five fabrics corresponded with fired clay distinct for their lime-free consistency and morphological character (Tables 38 and 39). Within Fabrics L, M, N, O and Q was 1086.7g of fired clay. As further compared with the plaster daub fabrics utilised in the site's buildings, Fabrics L and Q contained notably higher concentrations of vegetable temper and a generally rough unfinished surface, 20-30mm thick. Items in these fabrics also displayed reverse side wattle rod impressions notably larger (5-18mm diam.) than seen on the site's wall plaster. A number of fragments were

folded more or less to a 90-degree angle, and pinches of raised irregular 'lips' were resultant from haphazard application. No paint or other decoration was present on these pieces, and their 'unfinished' appearance suggests that these were part of a different form of structure, perhaps the wall to a furnace or oven. This would also fit with the recovery location of these pieces, predominantly deriving from the Feeder Ditches on the southwest side 'working area' of Structure 3.

The remainder of the assemblage was composed of undiagnostic lumps. Fired clay objects were notable only by their absence (Tables 38 & 39).

Fabric	Description
L	Hard coarse yellowish pink silt clay with rare grog and vegetable temper, and pale to mid grey uneven interior
M	Hard light grey fine grain clay fabric with very rare grit (streaky appearance in places)
N	Fairly soft sandy silt fabric with rare shell and very rare grog; colour is brick-red to pinkish orange (slightly porous structure in places)
O	Dark grey hard silty fabric with mid orangey pink oxidised and smooth even external surface; very occasional silica
Q	Dark grey hard silty fabric with light orangey pink oxidised and slightly uneven external surface; occasional to frequent chaff and small to medium crushed stone

Table 38. Fired Clay fabrics.

Feature category	L	M	N	O	Q	*Total*
Structure 4	3.5	3.5	17.9	.	.	24.9
Enclosure Inner Ditch	.	.	.	13.2	.	13.2
Enclosure Partition	40.2	.	20.3	.	.	60.5
Feeder Ditch	29.8	.	.	.	890.9	920.7
Pit Alignment 2 (SE)	.	.	1.8	.	.	1.8
Pit Groups 4	.	.	.	12.2	.	12.2
Rubble Spread 1	50.7	.	.	.	.	50.7
Shallow Ditches & Gullies	.	.	.	2.7	.	2.7
Total	*124.2*	*3.5*	*40*	*28.1*	*890.9*	1086.7

Table 39. Fired clay overview by weight (g).

Metalwork – Justin Wiles

Strategic use of metal-detectors in tandem with manual excavation, as well as during machine exposure of the site's subsoil horizons and to scan unexcavated lengths of ditches, produced an overall assemblage of 1101 items, weighing 11981.5g. Modern objects with no archaeological value such as shotgun cartridges, ring pulls etc. were recovered but discarded during the post-excavation cataloguing phase.

With the exception of Roman coinage, which amounted to 151 copper alloy items (Fig. 36), the assemblage comprises a surprisingly small number of metal Roman finds, including 72 other finds of iron, lead and copper alloy (Table 40). The condition of these is generally poor, and has suffered the effects of prolonged exposure to moisture and agricultural wear and tear.

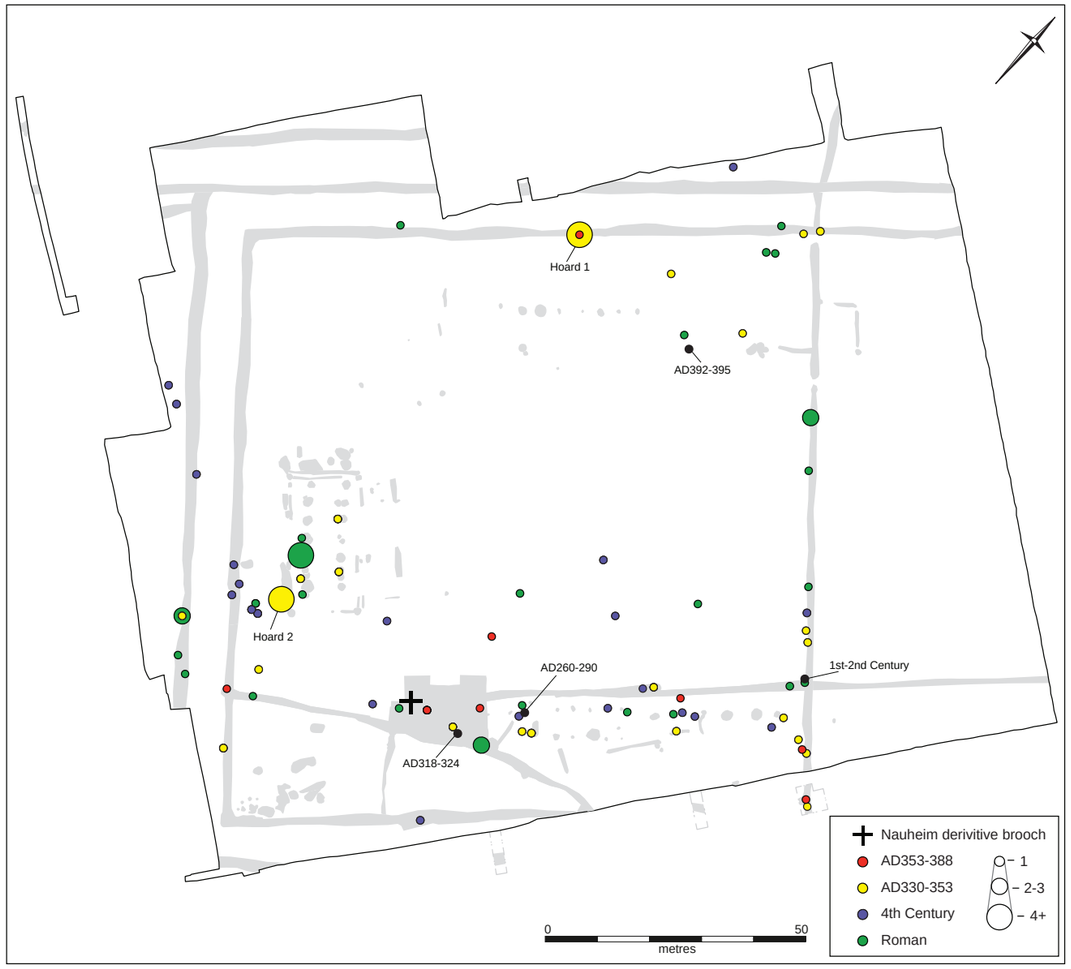


Figure 36. Roman coin distribution

Feature group	Iron	Lead	Copper Alloy	Total	Coins	Datable Coins	Earliest	Latest
Structure 1	0	0	2	2	.	.	.	.
Structure 2	2	0	2	4	.	.	.	.
Structure 3	0	0	9	9	6	3	330-335	337-341
Structure 4	0	0	3	3	25**	7	330-348	350-353
Enclosure Inner Ditch	5	0	3	8	41*	22	330-335	364-378/ 350-388
Enclosure outer ditch	.	.	.	.	4	1	342-348	342-348
Enclosure Partition	5	0	1	6	12	5	330-335	337-341
Feeder Ditches	2	2	3	7	3	0	.	.
Trackway	0	0	1	1	.	.	.	.
Pit Alignment 2	1	0	0	1	.	.	.	.
Pit Group 2	.	.	.	.	1	0	.	.
Pit Group 4	.	.	.	.	1	0	.	.
Rubble Spread 1	.	.	.	.	4	0	.	.
Other/Isolated	1	0	1	2	.	.	.	.
Smaller ditches / gullies	.	.	.	.	4	2	336-342	350-353
Furrow	2	0	0	2	3	0	.	.
Surface Finds	9	3	15	27	45	11	260-290	364-378
Total	*27*	*5*	*40*	*72*	*151*	*51*	.	.

Table 40. Roman metalwork across feature groups (*includes Coin Hoard 1; **includes Coin Hoard 2).

The Roman copper alloy finds were predominantly of late 3rd-4th century AD date; an earlier Roman *Nauheim Derivative* brooch is a notable exception to this (see Fig. 36). The majority are dress accessories with armlets being the most common find type. This Late Roman date is also reflected in the coin assemblage with only two of the 136 Roman coins not belonging to the 4th century; the latest is a *Siliqua* of Arcadius, dated AD392-395. As would be expected, the Roman coins were recovered across the entire site with two slightly denser concentrations within Structure 3 and Structure 4, and a hoard of 28 coins from the enclosure's inner ditch.

The iron objects were generally in very poor condition, and apart from ubiquitous iron nails in Roman contexts, only four objects were confidently identified as Roman. Of interest are an incomplete latch-lifter recovered from a layer within Room 5 of Structure 3 and a possible lamp hanger recovered from the subsoil. These objects are indicative of an occupied Roman building.

There was a relatively large amount of lead casting spill, recovered in the main from the enclosure boundary ditches. This may indicate recycling of material during the occupation phase or perhaps during and after the demolition of the main buildings.

The following is a detailed assemblage catalogue, ordered by material type, feature class and the CAU archive catalogue number.

Roman Copper Alloy

In total 108 copper alloy objects were assessed. Of these, 19 were Roman or possibly Roman in date and 19 were undated but also possibly Roman. All are detailed below. The coinage is reported separately.

Structure 1

Cat. No. 10698. SF.2608 [16567] SL.4067. An irregularly shaped fragment of copper alloy sheet. Two small circular holes are punched into the sheet; one in a corner and another off centre. Dimensions 46.7x52.4x1.0mm, weight 9.8g. Possible Roman date.

Cat. No. 10734. SF.2644 [16292] F.4575 SL.3994. Small fragment of copper alloy formed of alternating blocks of crenellations and transverse grooves. Probably a fragment of armlet similar to Cat. No. 10601. above. Length 18.2mm, width 0.8mm, height 2.0mm. Probable Roman date.

Structure 2

Cat. No. 10805. SF.2715 [16510] F.4614. A near-complete small Roman armlet, circular in shape with an oval cross-section, and incomplete tapering terminals. The upper surface is undecorated. Diameter 39.8mm, cross-section 6.6x2.9mm, weight 7g. Mid 3rd-4th century AD in date.

Structure 3

Cat. No. 10899. SF.2809 [17189] SL.4166. A fragment of circular-sectioned copper alloy, wrapped around a heavily corroded iron core. Decorated with five transverse ridges, one end is stepped in and is tapering. A possible fragment of tool. Dimensions 30.4x9.9x5.2mm, weight 1.9g. Probably Roman in date.

Cat. No. 11041. [16250] SL.4154 F.4751. Fragment of 'D'-sectioned armlet. The single remaining terminal has a slight taper and is decorated with five transverse grooves followed by a raised square panel. Length 76x4.2x1.5mm, weight 2.5g. Roman in date.

Cat. No. 11045. [16698]. A small fragment of armlet, rectangular in shape and tapering to a rounded terminal. Faint transverse grooves are just visible. Dimensions 4.7x3.4mm, weight 0.2g. Roman in date.

Cat. No. 11049. [17247] SL.4167. A heavily corroded near-complete arm from a set of copper alloy tweezers. Tapering with a rectangular section, the outside edge is decorated with two groups of perpendicular lines at the widest end. Length 49.3mm, cross-section at widest 3.8x1.9mm, weight 1.0g. Roman in date.

Cat. No. 11173. [17318] SL.4167 F.4780. A fragment of one-piece *Nauheim derivative* brooch. The incomplete spring mechanism is formed from 1.5 turns of circular sectioned copper alloy wire. The bow has a 'D'-shaped section and tapers to where the missing catch plate would have been. The upper surface of the bow is worn and pitted but a faint raised central ridge can be seen. The pin is missing. A parallel from Richborough has been illustrated (Bayley and Butcher 2004. P146. T11). Dimensions 56.7x4.9mm, weight 2.9g. 1st century AD.

Cat. No. 11174. [17365] SL.4152. A small curving fragment of probable armlet, rectangular in shape and undecorated. Dimensions 17x4.3mm, weight 0.3g. Probably Roman in date.

Cat. No. 11180. [17240] SL.4167 F.4764. Two refitting, rectangular fragments of copper alloy, possibly from an armlet or finger ring. Dimensions 22.1x3.8mm, weight 0.3g. Possibly Roman in date.

Structure 4

Cat. No. 11016. [16770] SL.4079 F.4653. An incomplete copper alloy bell-shaped stud. The body of the stud is cylindrical with an incomplete flaring rim. An incomplete circular-sectioned projection extends from the centre of the inside face. Several close parallels are recorded on the *Portable Antiquities Scheme* (ID HAMP-E56BB2 and DEV-9544D3). Height 25.1mm, width 36.2mm, weight 32.7g. Roman in date.

Enclosure Inner Ditch

Cat. No. 10464. SF.2374 F.4512. A complete copper alloy pin with spherical head and circular-section tapering shank. Length 42.8mm, diameter of head 5.1mm, diameter of shank 1.5mm, weight 0.8g. Roman in date (see Fig. 37).

Enclosure Partition

Cat. No. 11050. [16460] F.4500. Fragment of 'D'-sectioned armlet. Undecorated and in poor condition. Length 35.5mm, width 4.6mm, weight 0.6g. Roman in date.

Feeder Ditches

Cat. No. 10601. SF.2511 [16146] F.4509. An incomplete rectangular sectioned copper alloy armlet. Decorated with alternating groups of crenellations and transverse grooves. A parallel is recorded in Crummy (Crummy 1983, 41, 1659). No terminals remain. Length 114.4mm, width 3.3mm, thickness 1.5mm. 3rd-4th century AD in date.

Cat. No. 11004. [16497] SL.4050 F.4509. A fragment of 'D'-sectioned armlet decorated with transverse grooves. At the terminal the grooves are followed by three plain panels. A parallel is recorded from Colchester (Crummy, 1983, 42, 1683). Length 45.7mm, width 2.8mm, weight 0.7g. 4th century.

Cat. No. 11184. [16187] SL.3966 F.4509. Three fragments of copper alloy 'S' chain-link, two refit to form one complete link. Rectangular in section. Length 21.2mm, width 5.8mm, thickness 1.2mm, weight 0.5g. Probable Roman in date.

Trackway

Cat. No. 11014. [16614] SL.4076 F.4622. A copper alloy hoop, made from a single piece of circular-sectioned wire coiled 1.5 times. Attached to this is a smaller, single figure of eight chain link. Diameter of hoop 10.8mm, thickness of wire 1mm, Dimensions of chain link 7.9x4.1mm, combined weight 1.1g. Possibly part of a Chatelaine type toiletry-set. Roman in date.

Surface Finds

Cat. No. 10572. SF.2482. An incomplete rectangular-section wedge shaped shank, probably from an awl or other tool. A similar object is recorded on the Portable Antiquities Scheme database (ID SUR-C1DBF4). Dimensions 31x9.2x7.1mm, weight 8.6g. Probably Roman in date.

Cat. No. 10749. SF.2659. A near-complete Roman armlet, circular in shape with an oval cross-section that thickens at its midpoint. Both terminals are missing. The upper surface is in poor condition and appears undecorated. A parallel is recorded on the *Portable Antiquities Scheme* (ID DEV-BF0491). Crummy states that this type of armlet dates to the 3rd or 4th century AD (1983, 37). Diameter 57.8mm, cross-section 14.1x5.1mm, weight 48.6g.

Undated Copper Alloy

Structure 3

Cat. No. 10487. SF.2600. A complete cast copper alloy stud with domed head and square sectioned shank. Diameter 11.8, height 10.8, weight 1.1g. Undated.

Structure 4

Cat. No. 11019. [16818] F.4658. A fragment of copper alloy sheet, roughly rectangular in shape and curved longitudinally, possibly a vessel fragment. Dimensions 17.6x16x1.6mm, weight 1.9g. Undated.

Cat. No. 11038. [16995] SL.4142 F.4712. Small fragment of irregularly shaped copper alloy, possible casting waste. Dimensions 14.9x13.2x3.4, weight 2g. Undated.

Enclosure Inner Ditch

Cat. No. 11002. [16580] SL.4061 F4508. A small incomplete rectangular copper alloy strip, a small square sectioned rivet is attached to a rounded terminal. Dimensions 16.2x3.9, weight 0.3g. Undated.

Cat. No. 11007. [16298] SL.3996 F.4512. Six refitting fragments of sheet copper alloy in very poor condition. A single rivet hole is located centrally. The smallest measures 10.6x7.2x1.5mm, weight 0.2g. The largest measures 38.9x16.6x2.2mm, weight 4.9g. Undated.

Other/Isolated

Cat. No. 10487. SF.2397. [16059] F.4641. A small, irregularly shaped fragment of copper alloy sheet. Dimensions 9.5x5.8mm, weight 0.2g. Undated.

Surface Finds

Cat. No. 10006. SF.1916. An irregularly shaped fragment of copper alloy sheet. Dimensions 40.9x36mm, weight 5.4g. Undated.

Cat. No. 10012. SF.1922. A fragment of heavily corroded copper alloy hoop with oval cross section. If complete, the diameter would have been approximately 24.4mm. Length 23.1, thickness 2.8mm, weight 0.7g. Undated.

Cat. No. 10025. SF.1935. A small rectangular sheet of copper alloy with a small amount of solder attached to one end. Dimensions 17x6.4x0.9mm, weight 0.4g. Undated.

Cat. No. 10027. SF.1937. An irregularly shaped fragment of copper alloy casting spill. Dimensions 16.4x13.6x5.5mm, weight 2.9g. Undated.

Cat. No. 10038. SF.1948 Small irregularly shaped fragment of copper alloy, possibly casting spill. Dimensions 24.1x16.9x6.4mm, weight 8.3g. Undated.

Cat. No. 10170. SF.2080. A small rectangular fragment of copper alloy sheet. Dimensions 16.4x12.2mm, weight 0.9g. Undated.

Cat. No. 10281. SF.2191. A square fragment of copper alloy sheet, all four corners have been clipped. Dimensions 26.9x27.1x0.6mm, weight 1.8g. Undated.

Cat. No. 10282. SF.2192. A rectangular fragment of copper alloy sheet. A punched circular nail hole is centrally placed. Dimensions 21.9x19.2x0.7mm, diameter of punched hole 5.1mm, weight 1.3g. Undated.

Cat. No. 10285. SF.2195. A rectangular fragment of copper alloy sheet. A raised ridge runs along one of the long sides. Dimensions 18.9x10.23.7mm, weight 1.5g. Possible vessel fragment. Undated.

Cat. No. 10386. SF.2296. A triangular shaped fragment of copper alloy sheet. Dimensions 27.9x9.0x0.6mm, weight 0.5g. Undated.

Cat. No. 10487. SF.2602. A small fragment of copper alloy sheet, roughly triangular in shape. Dimensions 10.9x6.5mm, weight 0.1g. Undated.

Cat. No. 10825. SF.2735. A fragment of copper alloy sheet. Irregularly shaped with a raised central ridge, measuring 20.3x11.4x0.8mm, weight 0.6g. Undated.

Cat. No. 10879. SF.2789. A very small fragment of copper alloy, heavily corroded with no remaining surface detail. Dimensions 6.7x5.3x0.8mm, weight 0.1g. Undated.

Roman Iron

All ironwork recovered was fragmentary and of very poor condition. A total of 473 iron nails were recovered from all feature groups; not listed here, a full catalogue is available in the site archive. All other objects recorded below are four Roman or probable Roman items with 25 undated mainly feature-derived pieces.

Structure 3

Cat. No. 11167b. [17189] SL.4199. An incomplete latch-lifter. The flat rectangular-sectioned handle is missing its end loop. The blade is also incomplete and rectangular-sectioned. A large number of these are illustrated in Manning (1985, pl. 37-39). Length 118.9mm, handle cross-section 13.2x5.8mm, blade cross section 7.7x5.7mm, weight 28.6g. Roman in date.

Surface Finds

Cat. No. 10141. SF.2051. A fragment of circular-sectioned iron rod, slightly curving and bent through 180 degrees at one end. Possible hook or handle fragment. Length 98.4mm, diameter of rod 7.4mm, weight 25.2g. Probably Roman in date.

Cat. No. 10695. SF.2605. A square sectioned tapering iron rod in poor condition. The central part of the rod is spirally twisted. At the widest end the rod flares out, possibly to form an eye. A similar, more complete object is recorded in Manning as a lamp hanger (1985, 6, pl. 45). Length 137.5mm, width 16.7x8.3mm, weight 28.4g. Probably Roman in date.

Cat. No. 10857. SF.2767. A near-complete iron wedge with rectangular cross-section and tapering shank. Dimensions 55.3x14.5x7.9mm, weight 13.2g. Possibly Roman in date.

Undated Iron

Structure 2

Cat. No. 11130a. [16574] SL.4070 F.4633. A small irregularly-shaped iron lump. Dimensions 20.1x12.8x9.4mm, weight 2.4g. Undated.

Cat. No. 11130b. [16574] SL.4070 F.4633. A heavily corroded fragment of iron binding strip with two rivets. Dimensions 60.7x18.2x5.3mm, weight 12g. Undated.

Structure 4

Cat. No. 11167a. [17189] SL.4166. Two refitting fragments of iron hoop. Part of horse equipment, such as a harness. Diameter 66.4mm, thickness 9.8mm, weight 35.5g. Undated.

Enclosure Inner Ditch

Cat. No. 10374. SF.2284 F.4508. An irregularly shaped fragment of iron sheet with no visible nail or rivet holes. Dimensions 36.6x24.7x4.3mm, weight 6.1g. Undated.

Cat. No. 10721. SF.2631 [16225] SL.3977 F.4508. A small irregularly-shaped ferrous lump, possibly a small nail and fragment of ferrous sheet. Dimensions 19.8x14.9x14.3mm, weight 2.4g. Undated.

Cat. No. 11070a. [16580] SL.4061 F.4508. Two refitting fragments of a rectangular slightly tapering iron strip with oval cross-section. Dimensions 59.3x4.9x9.4mm, weight 5.8g. Undated.

Cat. No. 11070b. [16580] Sl.4061 F.4508. An irregularly shaped ferrous lump. Dimensions 32.7x23.6x39.5mm, weight 28.3g. Undated.

Cat. No. 11086. [16557] SL.4064 F.4512. A fragment of iron sheet, roughly rectangular in shape, with a single off-centre piercing, probably for a nail. One side tapers to a point. Dimensions 46.9x44.0x3.5mm, weight 19g. Undated.

Enclosure Partition

Cat. No. 10450. SF.2360 F.4500. An unidentified irregularly shaped ferrous lump. Recommended for x-ray. Dimensions 45.5x36.2x18.9mm, weight 48.2g. Undated.

Cat. No. 10771. SF.2681 [16472] F.4500. An irregularly shaped heavily corroded iron lump. Dimensions 34.4x16.8x14.1mm, weight 20g. X-ray may help to identify this object. Undated.

Cat. No. 10773. SF.2683 [16472] F.4500. An irregularly shaped heavily corroded iron lump. Dimensions 45.8x32.3x18.4mm, weight 36g. X-ray may help to identify this object. Undated.

Cat. No. 10774. SF.2684 [16472] F.4500. An irregularly shaped heavily corroded iron lump. Dimensions 23.1x17.4x12.6mm, weight 5.8g. X-ray may help to identify this object. Undated.

Cat. No. 11064. [16472] SL.4055 F.4500. An irregularly shaped heavily corroded lump, possibly containing a fragment of nail. Dimensions 38x24.6x9.6, weight 12g. X-ray may help to identify this object. Undated.

Feeder Ditches

Cat. No. 10353. SF.2263 F.4509. An iron lump roughly rectangular in shape. Dimensions 33.3x15.5x6.8mm, weight 10.4g. Undated.

Cat. No. 11077. [16173] SL.3962 F.4509. A small irregularly-shaped iron sheet. Dimensions 26.5x32x4.8mm, weight 5.3g. Undated.

Pit Alignment 2

Cat. No. 11132. [16638] SL.4082 F.4638. An irregularly shaped and heavily corroded iron lump. Dimensions 33.1x22.4x16.4mm, weight 26.9g. X-ray may help to identify this object. Undated.

Furrow

Cat. No. 10729. SF.2639 [16256] SL.3985 F.4567. A triangular fragment of iron sheet with possible rivet adhering to one corner. Dimensions 26.1x21.8x8.9mm, weight 10.6g. Undated.

Cat. No. 11105. [16105] SL.3940 F.4543. A small tapering fragment of iron sheet. Dimensions 25.9x8.2x2.7mm, weight 1g. Undated.

Other/ Isolated Pits

Cat. No. 11140. [16925] SL.4127 F.4685. A heavily corroded irregularly shaped iron lump. Dimensions 61.3x36.6x11.6mm, weight 70.9g. Undated.

Surface Finds

Cat. No. 10104. SF.2014. A complete iron hook, circular in section with a diameter of 53.6mm and an average thickness of 6.6mm. Weight 18.6g. Undated.

Cat. No. 10126. SF.2036. An oval-sectioned fragment of iron rod. Length 119.2mm, thickness 6.6mm, weight 14.6g. Undated.

Cat. No. 10247. SF.2157. An incomplete rectangular fragment of binding strip with no visible rivets. Dimensions 110.1x13.9x5.1mm, weight 24g. Undated.

Cat. No. 10389. SF.2299. A roughly square-shaped iron lump. Dimensions 22.4x27.9x3.6mm, weight 18.9g. Undated.

Cat. No. 10681. SF.2591. A small 'V'-shaped fragment of iron fitting. Incomplete with square cross section. Dimensions 26.6x24.4x5.9mm, weight 4.5g. Undated.

Cat. No. 10853. SF.2763. A fragment of square-sectioned iron hoop or chain-link. Dimensions 18.6x5.2x4.7mm, weight 1.5g. Undated.

Roman Lead

Although much of the site's 6468g of lead comprised undiagnostic lumps, three objects were identified as Roman and are detailed below.

Surface Finds

Cat. No. 258. SF.1309. A near-complete lead pottery repair, roughly triangular in shape. Dimensions 17.7x16.8x7.4mm, weight 5.2g. Roman in date.

Cat. No. 10016. SF.1926. An irregularly shaped fragment of lead alloy, possibly a pottery repair. An upper, almost semi-circular, surface is attached to a 'C'-shaped lower surface. Dimensions 21.2x11.9x6.8mm, weight 3.5g. Roman in date.

Cat. No. 10232. SF. 2142. An irregularly shaped fragment of possible lead pottery repair. Dimensions 21.9x16.6x6.5mm, weight 11.5g. Roman in date.

Undated Lead

Feeder Ditches

Cat. No. 10502. SF.2412 F.4509. A rectangular fragment of lead sheet. A rectangular-section hole has been punched along the outside edge which measures 4.4x2.8mm. The sheet measures 42.2x30.4x1.9mm, weight 15.9g.

Cat. No. 11178. SL.3949 F.4509. A fragment of cast lead-alloy vessel, possibly a bird feeder or similar. No base remains and the external profile of the wall is concave which extends to overturned rim. Height 21.9mm, thickness 3mm, length of surviving fragment 30.2mm, weight 10.8g. A parallel is recorded on the *Portable Antiquities Scheme* database (ID - PUBLIC-8C6B50) as late Medieval to the Post-Medieval, but here the Roman finds context suggests otherwise.

Coins and Tokens

In total 172 coins and tokens were recovered during fieldwork and are presented in Table 41. Of these 136 were identified as Roman or possibly Roman. Only two coins were identified as 1st-3rd century AD in date, 90 were identified as 4th century AD and the rest were or of such poor condition that only a broad Roman date was possible.

Table 41. Roman Coins and Tokens (inc. Iron Age; ukn – Unknown).

Feature Group	Cat. No.	SF No.	Feature	Context	Slot	Mat.	Description	Diam. (mm)	Wt (g)	Date
Structure 3	11040		4751	17172	4154	Cu	A possible Iron Age coin, very worn but with slight dish shape. Unit	12	0.85	Iron Age?
Structure 3	11042		4759	17222	4153	Cu	House of Valens, R. Emperor with standard dragging a captive. Nummus (AE4)	16	1.39	364-378
Structure 3	11044			16698	4153	Cu	Very poor condition, no features visible, probable Roman coin.	12	0.7	Roman?
Structure 3	11046			16698	4153	Cu	Helena, female head facing right, '…ENAE AVG', R. Pax holding a branch. Nummus (AE4)	14	1.01	337-341
Structure 3	11043			16249	4154	Cu	Fragment of Roman coin, probable Nummus (AE4).	16x10	0.65	4th?
Structure 3	11047			16745	4154	Cu	Very poor condition, no features visible, R. Wolf and twins. Nummus (AE4)	15	1.17	330-335
Structure 3	11048			17189	4166	Cu	Very poor condition, no features visible.	12	0.56	Roman?
Structure 4	10395	2305	4533	16094	3937	Cu	Very poor condition, no features visible.	11	0.32	Roman?
Structure 4	11017		4655	16789	4102	Cu	Constantius II or Constans, head facing left, '…COM…', R. Emperor leading a figure from a hut. Nummus (AE2)	22	2.44	348-350
Structure 4	11018		4657	16810	3964	Cu	Head facing right, no helmet, R. Very poor condition, no features visible. Nummus (AE4)	14	0.63	4th
Structure 4	11020		4658	16819	3967	Cu	Poor condition, no features visible, R. Two soldiers with standard. Nummus (AE4)	14	1.07	335-341
Structure 4	11021		4668	16850	4128	Cu	Head facing right, appears to be Nummus (AE4).	11	0.56	4th
Structure 4	11022		4694	16935	4134	Cu	Poor condition, few features visible, probable Roman coin.	14	1.03	Roman?
Structure 4		2729	4696	17044	4137	Cu	House of Constantine, head facing right, no helmet, '…CON…', R. Soldiers standing, poor condition. Nummus (AE4)	14	0.55	330-348
Structure 4	11039		4712	16998	4142	Cu	Very poor condition, no features visible.	14	0.91	Roman?
Structure 4	11039		4712	16998	4142	Cu	Very poor condition, no features visible.	12	0.63	Roman?
Structure 4	11039		4712	16998	4142	Cu	Very poor condition, no features visible.	12	0.4	Roman?
Structure 4 (Hoard 2)	11023		4701	16970	4139	Cu	Poor condition, head just visible facing right, R. Illegible.	14	0.37	Roman?
Structure 4 (Hoard 2)	11024		4702	16970	4139	Cu	Very poor condition, head facing right, no helmet. Nummus (AE4)	13	1.15	4th
Structure 4 (Hoard 2)	11025		4702	16970	4139	Cu	Head facing right, no helmet, R. Poor condition possibly two Victories standing. Nummus (AE4)	13	0.93	4th
Structure 4 (Hoard 2)	11026		4702	16970	4139	Cu	Very poor condition, head facing right, R. No features visible.	14	0.84	Roman
Structure 4 (Hoard 2)	11028		4702	16970	4139	Cu	Two heavily corroded coins fused together.	15	2.36	Roman?
Structure 4 (Hoard 2)	11006		4702	16972	4139	Cu	Very poor condition no features visible, R. Two soldiers with standard? Nummus (AE4)	11	0.3	337-341
Structure 4	11029		4703	16970	4139	Cu	Very poor condition, R. Possibly two Victories facing each	16	0.77	350-353

Feature Group	Cat. No.	SF No.	Feature	Context	Slot	Mat.	Description	Diam. (mm)	Wt (g)	Date
(Hoard 2)							other. Nummus (AE4)			
Structure 4 (Hoard 2)	11030		4703	16970	4139	Cu	Constans, head facing right, no helmet, '…N…PF A…', R. Two Victories. Nummus (AE4)	16	1.21	343-348
Structure 4 (Hoard 2)	11031		4703	16970	4139	Cu	Very poor condition, no features visible.	13	0.51	ukn
Structure 4 (Hoard 2)	11033		4703	16970	4139	Cu	Head facing right, no helmet, R. Heavily corroded no features visible. Nummus (AE4)	15	1.72	4th
Structure 4 (Hoard 2)	11035		4703	16970	4139	Cu	Poor condition, head facing right, R. Illegible.	14	0.72	Roman?
Structure 4 (Hoard 2)	11032		4703	16971	4139	Cu	Very poor condition, no features visible.	14	0.76	Roman?
Structure 4 (Hoard 2)	11034		4703	16971	4139	Cu	Helena, female head facing right, '…VL HE…', R. Pax holding a branch. Nummus (AE4)	13	0.87	337-341
Structure 4 (Hoard 2)	11036		4704	16968	4139	Cu	Very poor condition, no features visible.	14	0.26	Roman?
Structure 4 Hoard 2)	11037		4704	16968	4139	Cu	Very poor condition, no features visible, possible Nummus (AE4).	14	0.48	4th?
Enclosure Inner Ditch	10716	2626	4508	16214	3976	Cu	Very poor condition, possible Nummus (AE3).	17	1.2	4th?
Enclosure Inner Ditch	10717	2627	4508	16215	3976	Cu	Head facing right, no helmet, R. Emperor with a standard dragging a captive. Nummus (AE3).	17	1.19	364-378
Enclosure Inner Ditch	10715	2625	4508	16225	3977	Cu	Head facing right, no helmet, R. Illegible. Nummus (AE3).	17	1.08	4th
Enclosure Inner Ditch	10725	2635	4508	16225	3977	Cu	Roma, head facing left, helmet, R. Wolf and twins. Nummus (AE4).	14x17	0.91	330-335
Enclosure Inner Ditch	11001		4508	16372	4015	Cu	Very poor condition, no features visible.	11	0.28	ukn
Enclosure Inner Ditch	11001		4508	16372	4015	Cu	Very poor condition, no features visible.	14	0.48	ukn
Enclosure Inner Ditch	10361	2271	4508	Surface		Cu	Very poor condition, no features visible. Nummus (AE4)?	14	1.02	4th?
Enclosure Inner Ditch			4512	16273	3988	Cu	Head facing right, no helmet, R. Poor condition but possibly two Victories facing each other. Nummus (AE4).	18	1.41	4th
Enclosure Inner Ditch	10458	2368	4512	Surface		Cu	Illegible, R. Two soldiers with standard. Nummus (AE4).	16	1.45	335-341
Enclosure Inner Ditch	10459	2369	4512	Surface		Cu	Illegible, R. Two soldiers with two standards. Nummus (AE3).	17	0.95	330-335
Enclosure Inner Ditch	10746	2656	4512	Surface		Cu	Very poor condition, no features visible.	12	0.44	Roman?
Enclosure Inner Ditch	10723	2633	4513	16207	3974	Cu	Very poor condition, no features visible.	12	0.55	ukn
Enclosure Inner	10508	2418	4513	Surface		Cu	Very poor condition, no features visible. Nummus (AE3)?	17	1.29	4th?

Feature Group	Cat. No.	SF No.	Feature	Context	Slot	Mat.	Description	Diam. (mm)	Wt (g)	Date
Ditch										
Enclosure Inner Ditch (Hoard 1)	10463	2383	4512	Hoard 1		Cu	Very poor condition, no features visible. Possible Nummus (AE4).	14	1.35	4th?
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Hoard 1		Cu	Head facing right, no helmet, R. Illegible. Nummus (AE4).	14	0.47	4th
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Illegible, R. Two soldiers with two standards. Nummus (AE4).	15	1.26	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Very poor condition, no features visible.	14	0.66	ukn
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Very poor conidtion, possible Nummus (AE4).	14	0.87	4th?
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Coin fragment, poor condition, very little surface detail remaining. Nummus (AE4)?	11	0.39	4th?
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Very poor condition, possible Nummus (AE4).	14	0.72	4th
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Roman, head facing left, helmet, R. Wolf and twins. Nummus (AE4).	16	1.89	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	House of Constantine, head facing right, no helmet, 'CONSTA…', R. Two soldiers with two standards. Nummus (AE4).	16	1.58	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Constantinopolis, head facing left, helmet R. Victory on prow of ship. Nummus (AE4).	16	2.26	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Constantinopolis, head facing right, helmet, R. Victory on prow of ship. Nummus (AE4).	16	1.35	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	House of Constantine, head facing right, no helmet, 'CONST…', R. Two soldiers with two standards. Nummus (AE3).	17	2.34	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Coin fragment, poor condition. Nummus (AE4).	12	0.18	4th?
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Constantinopolis, head facing left, helmet, R. Victory on prow of ship. Nummus (AE4).	16	1.8	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Constantinopolis, head facing left, helmet R. Victory on prow of ship. Nummus (AE4).	16	1.48	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Helena, female head facing right, '…VL HE…', R. Pax holding a branch. Nummus (AE4).	15	1.39	337-341
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Roma, head facing left, helmet, R. Wolf and twins. Nummus (AE4).	16	1.59	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	House of Constantine, head facing right, no helmet, R. Two soldiers with two standards. Nummus (AE3).	18	1.91	330-337
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Illegible, R. Two soldiers with two standards. Nummus (AE4).	16	1.69	330-335
Enclosure Inner	10463	2373	4512	Surface		Cu	Very poor condition, head facing right? R. Illegible. Nummus	14	0.56	4th?

Feature Group	Cat. No.	SF No.	Feature	Context	Slot	Mat.	Description	Diam. (mm)	Wt (g)	Date
Ditch (Hoard 1)							(AE4)?			
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Constantinopolis, facing left, helmet and holding sceptre, '…INOPOLIS', R. Illegible. Nummus (AE3).	17	1.63	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Very poor condition probable Roman radiate.	19	3.11	Roman?
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Coin fragment, poor condition. Nummus (AE4).	10	0.28	4th?
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Constantinopolis, head facing left, helmet, R. Victory on prow of ship. Nummus (AE4).	16	1.08	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Roma, head facing left, helmet, R. Wolf and twins. Nummus (AE3).	16x19	1.73	330-335
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	House of Constantine, head facing right, R. Two Victories each holding a wreath. Nummus (AE4).	14	0.68	343-348
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Magnus Maximus or Magentius? Head facing right, no helmet, R. Emperor holding Standard and Victory on globe. Nummus (AE2).	22	4.03	350-388
Enclosure Inner Ditch (Hoard 1)	10463	2373	4512	Surface		Cu	Head facing right, no helmet, R. Two soldiers with two standards. Nummus (AE3).	16	1.08	330-335
Enclosure Outer Ditch	11052		4506	16058	3925	Cu	Very poor condition, no features visible, probable Roman coin.	14	0.93	Roman?
Enclosure Outer Ditch	11008		4515	16270	3987	Cu	House of Constantine, head facing right, no helmet, R. Two Victories holding wreath. Nummus (AE4).	14	1.09	342-348
Enclosure Outer Ditch	11008		4515	16270	3987	Cu	Very poor condition, no features visible, probable Roman coin.	16	1.38	Roman?
Enclosure Outer Ditch	11008		4515	16270	3987	Cu	Very poor condition, no features visible, probable Roman coin.	14	0.52	Roman?
Enclosure Partition	11051		4500	16020	3920	Cu	Head facing right, no helmet, R. Two standing figures. Nummus (AE4).	16	1.25	4th
Enclosure Partition	11000		4500	16032	3924	Cu	Very poor condition, no features visible.	12	1	Roman?
Enclosure Partition	11176		4500	16032	3924	Cu	Very poor condition, no features visible.	11	1.02	Roman
Enclosure Partition	10307	2217	4500	Surface		Cu	House of Valens, head facing right, '…VALEN…', R. Victory walking left with wreath. Nummus (AE3).	19	2.35	364-378
Enclosure Partition	10308	2218	4500	Surface		Cu	Constantius II, '…IVL CONSTAN…BC', R. Two soldiers with two standards. Nummus (AE3).	17	1.95	330-336
Enclosure Partition	10309	2219	4500	Surface		Cu	Constantinopolis or Roma, R. Wolf and twins, poor condition. Nummus (AE3).	17	1.43	330-335
Enclosure Partition	10319	2229	4500	Surface		Cu	Heavily corroded, head facing right, R. Figure just visible, 'C'.	28	7.2	1st-2nd
Enclosure Partition	10323	2233	4500	Surface		Cu	Head facing right, no helmet, R. Poor condition, two soldiers with two standards? Nummus (AE4).	14	1.56	330-341
Enclosure Partition	10324	2234	4500	Surface		Cu	Very poor condition, R. Possibly two soldiers with standard. Nummus (AE4).	12	0.73	337-341
Enclosure Partition	10326	2236	4500	Surface		Cu	Head facing right, no helmet, R. Illegible. Nummus (AE4).	16	2.02	4th

Feature Group	Cat. No.	SF No.	Feature	Context	Slot	Mat.	Description	Diam. (mm)	Wt (g)	Date
Enclosure Partition	10419	2329	4500	Surface		Cu	Very poor condition, no features visible.	10	0.73	Roman?
Enclosure Partition	10454	2364	4500	Surface		Cu	Very poor condition, no features visible. Nummus (AE4).	15	0.81	Roman
Enclosure Partition	10364	2274	4510	Surface		Cu	Very poor condition, no surface detail remaining. Nummus (AE4)?	12	0.52	4th?
Feeder Ditch	11005		4509	16500	4050	Cu	Very worn, no features visible.	16	1.49	Roman?
Feeder Ditch	11003		4509	16169		Cu	Very poor condition, no features visible.	13	0.84	Roman?
Feeder Ditch	10362	2272	4509	Surface		Cu	Illegible. Nummus (AE4).	14	1.32	4th?
Pit Group 2	11013		4544	16427	4005	Cu	Very poor condition, no features visible.	10	0.27	ukn
Pit Group 4	10894	2804	4771	17286	4172	Cu	Very poor condition, no features visible.	14	0.55	ukn
Isolated pit	10331	2241	4507	Surface		Cu	Very poor condition, no features visible.	14	0.79	Roman?
Isolated pit	11015		4623	16516	4050	Cu	Very poor codition, no features visible.	17	1.2	Roman?
Rubble Spread 1	10472	2382	4640	16059	4086	Cu	Head facing right, no helmet, R. Figure standing, poor condition. Nummus (AE3).	14	1.62	4th
Rubble Spread 1	10473	2383	4640	16059	4086	Cu	Very poor condition, no features visible.	11	0.86	ukn
Rubble Spread 1	10643	2553	4640	16059	4086	Cu	Head facing right, no helmet, R. Illegible. Nummus (AE4).	15	1.22	4th
Rubble Spread 1	10661	2571	4640	16059	4086	Cu	Very poor condition, no features visible, R. Figure standing?	14	0.89	Roman?
Small ditches & gullies	11011		4534	16115	3950	Cu	Very poor condition, no features visible, may be Roman. Nummus (AE4).	10	0.73	4th?
Small ditches &gullies	10893	2803	4534	17242		Cu	Very poor condition, possibly Emperor with standard holding victory. Nummus (AE3).	17	1.02	350-353
Small ditches &gullies	10713	2623	4534	Surface		Cu	Head facing right, no helmet, R. Figure standing? Nummus (AE4).	16	1.34	4th
Small ditches & gullies	10885	2795	4730	17067	4150	Cu	House of Constantine, head facing right, '…ONST…', R. Two soldiers with standard. Nummus (AE4).	16	1.13	336-342
Furrow	11010		4526	16163	3942	Cu	Very poor condition, no features visible.	12	0.61	Roman?
Furrow	10467	2377	4543	Surface		Cu	Fragment of possible Roman coin, very poor condition.	16	1.04	Roman?
Furrow	10468	2378	4543	Surface		Cu	Poor condition, no features visible.	16	0.86	Roman
Subsoil	10003	1913		Surface		Cu	Very poor condition, head facing right? R. Victory advancing left with wreath. Nummus (AE4).	14	1.08	4th
Subsoil	10043	1953		Surface		Cu	Very poor condition, no features visible.	12	0.78	Roman?
Subsoil	10054	1964		Surface		Cu	Very poor condition, no features visible.	15	0.85	Roman?
Subsoil	10055	1965		Surface		Cu	Constantius II, R. Two Victories facing eachother holding wreaths. Nummus (AE4).	15	1.05	343-348
Subsoil	10059	1969		Surface		Cu	Head facing right, no helmet, R. Soldier spearing fallen horseman. Nummus (AE3).	17	2.06	354-361
Subsoil	10060	1970		Surface		Cu	Very poor condition, no surface detail remaining. Nummus (AE4)?	14	1.14	4th?
Subsoil	10061	1971		Surface		Cu	Head facing left, helmet, Wolf and twins. Nummus (AE4).	16	1.82	330-335
Subsoil	10064	1974		Surface		Cu	Irregularly shaped coin, no detail visible, possible barbus radiate.	20x18	2.15	Roman?
Subsoil	10073	1983		Surface		Cu	Magnentius or Decentius, obv. Illegible, R. *Chi-Ro,* Nummus	20	2.84	351-353

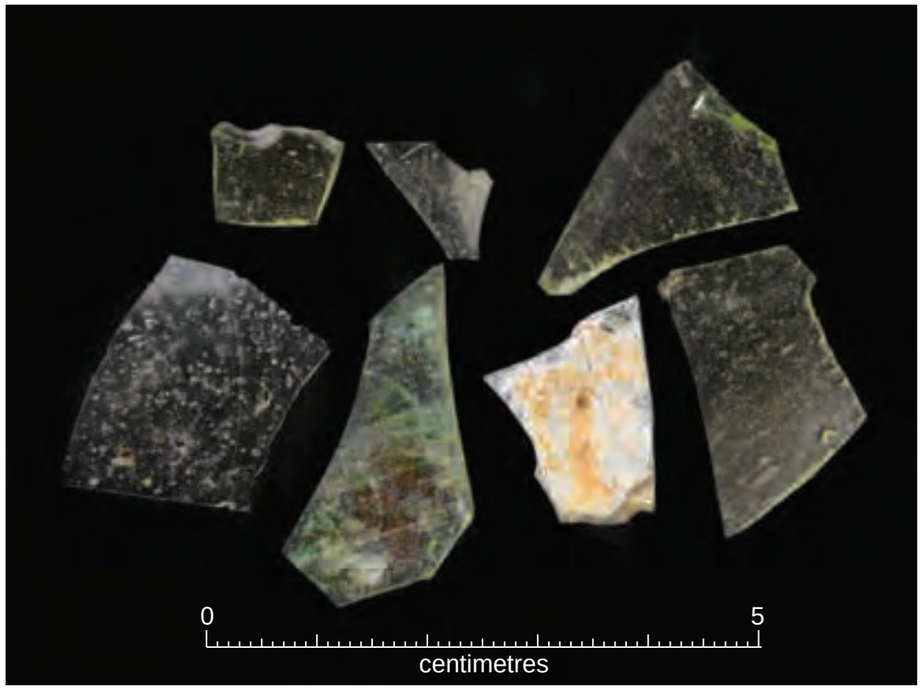
Feature Group	Cat. No.	SF No.	Feature	Context	Slot	Mat.	Description	Diam. (mm)	Wt (g)	Date
							(AE3).			
Subsoil	10096	2006		Surface		Cu	Very small possible coin, no features visible.	9	0.22	ukn
Subsoil	10101	2011		Surface		Cu	Poor condition, probable late Roman coin. Nummus (AE4).	14	1.08	4th
Subsoil	10103	2013		Surface		Cu	Fragmentary coin, head facing right, no helmet, R. Illegible. Nummus (AE3).	17	1.32	4th
Subsoil	10107	2017		Surface		Cu	Head facing right, no helmet, R, Illegible. Nummus (AE3).	17	1.09	4th
Subsoil	10110	2010		Surface		Cu	No features visible, but probable coin or jetton.	22	2.31	ukn
Subsoil	10115	2025		Surface		Cu	Very poor condition, no features visible.	11	0.53	ukn
Subsoil	10127	2037		Surface		Cu	Head facing right, no helmet, R. Illegible. Nummus (AE3).	19	1.88	4th
Subsoil	10131	2041		Surface		Cu	Very worn, no features visible.	14	0.99	ukn
Subsoil	10134	2044		Surface		Cu	Poor condition but head facing right and radiate crown just visible, R. Illegible.	16	1.26	260-290
Subsoil	10135	2045		Surface		Cu	Poor condition, R. Emperor with kneeling figure. Nummus (AE3).	17	1.54	4th
Subsoil	10136	2046		Surface		Cu	House of Valens, head facing right, R. The Emperor with a standard dragging a captive. Nummus (AE3).	17	1.28	364-378
Subsoil	10139	2049		Surface		Cu	House of Constantine, 'CONST…', R. Two Victories holding wreath on altar. Nummus (AE3).	18	1.54	318-324
Subsoil	10142	2052		Surface		Cu	Very poor condition, no features visible.	14	0.78	Roman?
Subsoil	10147	2057		Surface		Cu	Very poor condition, no features visible. Nummus (AE4)?	16	1.33	4th?
Subsoil	10148	2058		Surface		Cu	Head facing right, no helmet, R. Illegible. Nummus (AE3).	17	2.1	4th
Subsoil	10153	2063		Surface		Cu	House of Valens, Gratian or Valens, R. Victory walking with a wreath. Nummus (AE3).	17	1.58	364-378
Subsoil	10164	2074		Surface		Ag	Arcadius, head facing right, '…ADIV…', R. Emperor seated holding spear and Victory, 'VIRTVS…ANORVM'. Siliqua.	14	0.97	395-402
Subsoil	10165	2075		Surface		Cu	Very poor condition, no features visible, possible Roman coin.	21	1.66	Roman?
Subsoil	10168	2078		Surface		Cu	House of Constantine, head facing right, no helmet, R. Two soldiers with two standards. Nummus (AE4).	13	0.88	330-336
Subsoil	10169	2079		Surface		Cu	House of Constantine, head facing right, no helmet, rose diademed, R. Two soldiers with two standards. Nummus (AE4).	15	1.04	330-336
Subsoil	10172	2082		Surface		Cu	Unknown	12	0.65	ukn
Subsoil	10201	2111		Surface		Cu	Very poor condition, no features visible.	12	0.85	ukn
Subsoil	10202	2112		Surface		Cu	Very poor condition, no features visible.	12	0.54	Roman?
Subsoil	10203	2113		Surface		Cu	Clipped, poor condition, no features visible. Nummus (AE4)?	12	0.55	4th?
Subsoil	10204	2114		Surface		Cu	Illegible, R. Two Victories? Nummus (AE4).	14	0.79	4th?
Subsoil	10205	2115		Surface		Cu	Heavily corroded, no features visible.	11	0.4	ukn
Subsoil	10206	2116		Surface		Cu	Very poor condition. Nummus (AE4)?	14	1.03	4th?
Subsoil	10207	2117		Surface		Cu	Very poor condition, possible Nummus (AE4).	15	0.87	4th?
Subsoil	10213	2123		Surface		Cu	Very poor condition, no features visible.	20	3.27	ukn
Subsoil	10248	2158		Surface		Cu	Head facing right, no helmet, R. No features visible. Nummus	15	0.94	4th

Feature Group	Cat. No.	SF No.	Feature	Context	Slot	Mat.	Description	Diam. (mm)	Wt (g)	Date
							(AE4).			
Subsoil	10251	2161		Surface		Cu	Very poor condition, no features visible.	12	1.11	ukn
Subsoil	10385	2295		Surface		Cu	Very poor condition, possible Roman coin.	11	0.88	Roman?
Subsoil	10699	2609		Surface		Cu	Poor condition, no features visible.	17	0.48	Roman?
Subsoil	10799	2709		Surface		Cu	Very poor condition, no features visible.	14	0.71	ukn
Subsoil	10811	2721		Surface		Cu	Very poor condition, no features visible.	11	0.89	Roman?
Subsoil	10812	2722		Surface		Cu	Very poor codition, no features visible.	11	0.61	ukn

Roman pin <10464>

Decorated bone fragement <1088>

Bone spindle whorl <1120>



Selected glass

Selected shell

Figure 37. Selected finds

Worked Bone – Marcus Brittain

Six worked bones include a fragment of hair pin, a possible fragment of decorated composite comb, a small (possibly knife) handle and a spindle whorl or large bead; two Red deer shaft fragments sawn at each end were also collected from two separate ditches.

Cat. No. 1088, F.4500 [16020], 5d. Enclosure Partition Ditch. Thin (0.15mm) fragment of decorated bone (20 x 30mm; Fig. 37). Edges bordered by 0.4mm wide zones of diagonal notches edged with horizontal incised lines. Central zone contains triple ring and central dot ornament with diagonal incisions either side. Polished surface and smooth long edges, broken at each short side. Reverse was smoothed, but retained bone pitting. Weight of 0.85g. Possibly part of a composite comb?

Cat. No. 1089, F.4633 [16574], Structure 2. Fragment of shaped plate, 0.8 x 1.8mm, with domed profile 2mm height, and two carved barrel 'ribs', broken at each end. Underside is flat and smooth with bone pitting retained. Small circular rivet hole, containing bone plug at centre of one of the barrel 'ribs'. Weight 0.45g. Possibly part of a slender bone handle. A similar ribbed example was found at Caister-on-Sea (Darling and Gurney 1993, 111, fig. 88:559), and a slightly larger example with cross-hatching decoration was found at Ashwell, Hertfordshire (Jackson 2018a, 290, fig. 338).

Cat. No. 1120, F.4584 [16315], Pit Group 2. Bone circular object with domed convex sides and polished surfaces, and flat upper and lower faces, with slightly concave profile and fair rough finish (Fig. 37). Diameter 30mm, central perforation 8mm diameter, thickness 190mm, weight 14.5g. Made from the head of a long bone, probably the proximal epiphyses of a bovine femur. Dark reddish brown colour, possibly subject to fire, with horizontal and vertical cracking along outer face. May be a spindle whorl or large bead.

Cat. No. 1658, F.4562 [16217], 5f. Feeder Ditch. Red deer antler shaft (in four refitting pieces), 54mm length, sawn at each end to unfinished surface with various lips of final break/removal; slightly worn appearance. Weight 54g.

Cat. No. 1659, F.4509 [16146], 5f. Feeder Ditch. Shaft fragment, possibly of a hair pin, with circular profile (3mm diam.) and polished surface. Broken at both ends; 41mm length surviving, weight 0.6g.

Cat. No. 10507, F.4513 SF2417. 5a. Enclosure Inner Ditch. Red deer antler shaft, 145mm length, sawn at each end to unfinished surface; various lips of final break/removal, and unmodified outer surface. Slightly oval profile, 38 x 45mm. Weight 159g.

Burnt, Worked and Building Stone – Simon Timberlake

Two site visits were made in November 2018 and February 2019 whilst the Site VII excavations were still in progress to record *in situ* building stone and to help facilitate the discard strategy. Extensive notes and site reports from these form part of the basis of the catalogues included here (Appendices 2-4). In addition to this a thematic plan (annotated 1:10 scale hand-drawn plan and photogrammetric imagery) was produced of Rubble Spread 1 on which the geological identities of the stone are indicated in Figure 39. The stone from this and from a number of *in situ* recorded wall foundations in Structure 3 was not removed from site, thus the metric data for these is not available and, aside from their descriptions that are detailed here, their record has not been included within the stone count used in this report. However, a further *c*. 0.8 ton of stone (mostly made up of building stone) was returned from site for closer analysis and which now forms the main basis of this report. The current sample may represent less than 30% of the used/worked stone exposed during excavation, though it is believed to be fairly representative still of the composition of stone used in the construction and during the occupation of the site's buildings.

Apart from a millstone and possibly a whetstone, both contemporary with the site's Roman occupation, the majority of worked stone would appear to consist of earlier discarded material, some of which may have been re-used and burnt during the Iron Age and subsequently used as Roman building material.

For the Burnt Stone, Worked Stone and Building Stone the form, size, weight and use-type was recorded alongside lithology and geological source, indications of weathering and burning, and, for querns, whether these were upper or lower stones. Hand-specimen identification of rock type was undertaken using a x10 hand lens and a dropper bottle of dilute acid (HCl) to record the presence or absence of calcium carbonate. For the querns, comparison was made with a reference collection and published literature accounts; a pottery diameter chart was used to estimate quern diameters and also the percentages of each stone surviving. A small reference collection of locally-used and sourced Roman building stone was consulted to help with the identification of material alongside reference literature and other documents such as geological maps, mapsheet guides and the English Heritage Strategic Stone Study reports for the counties of Eastern England. Fossils as inclusions within some of the building stones were used to help identify geological horizons, and by inference therefore possible sources for the stone.

Representing a vignette of the site's stone, Figure 39 presents an annotated view of the stone distribution across Rubble Spread 1. This utilises the following key:

SW Swithland Slate Upper Charnian (Cambrian) age poorly-cleaved slates from Swithland-Woodhouse Eaves area, Charnwood, Leicestershire
C Collyweston Slate Collyweston, Northants.
NS Northampton Sand (Northants. Ironstone) With green berthierine ooliths oxidised to limonite plus occ fossil moulds of *Trigonia sp*.
CAR carstone (Lower Greensand) NE Cambs/ NW Norfolk?
LO Lincolnshire Limestone Oolitic (oolitic freestone) possibly Ketton Stone, Northants.?
B Barnack Stone (Lincolnshire Limestone)
SL Shelly Limestone (U.Jurassic Cornbrash or Corallian) A hard grey bioclastic micritic limestone with bryozoans, *Pinna* sp. + *Modiolus bipartitus* – non-local possibly from Rutland or Northants.?
W white limestone (possibly a local Corallian limestone from Ampthill Clay/ Oxford Clay Cambs.?)
L an unidentified limestone (possibly Lincolnshire Limestone – building stone from S.Lincs – Northants/ Rutland?)
F worked (cobbed) and unworked **flint** nodules from the Middle – Upper Chalk (local)
CH chalk marl and a hard chalk rock from the Lower Chalk Fm. (probably Burwell Rock – extracted Burwell or Reach – Car Dyke)
SP septaria (U.Jurassic septarian limestone from the Oxford Clay/ Kimmeridge Clay) local glacial erratics and from clays at Ely
sst pebbles or cobbles of sandstone or quartzite collected from the local gravels (erratics)
LGS shelly greensand (local to Eastern England – perhaps erratics?)
CARB limestone = Carboniferous Limestone - long-distance glacial erratic?
MG Millstone Grit, Upper Carboniferous, Southern Pennines - possibly a glacial erratic, but more likely part of broken-up rotary quern - extraction site Wharnecliffe Crag nr. Sheffield
SCHIST or **META** metamorphic rocks as long-distance exotic erratics
SW or **NS** rocks used as building stones which show signs of having been shaped/ faced
QUERN or **HAMMER** querns etc. re-used as building material
sst burnt stone
r ceramic roofing tile (fragments) *imbrex* or *tegula*
p fragment of *pilae* hypocaust tile
h hypocaust box-flue tile (usually comb-decorated)
m mortar

NB most of the Collyweston Slate and broken-up ceramic tiles are present amongst this as loose (demolished) tesserae

Burnt Stone

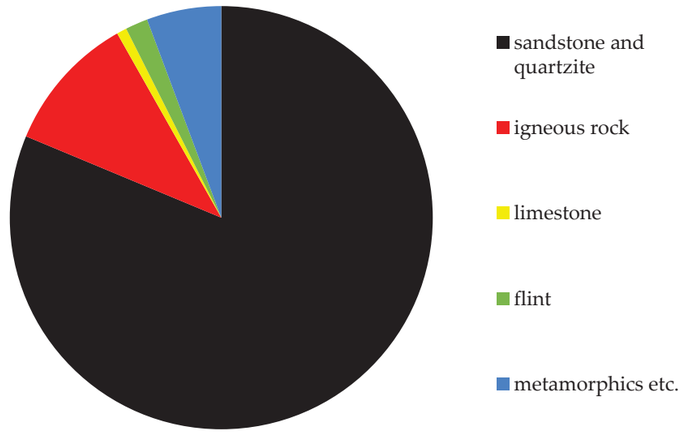
Approximately 162kg (598 pieces) of burnt stone was recovered. The characteristically prehistoric-type burnt and cracked cobble material would appear to be re-deposited in Roman contexts, as was also the case for Iron Age and pre-Iron Age stone tools also found in features with burnt stone. Some 19.7kg of the burnt stone came from just five features: the enclosure's inner ditch (F.4508 and F.4563), isolated pit F.4605, pits F.4544 and F.4582 from Pit Group 2, and Rubble Spread 1 (F.4640-1). Stone from Pit Group 2 and isolated pit F.4605 formed the overwhelming majority of the assemblage (Table 42).

A full record of the 162.225kg of burnt stone is provided within Appendix 2 with a summary provided in Table 42 and in Graph 2.

In the context of an Iron Age site, from which such materials are more normally associated with domestic or midden refuse, this would have been a moderately large assemblage, but its location within late Roman contexts is unusual. In some respects, the current material lacks the rather distinctive characteristics of Iron Age burnt stone assemblages. For example, the percentage of broken-up and discarded saddlequern is very low at just 0.08%, compared with more typical values from Cambridgeshire Iron Age settlements such as the 6% at Marshalls' Newmarket Road (Timberlake, in Tabor 2019) 12% at Trumpington Meadows (Timberlake, in Evans *et al*. 2018) and the 22% of reused materials recorded at Barleycroft Farm, Over (Evans & Tabor 2012).

Feature Category	No. stone-bearing Contexts	Nos. frags.	Wt (kg)	Size of frags	Type	Degree of burning	Re-used Worked Stone
Structure 3	3	4	3262	60-150	sub-round/ angular cobble	mod	
Structure 4	6	21	4994	45-140	round/ sub-round cobble	mod	
Enclosure Inner Ditch	2	8	1928	65-120	round cobble	mod-high	hammerstone
Enclosure Outer Ditch	4	11	1560	20-100	sub-round/ angular cobble	mod	
Enclosure Partition	2	3	1164	150	large split cobble	mod	
Feeder Ditches	3	20	4124	20-140	sub-round/ angular cobble	mod-high	
Pit Alignment 1	2	35	34800	30-200	sub-round to round cobble	low-mod	
Pit Group 2	9	471	99405	20-160	sub-round cobble	mod-high	hammerstone, saddlequern
Pit Group 4	2	2	431	20-115	angular	mod	
Isolated Pits	2	16	9166	25-92	angular/ sub-angular	mod-high	saddlequern
Rubble Spread 1	1	4	100	30-50	sub-round cobble	mod	
Furrow	3	3	1291	55-150	sub-round/ angular cobble	mod	
Total	*39*	*598*	*162225*				

Table 42: Summary of burnt stone.



Graph 2. Different proportion of rock types identified within the Site VII burnt stone cobbles examined: (1) sandstone, siltstone, quartzitic sandstone; (2) igneous: dolerite (>60%), andesite, quartz porphyry, granite, volcanic tuff; (3) limestone: limestone and chalk; (4) flint; (5) metamorphics *etc.*: metaquartzite, schist, marble, gneiss, vein quartz.

The composition of this assemblage of burnt stone is a fair reflection of the glacial erratic stone mix of the local gravels, but with a predisposition towards the harder quartz-cemented sandstone cobbles (most of which would have been under 120 mm diameter), and in general avoiding limestones and flint. The assemblage's near complete absence of burnt and calcined flint is quite typical of later prehistoric burnt stone assemblages. Just as significant here is the relatively high incidence of selection of the dense crystalline igneous rocks, consisting of between 10-15% of the geologies recorded here (17 kg), most of which are dolerite. Whilst this may reflect the larger numbers of igneous rock types actually present (those derived from the Boulder Clay) and therefore collectable from the local Observatory Gravels and Third and Fourth Terrace Gravels (Worssam & Taylor 1969, 77, 87-88), many years of looking at these assemblages of burnt stone has served to confirm that these particular cobble types (i.e. the crystalline igneous rocks – in particular dolerite) were positively selected, a fact that has been confirmed by more detailed studies of burnt stone mounds and the use of this stone resource, such as those carried out by Buckley (1990) in Ireland and by Larsson (1990) in Sweden. The occasional bleaching (patina) seen upon the surface of the reddened stone alongside the cracking, provides a good indication that more than half of the burnt stone from Site VII was used for boiling water for cooking, or else for the production of steam for bathing. All of the cobbles examined were waterworn, and presumably therefore were of fluvio-glacial origin.

Worked Stone

A total of 54kg (33 pieces) of worked stone was recovered, including three cobble hammerstones (3.75 kg), 5 saddlequerns (9.79 kg), a quern rubber stone (0.41kg), 4 pieces of beehive quern (9.47kg), 12 flat-topped rotary querns (5.54kg), a millstone (25kg) and a whetstone (34g).

The hammerstone was recovered from features 4508, 4563 and 4582; the saddlequern and rubber stone from features 4034 (x3), 4544, 4640 and 4582; the beehive quern from contexts (16704), (16745) and (17374); the rotary quern from features 4166, 4500, 4508, 4509, 4513, 4540, 4544, 4579, 4640 and 4663; the millstone from F.4754 and the whetstone from F.4500. The hammerstones (re-used sometimes as anvil stones) are likely to be Iron Age or still earlier in date, whilst the type of saddlequern found is probably Early-Middle but possibly Late Iron Age, the beehive querns Romano-British and not later than *c*. 100AD (Green 2017,14). The flat-topped rotary gritstone querns, millstone and the whetstone are more than likely late 1st to 3rd century in date, although their use may have continued into the early 4th century (Shaffrey 2006, 42-46).

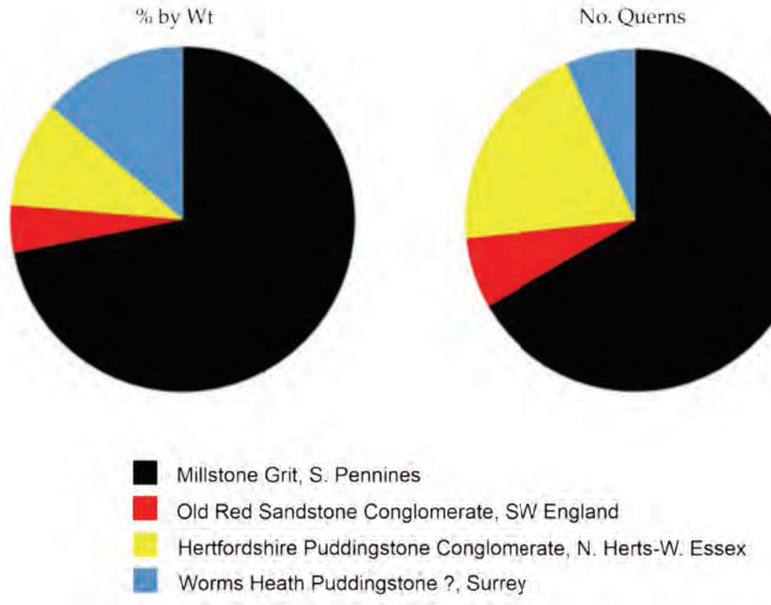
A full catalogue of the worked stone is provided in Appendix 3. A summary of the basic data can be seen in Table 43 and in Graph 3.

A total of 53.996kg of worked stone was recorded, the vast majority consisting of pieces of Roman flat-topped rotary quern (mostly made of Millstone Grit) along with the complete lower stone of a Roman shallow-dished gritstone millstone. The manufacture of at least a third of the worked stone objects was not contemporary with the construction and occupation of the buildings, though the items were evidently used in their construction.

A single millstone (<10892>) found in the upper profile of the Feeder Ditches (F.4754) to the rear of Structure 3 would appear to have been a placed object (Figure 38). Relatively thin and brittle, yet quite undamaged, this was unlike most of the rotary querns (50%) that were found broken or burnt, suggesting re-deposition and in some cases probably re-use. One of the puddingstone querns (<1849>) was found within Structure 3's cobble surface [16745] along with other broken-up material; the same can be said for one of the re-deposited cobbles previously utilised as a hammerstone (<1838>), probably during later prehistory. Found within the enclosure's inner ditch, F.4563 [16221], this had probably also been used as foundation material. Probably in use between the late 1st and end of the 3rd century AD, it is also unlikely that the flat-topped rotary querns of gritstone, used as small household type/sized hand-mills, were linked to domestic activity associated with the site's later Roman occupation. Indeed, there is a certain similarity between this and the assemblage of rotary quern recovered from the Romano-British settlements of Site IV located less than a mile to the north that were likewise dominated by small to medium-sized Millstone Grit querns alongside a smaller number of examples in Old Red Sandstone and Puddingstone (beehive) (see Table 43).

Type	**Nos. pieces**	**MNI**	**Wt** (kg)	**Estimated diam.** (mm)	**Estim. orig. Wt** (kg)	**Upper** (U) **Lower** (L)	**Date range**
Flat-topped rotary quern	18	10	5.54	small – medium (320 – 400)	27	4U + 1L (+7 unknown)	C1-C4
Millstone	1	1	25	small 530	25	1L	post-100 AD
Beehive quern	4	4	9.47	small (240–300)	25	1U + 1L (+2 unknown)	pre-100 AD
Saddlequern	5	5	9.79	small(130 – 180)	17.8		2500BC–49AD (most >600BC)
Rubber stone	1	1	0.4				600BC – 49AD
Whetstone	1	1	0.034	small (70)			C1-C2
Hammerstone	3	3	3.75	small – medium (90 - 155			2500BC–49AD

Table 43. Summary of worked stone types.



Graph 3. Rock types and sources of Site VII quern and millstone.

Rotary Querns

Based on projected diameter determined from circumference curvature, the rotary hand mill querns may be divided into the following categories: Small/ Beehive size (250-350mm diameter); Medium (350-450mm); Large (450-550mm) and small manually-driven Millstones (525 – 800mm) (Table 43).

Flat-topped handmill rotary querns made of Millstone Grit were quarried and fashioned into quern-like blanks at the major extraction site of Wharncliffe Edge near Sheffield, most probably from the late 1st century, but certainly from the 2nd century once beehive quern production there had ceased (Butcher 1952; Wright 1988, 74; Pearson & Oswald 2000, 4). Further to the south, in Derbyshire, were other smaller extraction sites at Blackbrook near Ashover (Palfreyman & Ebbins 2007), on Stanton Moor (Hart 1985, 84-85, 95 & 109), and perhaps also in the Melbourn/ Duffield area (Hayward, in Evans *et al*. 2013, 110; Peacock 1980). There is little by way of specific information on the manufacture and trade of these handmill querns and millstones during the Roman period, though it is known that by the end of the 1st century to the beginning of the 2nd century Millstone Grit had become one of the most common quern sources to be exploited in Roman Britain; the forms of some of these resemble designs upon some of the earlier-imported Mayen lava querns consisting of raised rim edges on their uppermost stones and the series of harp furrow grooves on their grind surfaces (Green 2017, Fig.32-33; Palfreyman and Ebbins 2007, Fig.3, 4, 18). Others, meanwhile, were copies (or at least duplicates) of the type of Old Red Sandstone disc-shaped and flat-topped quern types that were by this time produced in some considerable quantities at the various extraction sites located in southwest England and south Wales (Shaffrey 2006). Given the rather poor condition and degree of fragmentation present within the Site VII querns, it has not been possible to assign the fragments of either the more abundant Millstone Grit querns or the single Old Red Sandstone quern to any recognisable forms that are implied in the typology of Shaffrey (2006) with respect to the Old Red Sandstone querns (and by implication also the Millstone Grit examples). All of the quern grinding surfaces had been extensively worn down through use to the extent that all of the furrow dressing had been obliterated and the surfaces extensively scored as a result of the absence of any re-dressing within the stones and the exposure of hard grit inclusions. An examination of the rock types of the Millstone Grit querns suggests the use of Chatsworth Grit (Wharncliffe and the South Yorkshire outcrops) and possibly also the equivalent Ashover Grit (South Derbyshire), although it was not possible to distinguish the two. The pebbly sandstone rock used within the Old Red Sandstone quern suggests a source such as

the basal Quartz Conglomerate that outcrops in South Wales and at Ross on Wye in the Forest of Dean, the latter being one of the principal Romano-British extraction sites for these querns (Shaffrey 2006, 59-63, 103).

The rotary beehive querns made of Hertfordshire Puddingstone (a Palaeocene silcrete conglomerate composed of well-rounded flint clasts) have a well-documented history with respect to both their distribution and chronology (Curwen 1937; 1941; Lovell and Tubb 2006; Green 2017, 14) and were almost certainly used and discarded at an earlier date than the flat-topped querns at Site VII, yet the toughness of this rock type meant in some cases that it survived better, and also that it would have been a stone chosen for re-use in later building projects. The various sources of this now largely residual and erratic stone are spread along the southern edges of the Chilterns, but particularly in the North Hertfordshire area between Hertford, Bishop's Stortford and St. Albans, and a Roman extraction site for this where querns also appear to have been manufactured has recently been identified upon an extant outlier of this rock at Collier's End near Ware (Lovell and Tubb 2006). These source deposits appear to have been largely exhausted before AD 100 (Green 2017, 14; Major 2004, 2-4).

By far the best-preserved and most complete beehive quern from Site VII was also a 'puddingstone' conglomerate (<1854>), but not a Hertfordshire Puddingstone; this originated from another South-East England source. Found in Structure 3 context [17374], the probable origin of this particular non-silcrete flint pebble conglomerate is likely to be Worms Heath, Surrey, where Crawford (1953, 98-106) and Green (2017, 12-13) describe an outcrop of the Eocene Blackheath Formation that, by use of bell-shaped extraction pits, appears to have been worked during the Late Iron Age/Romano-British period. The date and distribution of Worms Heath Puddingstone encourages the view that the working of this was abandoned once Hertfordshire Puddingstone had started to be exploited in a more major way; essentially therefore after the Roman Conquest (Green 2017, 14). This is interesting in that it most probably places this Site VII beehive quern in the Late Iron Age, alongside some of the saddlequern and other worked stone artefacts.

Millstone

Recovered from the upper profile of the Feeder Ditches (F.4754 [17262]) to the rear of Structure 3, the complete ellipsoid-shaped lower stone (between 525-535mm in diameter) of Millstone Grit (<10892>) most probably dates to the late Roman period. The lower stone is fully perforated (the axle hole is just 65mm diameter) suggesting that the rotating upper stone, which would have been suspended on an iron rynd, was driven from below, perhaps manually. Watts (2002, 58) supports this interpretation, commenting upon a survey of millstones from 170 Roman sites in Britain where stones larger than 600mm in diameter and therefore probably power-driven (either by water or by animal traction), had been found (Appleby, in Evans *et al.* 2013, Figure 2.57.4). The lower stone of this Site VII millstone is very slightly conical in shape, possessing a finely chiselled rim and a grind surface cut with 10 harp sets of furrow dressing (each with 7-10 diagonal grooves some 25-30mm apart), the latter laid out for the anti-clockwise rotation of the upper stone. The underside of this lower stone is flat with wide-spaced peck pattern dressing. This is in contrast to an example from Woolaston villa in Gloucestershire (Watts 2002, 59) and perhaps the larger millstones described from Langdale Hale, most of which appear to have been flat-topped (Evans *et al.* 2013, 111). Similar Roman millstones made of gritstone have been found at the Addenbrookes Biomedical Campus site, Cambridge (Shaffrey, in Phillips 2015) and at Camp Ground, Earith (Appleby, in Evans *et al.* 2013, 111).

Saddlequern

It is difficult here to provide an accurate date for the saddlequern. Experience tells us from looking at considerable amounts of Iron Age worked stone that these small slab-like and keel-shaped large cobble/ small boulder flat-topped saddlequerns are commonly associated with Early-Middle Iron Age stone-filled pit and ditch deposits, often in a burnt and fragmented condition on account of their re-use as burnt stone within cooking pits. This is true of the North-West Cambridge Iron Age settlement hub which straddles the Girton ridge (Timberlake, in Cessford & Evans 2013) and at Trumpington Meadows (Timberlake, in Evans *et al.* 2018). On Site VII, three saddlequerns were found amongst burnt stone in isolated pit F.4605, which is dated by pottery to the late Roman period. One of these saddlequerns <10701> has all the hallmarks of being an earlier type, given the heavily dished (concave) and striated surface that is more commonly found in pre-Iron Age querns.

Whetstone

A pocket-bar cylindrical-rectangular whetstone (<1853>) composed of a calcareous fine grained siltstone-sandstone rock was recovered from the enclosure partition ditch F.4500. Of Roman manufacture, this stone can be linked to the Lower Cretaceous Weald Clay Formation and a probable production site somewhere along the North-West Surrey/ Sussex border (Allen 2014, 39-45). Whetstones were fabricated and distributed from this source across Southern Britain during the 1st-4th centuries AD. One of the main manufacturing sites for whetstones in Roman Britain, examples of these have been found in London, Silchester and Wroxeter, and near Cambridge at Northstowe (Timberlake, in Aldred & Collins *forthcoming*).

Building Stone

A total of 1769kg (3233 pieces) of stone used for building was collected and recorded in detail during the course of the Site VII excavation. This included foundation stone, roughly shaped or shape-selected stone used for both un-mortared and mortared walling, stone paving material, faced and dressed stone blocks, occasional stone mouldings such as column bases, and roofing slates. A selection of some 320 pieces (167 kg) has been retained in the site archive.

A total of 1768.91kg of building stone (3233 pieces) was collected, examined and fully recorded (see Appendix 4). Another 437 stones were plotted and broadly identified on an annotated plan and photograph of Rubble Spread 1. This graphically shows the heterogenous nature of the stone assemblage, present here as dumps of levelled material that includes both foundation rubble and wall course infill, finely-dressed stone (much of it recycled) as well as re-used worked stone such as quern. At least 30 different rock types were identified within the material examined (some 28 of which are listed in Tables 45 and 46). The latter does not include the range of locally-collected glacial erratics that form by far the largest group of building material collected (see Table 46); this was dominated by cobbles of sandstone, quartzitic sandstone, quartzite, limestone and smaller numbers of igneous rocks such as dolerite, most of which appears to have functioned as foundation rubble or rough stone used for vernacular un-mortared or just lightly mortared walls.

In summary, the following categories (and weights) of building stone were identified amongst the accounted for demolished and sometimes dispersed building material:

(1) fine stone mouldings (such as fragments of column base and plinth) [4kg];
(2) finely dressed quoin stone associated with (higher-status) stone structures [8.5kg];
(3) flat chisel-dressed (i.e. faced) wall stone [84.8kg];
(4) knapped flint/ stone (as decorative?) facing material for external walls [26.4kg];
(5) shaped wall stone (in the form of rectangular blocks) [63kg];
(6) rough wall stone [768.5kg];
(7) stone chips (from the on-site working of stone) [0.56kg];
(8) stone tesserae [5.2kg];
(9) stone paving [15kg];
(10) crushed (stamped) chalk floor material [6.5kg];
(11) foundation rubble [358.2kg];
(12) wall course infill stone [141.1kg];
(13) roof slates [202.2kg] (see Graph 4).

Table 45 shows the range of stone (geology) chosen amongst these various different categories, whilst the approximate distribution of the above building stone types within the various feature categories is outlined in Table 44. The significance of this will be discussed below.

Feature Category	TOTAL	Rough wall stone/ foundation stone	Chisel-dressed stone	Roof slate	Moulded stone*
Structure 1	4.2	1		3.2	
Structure 3	826.3	735.8	32.4	57.5	0.6
Structure 4	124.1	90.6	25	8.5	0.05
Fieldsystem	0.2	0.1		0.1	
Enclosure partition ditch	79.6	46.3	0.6	32.7	
Enclosure outer ditch	57.2	48.8		8.4	
Enclosure inner ditch	77.6	49.9	1.9	25.8	
Feeder ditch	532.9	382.2	89.4	60.6	0.8
Pit Alignment 1	44.9	41.5		3.4	
Pit Alignment 2	0.2	0.1		0.1	
Pit Group 3	0.5	0.5		0.02	
Smaller ditches & gullies	18.5	12.5	2.8**	3.2	

Table 44. Building stone from feature categories with approximate amounts of different categories of stone use/type; by weight in KG (*moulded column base/plinth; ** includes stone *tesserae* = *c.* 2.2kg).

Immediately obvious is the domination of rough (crudely-shaped or un-shaped) wall stone, much of which may have been un-mortared, alongside stone most probably used primarily or secondarily as structural foundation stone. The smaller amount of large shaped blocks and finely-dressed wall stone (often with mortar attached) suggests that the assemblage represents only a sample of the site's fine building stone or that this represents the re-use of stone from pre-existing buildings (either from here or elsewhere) heterogeneously incorporated into new walls and foundations. Yet another explanation is that we are looking at the remains of what was robbed and quarried away for stone at a later period. The relatively high proportion of stone roof slate present (which consists of slates that are sometimes but rarely complete examples) neither confirms nor denies this hypothesis.

What we can be more certain of is that the majority of the stone encountered is recognisably Romano-British in nature in that many of these stone types have been found used or recorded at Roman settlements in the Cambridge area or elsewhere within Eastern England. Barnack Stone (often present as dressed and faced stone blocks), local glacial erratic stone, clunch and flint feature strongly here, although the relatively high incidence of East Midlands-sourced stone such as Northants Ironstone, Marlstone, Ketton Stone, and Swithland Slate (from Charnwood Forest, North Leicestershire) was a little unexpected on the outskirts of Roman Cambridge. This has important implications for the site, which will be re-visited in the discussion.

Rock type	Stone moulding	Dressed quoin	Chisel dressed wall stone	Knapped flint/ stone facing	Shaped wall stone (blocks)	Rough wall stone	Stone chips	Stone *tesserae*	Stone paving/ floor surface	Foundation rubble	Wall course infill	Roof slates
Alwalton Marble						1						3.5
Barnack Stone	0.5	7.9	38.2		44.6	140.4			0.3		2.5	
Carstone						7.8		0.05				
Chalk						12.1			1.5 (crushed)	80.6	5.2	
Collyweston Slate						1		4.3		1		130.9
Corallian Limestone						13.4		0.3		5.5	0.5	
Cornbrash (Gt. Oolite)						4						
Elsworth Rock						5.2						
fresh black flint				21.2		14.1		0.05		4.2	8.7	
glacial erratic cobbles	3			1.3		292.1		0.3	1	143.2	23.5	
Grantham Fm (L Inf Oolite)	0.2											
grey chert										0.07		
Ketton 'ragstone'						13			13			
Ketton Oolite	0.3	0.6	5.6		1	5.1	0.5	0.04			0.2	
Lincolnshire Limestone			19.3			22.9						
Lower Chalk			6.4	1.1		60		0.02		53.1	75	
Marlstone Rock					15	46.4				4		
Middle Chalk (Melbourn)						73.9		0.04	5 (crushed)	49	11.6	
Northants Ironstone			6.5			22.2				5		
Northants Pendle						4.7						1.7
patinated grey flint				2.8		8		0.06	0.7 (cobble)	12.5	13.9	
red fossilif quartz sstn						1						
Shelly Lower Greensand						0.03						
shelly sparry limestone ?					2							
Swithland Slate												66.1
U Inferior Oolite						1						
U Jurassic shelly lmstn						0.2				0.05		
Weldon Stone			8.8		0.4	19	0.06					

Table 45: Building stone type and use category (weights of stone are provided in kg).

Rock type	Geological Formation	Source	Total wt recovered
Barnack Stone	Lincolnshire Limestone	Holes & Hills Qy, Barnack, Cambs.	234.36
Ketton Oolite	Upper Lincolnshire Limestone	nr Ketton, South Lincs.	13.46
Ketton 'ragstone'	Upper Lincolnshire Limestone	nr Ketton, South Lincs.	26
Weldon Stone	Upper Lincolnshire Limestone	nr Corby, Northants.	28.31
Lincolnshire Limestone	micrite + yellow bio-oosparite	uncertain – Northants.	42.22
Cornbrash (Gt.Oolite)	Bathonian-Callovian	Northants or Peterborough	4.02
Alwalton Marble	U. Cornbrash, Callovian	Alwalton, R. Nene, Peterborough	4.53
Upper Inferior Oolite	limestone	Northants.	1
Upper Jurassic shelly Limestone	Oxfordian - Kimmeridgian	Cambridgeshire	0.24
Elsworth Rock	Corallian (Oxfordian)	Papworth-St.Ives, Cambridgeshire	5.27
Corallian Limestone	shelly limestone + cementstone (Oxfordian)	Earith-Ely Cambridgeshire Fens	19.71
Northants 'pendle'	L Inferior Oolite (Aalenian)	central Northants. Duston etc.	6.45
Northants Ironstone	Northamptonshire Sandstone (L. Inf Oolite)	N Northamptonshire (Kettering - Water Newton *Durobrivae*)	33.71
Marlstone Rock	U. Lias (Marlstone Rock Formation	W + N Northants.	65.4
Grantham Formation	rubblestone base of Grantham (Inferior Oolite)	N Northants	0.25
Shelly Lower Greensand	Lower Greensand, Gretaceous	Upware, Cambs.	0.02
Carstone	Lower Greensand	Ely – Downham Market, Cambs.	7.85
Lower Chalk (clunch)	Grey Chalk (HNCF) or Burwell Rock	Madingley Road – Girton, Cambridge	195.92
Melbourn Rock	Middle Chalk	Wilbraham-Burwell & Babraham, Cambs.	139.58
white chalk	undifferentiated chalk (mostly Mid-Upper Chalk)	local (Cambridge district)	99.4
patinated grey flint	surface flint above chalk	local (Cambridge)	38.11
fresh black flint	quarried flint (M-U Chalk)	east of Cambridge	48.31
shelly sparry limestone	Inferior Oolite?	unknown – Northants?	2
red fossilif quartz sstn	Inf Ooolite?	unknown – Northants?	1
glacial erratics	Observatory Gravels + Boulder Clay + Cam gravels	Girton – Madingley Road - Trumpington	4674.42
Collyweston Slate	Lower Lincolnshire Limestone (Mid Inf Oolite)	Collyweston + Easton on the Hill, Northants.	137.24
Swithland Slate	Uppermost Charnian Brand Series, Cambrian	Swithland-Woodhouse Eaves, Charnwood Forest, Leicestershire	66.12

Table 46. Rock type, geology and source of building stone with total weights recorded in kg.

The following notes provide a brief background to what is known of the sources and extraction of these stones during the Roman period:

Barnack Stone (Upper Lincolnshire Limestone)

There is strong circumstantial evidence (but not as far as is known any archaeological evidence) to suggest that the area of the 'Holes and Hills' National Nature Reserve near the Cambridgeshire village of Barnack, with the remains of the Medieval and Anglo-Saxon quarrying of Barnack Stone (Jope 1964), was also the source of the Roman Barnack Ragstone that has been found (often as dumped) blocks of dressed and undressed building stone at numerous Cambridgeshire settlements.

Immediately local examples of this stone have been identified by the author from Romano-British contexts within excavations carried out by the CAU at Kettles Yard Cambridge (Timberlake, in Brittain and Evans 2016), Northstowe, Longstanton (Timberlake, in Collins 2017) and from North-West Cambridge (Timberlake, in Cessford and Evans 2014), whilst a Roman stone coffin made from a quarried block of Barnack Stone was found during earlier excavations in Cambridge (Fox 1923, 194; this is now displayed outside of the Sedgwick Museum of Geology). Both Russell (2013) and Blagg (1990) refer to possible Roman quarries at Barnack and Weldon, noting that (as at Ancaster) these stone sources lay immediately adjacent to Roman Ermine Street. Blagg (1990, 40) refers to the use and transport of Barnack Stone as far as Roman London, suggesting that this was the stone used in the 'London Arch'. Likewise, on Site VII this stone was ubiquitously used as block-shaped or chisel-dressed wall stone <1876> (Fig. 40), and in one instance as moulded stone used for a small column base (such as might be associated with an altar).

Weldon Stone (Upper Lincolnshire Limestone)

Weldon Stone is another stone suggested by Blagg (1990, 40, Fig.11) and Russell (2013) as having been worked at source in northeast Northamptonshire during the Roman period. This stone is less easy to identify than Barnack and Ketton Stone in archaeological samples, although Roman examples from Site VII are comparable to those identified with the quarry source present within the Watson Building Stone Collection, Sedgwick Museum.

Ketton Oolite and Ketton Ragstone (Upper Lincolnshire Limestone)

Examples of the flat jointed slabs of Ketton Ragstone and the oolitic freestone (Ketton Stone) have been identified from Roman contexts at Kettles Yard, Cambridge (Timberlake, in Brittain and Evans 2016) and at Northstowe, Longstanton (Timberlake, in Collins 2017). Fox (1923) discusses the evidence for a Roman trade in Ketton Stone between the Northamptonshire quarries and the Cambridge region, referring to the use of Ketton Stone in foundations of Roman buildings at Cottenham and the Ickleton villa; Ketton Stone was also reportedly used in the Roman villa at Comberton (Babington 1853, 14). There are examples at Site VII from the Feeder Ditch, F.4563 context [16221], for the use of Ketton Stone moulded to shape as a small column base <1860> (Fig. 40) perhaps associated with an altar, as dressed quoin stone, and as chisel-dressed faced wall stone, which is perhaps what one might expect of this finely workable and higher-quality freestone.

Collyweston Slate (Lower Lincolnshire Limestone)

There is a great deal of evidence for the use of Collyweston Slate as pegged stone roof tiles at almost all the excavated Roman settlements in Cambridgeshire, but little archaeological evidence for their extraction at the Collyweston outcrop in Northamptonshire. It seems likely that the Medieval/Post-Medieval technique for natural frost-splitting of the slates began there in Roman times upon the surface outcrops, yet the considerable opencast and underground exploitation of this restricted outcrop subsequently may have removed the earlier evidence for working. Certainly the thickness of the Roman slates suggests splitting in the same manner, given the overall similarity with items from later contexts; the main differences between them being in size and shape. Roman roof slates were lozenge or diamond-shaped and were hung from a single peg/nail hole at the apex (Steane 1968, 75-76). In his paper on the Roman Swithland Slate industry, McWhirr (1988, 1) refers to research into the Collyweston Roman Slate industry, but to the author's knowledge there is no formal published work on this subject. The Collyweston roof slates from Site VII are more numerous than the Swithland Slates (Table 46, Graph 5), but also less complete, with both lozenge-shaped and sub-square examples present. The largest of these slates were up to 285mm in length and 200mm width, therefore at the upper end of all recorded Roman examples, yet the size range recorded was between 150-285mm.

Swithland Slate (Lower Cambrian, Charnian Brand Formation)

McWhirr (1988) refers to the Roman origins of slate quarrying centred on the village of Woodhouse Eaves north of Roman Leicester (*Ratae*), and the use of these grey slates as roofing material on Roman buildings in Leicester, Narborough and as far north as Brough and Ancaster in Lincolnshire, *Margidorum* near East Bridford in Nottinghamshire (Lott 2001), and as far south and east as Great Stoughton villa (Rushey Farm) in northwest Cambridgeshire. This represents what, at a distance of

up to 50 miles, was then the known maximum limit of distribution from the quarry source (McWhirr 1988, 6), although the more typical radius of distribution for this product was taken to be about 15-20 miles from source (*ibid*.). Generally being more abundant than Collyweston Slate, Roman manufactured Swithland roof slates were lozenge or diamond-shaped; the largest recorded complete example from Narborough being 285 x 255mm in size, the smallest being 175 x 155mm (*ibid*., 2). Both larger and smaller examples than this were recorded from Site VII, the largest nearly complete example being 325 x 195mm; the heaviest was up to 2kg. The number and generally good condition of these most probably reflects their original abundance on site.

Alwalton Marble (Cornbrash)

This stone has not previously been recorded from a Roman context. This is a distinctive hard fossil oyster-filled shelly limestone which outcrops from within in the Cornbrash on the side of the River Nene at Alwalton near Peterborough. Exploited as a building stone and ornamental rock during the beginning of the Medieval period, the overall visual similarity and hardness of this stone to the Upper Jurassic Purbeck *Paludinia* Limestone worked during the Roman period upon the Isle of Purbeck has led to suggestions that the exploitation of Alwalton Marble may have begun earlier. John Palmer in his on-line database of the Roman Purbeck Limestone industry (palmyra.mc.uk/pur-quarry.html) suggests this as a possible Roman extraction site, noting the proximity of Water Newton (*Durobrivae*) and also the presence of a villa at Alwalton (see Steane 1968, 74). Structure 3 at Site VII provides the first evidence for its use in a Roman context, the few examples consisting of roof slate or floor tiles rather than cut and polished stone.

Northamptonshire Sandstone (Northants. Ironstone)

A small but significant amount of Northamptonshire Sandstone (*c*. 34kg) present in the form of blocks of roughly-shaped wall stone and smaller amounts of chisel-dressed faced wall stone characterises the dumped stone assemblages and the in situ wall foundation stone used in Structure 3. Once again, this is slightly unusual given the distance to the nearest source for this stone in Northamptonshire, most likely within the area around Kettering/ Water Newton (English Heritage 2011, 4-6). A connection with the Roman iron industry of the East Midlands and Water Newton on the Northamptonshire/ Cambridge border could provide one explanation for this, since the outcrop quarries dug upon the richest ironstone horizons (Schrufer-Kolb 2007, fig. 55) would probably have produced an excess of useable building stone in the form of these iron-rich sandstones. The iron mining and smelting industry operated from the 1st century AD with its administrative centre at Water Newton (*Durobrivae*) upon the River Nene (Fincham 2004). Identification of the fossil *Trigonia costata* within some of the ironstone blocks from Site VII confirms that most of these blocks are indeed of Northants Ironstone rather than Carstone (Lower Greensand).

Marlstone (Upper Lias Marlstone Rock Formation)

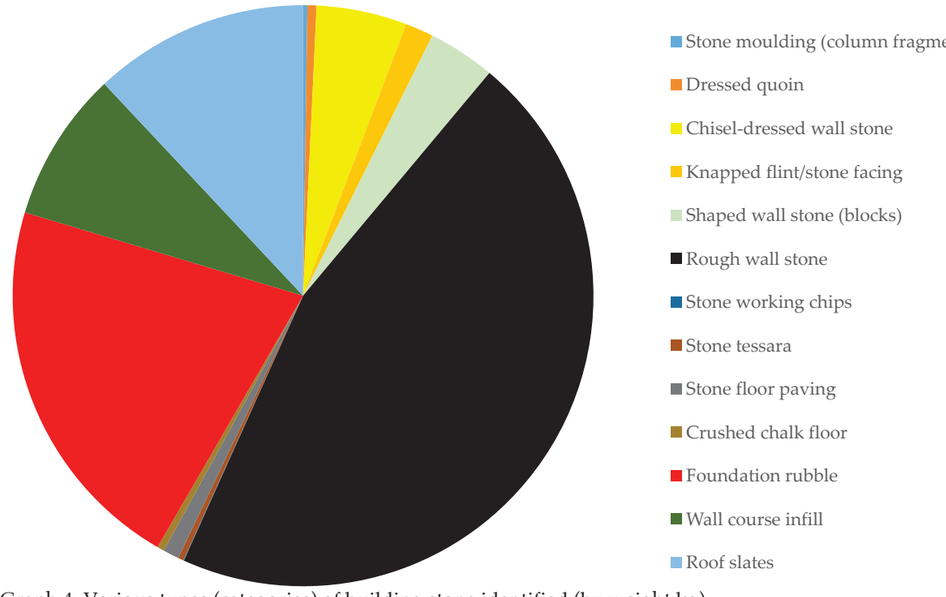
A larger sample of Marlstone Rock (*c*. 65kg) in the form of roughly-shaped wall stone blocks and a smaller amount of chisel dressed stone was also identified within a number of similar contexts, including the Feeder Ditches (F.4754) to the rear of Structure 3. These were likewise identified on the basis of their fossil content; the ammonite *Amaltheus margaritatus*, bivalve *Modiolus scalprum* and the brachiopod *Lobothyris punctata* (Upper Pleinsbachian fauna). There is no record of any Roman working of this rock, although this is stone that clearly has been quarried, most likely from the Northamptonshire outcrops west of Northampton (Daventry) or due south of Kettering (English Heritage *ibid*. 3-4). The fact that this stone immediately underlies the Northamptonshire Ironstone, and that it is associated geologically with the flaggy Northamptonshire 'pendle' (yet another horizon within the Northamptonshire Sandstone), may explain why we see this particular group of stone types brought here for use as generic building material. In fact, almost all of these stones could have come from associated outcrop quarries and ones linked originally with ironstone extraction and working.

Elsworth Rock (Corallian – Ampthill Clay)

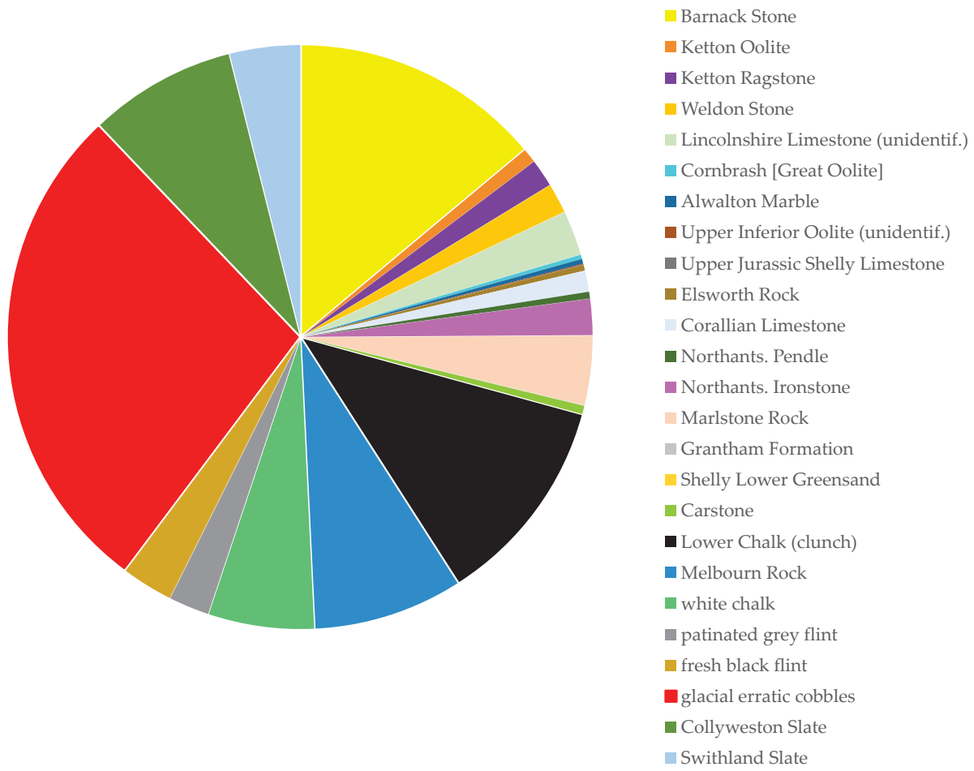
There is no published record for the early exploitation or use of this as a building stone, and we can only assume therefore that the recognition of this rock (with its fossil serpulid worm *Serpula sulcata*) amongst all the Roman building stone assemblage from Kettles Yard, Cambridge (Timberlake, in Brittain and Evans 2016) is largely a matter of coincidence given its attractiveness and common occurrence at surface in the Papworth/ St. Ives area and also its incidence as a glacial erratic.

Corallian Limestone (cementstone or 'rackstone')

There is use of this distinctive burrowed micritic limestone derived from the local Ampthill Clay as rough wall and foundation stone at both the Northstowe (Timberlake, in Collins 2017) and the North West Cambridge Roman settlements (Timberlake, in Cessford and Evans 2014). The lenticular/ tabular nature of this stone, its robustness and ease of sourcing, were undoubtedly factors favouring its selection and use as drystone walling material. The exact source for this rock is uncertain, yet this is likely to be located within a 10-mile radius of Cambridge. The rock is known locally as 'rack stone' and is recorded as being derived (glacially or by weathering) from the topmost 20-40 feet of the Upper Jurassic Ampthill Clay formation which outcrops intermittently between Willingham and Rampton (Worssam and Taylor 1969, 15).



Graph 4. Various types (categories) of building stone identified (by weight kg).



Graph 5. Rock types identified within building stone assemblage (by weight kg).

Chalk and Flint

Although it would have been available locally, most of the chalk used as rough walling and wall fill/ foundation material appears to have been dug from pits and would have been brought onto site alongside other loads of stone. For Site VII, the nearest source for grey chalk (clunch) would have been the chalk marl that outcrops within a mile or two in the southwest, at Madingley and Coton. It may have been easier to transport both this and Burwell Rock into Cambridge by boat from the Roman quarries at Reach and Burwell. The nearest source of Middle Chalk lies to the east of Cambridge, notably the outcrop of the harder and clearly much preferred Melbourn Rock stretching from the Wilbrahams through Fulbourn to Babraham. The Middle and Upper Chalk outcrop would also have been the likely source of the fresh black flint used as decorative knapped wall-facing material. It may have been easier to obtain good material from further afield in this case. The clear preference for two different coloured chalks and for black (and sometimes grey) flint suggests that even within a context of rough walling the patterning and decoration may have been important factors for materials selection.

Stone Tesserae – Character and Composition

A selection of some 300 stone *tesserae* was examined and recorded to detail their geological character alongside evidence of their manufacture (Appendix 4). The range of different rock types (and numbers of tesserae manufactured from these and their colours) are as follows:

Carstone	1 (dark brown)
Collyweston Slate	260 (cream white)
Corallian Limestone	22 (white)
Flint	3 (black)
Ketton Stone	1 (pale yellow gold)
Lincolnshire Limestone (Barnack Stone)	2 (yellow white)
Lower Chalk (clunch)	1 (grey)
Melbourn Rock (Middle Chalk)	2 (chalky white)
Sandstone/ quartzite (glacial erratic)	7 (yellow – light brown)
Silicified wood (glacial erratic)	1 (variegated white)

Approximately half of the *tessarae* showed signs of having been cut into squares using a bolster chisel, the rest being less obvious, though in some cases they had clearly been more crudely broken using a hammer, resulting in less straight sides and a much greater range of shapes. In only a few cases could score lines be detected upon the (upper) surfaces of the cubes, suggesting that scoring or the drawing of straight-lined grid was sometimes, but not always used as a guide to cutting. Many of the *tessarae* showed distinct impressions of wear and polish upon their upper (floor-facing) surfaces, suggesting a long period of use or even re-use within newly laid mosaic floors. Evidence for this could be seen in just one or two cases, where new mortar appeared to have been laid over old.

The building stone from Site VII provides important insight to the extent and complexity of the region's connections and the provision of source materials for major building projects. Of note here is the assemblage's expansion of the known distribution of Swithland Slate, as well as the first recorded use of Alwalton Marble (Cornbrash) within a Roman structure.

The stone assemblage associated with the demolition layers of Structure 3 is consistent with that of the *in situ* structural stone examined in Rooms 3, 4 and 5. The heterogenous and exotic make-up of this building stone suggests considerable re-use of recycled stone, some of it originally quarried from a variety of sources some distance away, including Marlstone Rock, Northants 'pendle', Northamptonshire Ironstone, Weldon Stone, Ketton Oolite and Ragstone (South Lincolnshire), Barnack Stone, Cambridgeshire chalk and flint, plus roof slates of Collyweston in Northamptonshire and Swithland in the Charnwood Forest area of Leicestershire. The incorporation of variously shaped finely-dressed quoin and chisel-dressed ashlar blocks of exotic stone amongst locally-sourced roughly-shaped stone in surviving wall structures suggests that material was brought to Site VII from other dismantled buildings from outside of the area. Given also that more locally-sourced re-used building stone was also present, the locations of dismantled buildings utilising the combination of these stone sources may be envisaged as having been located somewhere along the Cambridgeshire-Northamptonshire border and the area to the west and north of this, perhaps towards Water Newton (*Durobrivae*) and Kettering. The latter lies within the area of use of Swithland Slate, Northamptonshire Ironstone (and quarries associated with the Roman ironworking industry), a wider range of Roman-sourced building stones of Lincolnshire Limestone (Ketton, Weldon and Barnack), alongside Collyweston Slate, the utilisation of which is more commonly found at Romano-British settlements and villa sites within Cambridgeshire.

From analysis of the building stone it appears that the site's stone walled buildings were constructed from rough stone facings using ashlar blocks of limestone for the basal courses and quoins. It seems likely that these were stone-faced on either the interior or exterior, or on both in some places, with rubble-filled cores in between. The use of tile coursing to face the interior at least one of the walls of Structure 3, rendered with painted lime plaster, is evident from the ceramic building materials recovered there (see *Ceramic Building Materials*). The bases of the walls in Structure 3

were evidently constructed upon a cobblestone foundation, which may have been further capped with stone rubble infilling shallow foundation trenches.

A small number of moulded stone fragments were recovered from the demolition material associated with Structure 3 and its associated Feeder Ditch. These proved to be significant finds in that they included two small round column bases of around 200mm diameter made of Barnack and Ketton Stone plus another two possible column plinths made of the same stone. All of these mouldings would appear to be related, and are most likely therefore associated with specific use within the building rather than an incidental occurrence within the imported recycled stone. Their small size dictates against any sort of function as a structural support, and these are much more likely to be the type of columns flanking an important doorway (RCHME 1970, 552) or else a niche housing an altar.

Building stone from Structure 4 was predominantly of chalk, with examples too of sandstone, Barnack stone and black flint, also derived of Middle Chalk. The sandstone and Barnack stone was exclusively found within the terminus of a robbed wall trench and is likely to have been used as a post pad and packing rather than having been incorporated within a mortared wall mix. Five squared flint stones were collected from another of Structure 4's wall robbing trenches, which provides only a glimpse of the nature of its walls, which may have utilised flint as a decorative medium, along with Ketton Ragstone, of which just three small shaped fragments were present. Chalk found within the uppermost profile of the Structure 4.2 post pits was found in a generally crushed state, which could point to some form of rammed chalk floor were it not for the presence in pit F.4695 of a cluster of large roughly-shaped chalk and sandstone lumps, of which some 20.6kg was collected (*c*. 50% of the deposit). With degraded mortar also present in this deposit, it was evidently from wall material and therefore illustrative that the soft-stone composition of Structure 4's surrounding walls contrasted with the robust hard-stone utilised in Structure 3's masonry buildings. Instead, timber in Structure 4 lay at the heart of its construction. Of its stone roofing material, only Swithland Slate was present to a fairly low density (6.2 kg), though spreads of small fragments were also noted to the west of the structure.

The recognition of similarly shaped/sized knapped blocks of black and grey flint and chalk from Structure 3 suggests the presence of decorative work upon some parts of its mortared walls. The exactness of these pieces and their relatively small number suggests the presence of decorative stonework just around doorways and windows or as a frieze above mosaic pavements.

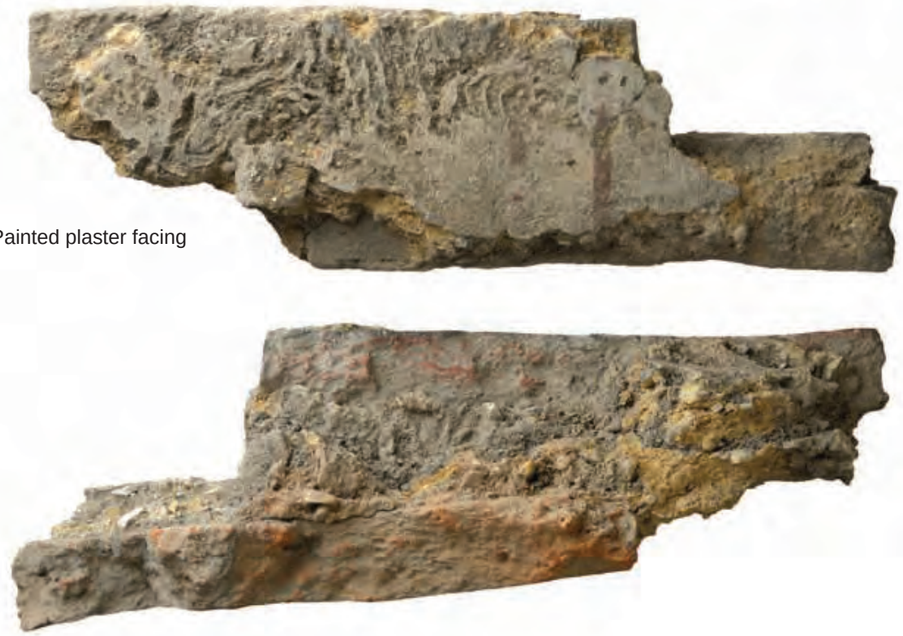
It remains possible that the 2:1 mixture of white (Collyweston) and blue-black (Swithland) slate found associated with Structure 3 was both intentional and decorative in nature. There are parallels to this. In the course of excavating the Druce Farm Roman Villa near Dorchester the collapsed roof layer was found to be composed of local white Purbeck Limestone slate evenly mixed with blue-black Delabole (Cornish) slate; the latter is a type of slate rather similar in appearance to Swithland and likewise far-travelled from its source.

Analysis of a sample of stone *tesserae* has demonstrated a wider composition of rock types and colours, suggesting that some of the mosaics may have been more complex affairs than just red- and white-bordered geometric patterns.

Figure 38. Rotary quern <1852> from upper fill of feeder ditches, slot 4152, Structure 3

Figure 39. Rubble Spread 1 geological character

Top view of fractured tiles of wall fragment <1917-01>



Painted plaster facing

Slurry-bonded rubble core

0 20
centimetres

Chisel-faced barnack stone <1876>

Ketton stone column base <1860>

Figure 40. Selected CBM and worked stone

Figure 41. Wall fragment <1917.01> within Robbing trench F.4555 over feeder ditches

Ceramic Building Materials – Marcus Brittain and Floor Huisman

The combined 2009, 2013 and 2018 assemblages total 1123,492g (8884 items); of this, and following a full record of discarded items, a retention of 235,757g (21%) was archived for further analysis (this consists of type samples of fabrics and forms, and marked or unusual fragments). *Tesserae* are not included in this quantification. The overall site average fragment weight was 126.5g, though this varied markedly across feature groups. All of the assemblage relates to the site's Roman phases.

The eight fabric groups previously described by Timberlake (in Cessford 2015, 57) for the site's Ceramic Building Materials (CBM) are used here. Fabric groups were not assigned to CBM fragments with dimensions less than 5cm, which instead were recorded either as 'shelly' or 'non-shelly'.

Fabric 1 Pinkish-red sandy terracotta fabric with minor flow texture inclusions of streaky yellow clay plus irregular inclusions of reddish iron oxide.
Fabric 2 Pinkish-red silty terracotta fabric with very fine mica throughout with occasional inclusions of red oxide and crushed flint.
Fabric 3 Bright orange-red fine grained silty terracotta fabric with occasional inclusions of yellowish clay and reddish oxide.
Fabric 4 Hard biscuit-like fabric with prominent grey and red (oxidised and reduced) fired laminae, burnt-out voids, plus occasional inclusions of darker grog clay, burnt chalk and flint.
Fabric 5 Rare buff to cream-white coloured coarse sandy-lime fabric with inclusions of crushed shell and chalk and occasionally also grog with a mid-grey reduced interior and/or pinkish oxidised exterior.
Fabric 6 Medium-coarse pale pink sandy fabric with quartz grit, grog and crushed shell inclusions.
Fabric 7 Light grey-green to pink sandy fabric with occasional flint inclusion.
Fabric 8 Hard pinkish-red terracotta fabric with very small inclusions of shell or chalk.

Silty and sandy fabrics 1-4 occurred with greatest frequency across the site (Table 47). Shelly Fabric 8 was reasonably well represented also, though other shelly fabrics were comparatively few. With abundant shell and limestone temper, the wares produced by the Harold kilns in Bedfordshire are generally attributed to shelly fabric tiles. The Harold site produced both flue tiles and roof tiles (see Brown 1994) and may have been one source for the site's Fabric 8 materials, though as detailed below, much of Site VII's CBM may derive from earlier buildings.

Fabric	1	2	3	4	5	6	7	8	NSH	SH
%	18.5	19.3	20.9	17.7	0.9	4.4	0.2	16.0	1.8	0.4

Table 47. Frequency of fabric type (NSH = non-shelly; SH = shelly).

Of note here is Fabric 5 that, occurring at only a low frequency in most feature groups, was first catalogued as pottery until larger fragments were recognised in the assemblage. These larger fragments were 5-25mm thick and were either entirely flat or formed as a wide arch; the latter were considerably wider (220mm) than the site's *imbrices* (160mm). Further consultation may enable greater clarity on the nature of these items.

Assemblage Composition

The majority of the assemblage was highly fragmented, so only 34% of it could be identified to tile type (2918 items; Table 49). *Tegulae* were most prevalent overall as well as in deposits from within Structures 3 and 4; brick was the second most prevalent type present, and a high proportion of box-flue fragments derived from Structure 3.

A basic attempt was made to use complete or near-complete items to deduce the character of individual building materials, both as a means for inter-site comparison and for an estimate of the site's presence to absence ratio for CBM overall. Noting certain absences for which this process was not possible, the results are outlined in Table 48.

Type	Length (mm)	Width (mm)	Height/ Thickness (mm)	Wt (*g*)	Approx. no. represented
Box-flue 1	270	200	200	7770	6.3*
Box-flue 2	330	250	150	9650	
Bessalis 1	160-190	160-180	35-40	2150	n/a
Bessalis 2	200-220	200-210	40-50	2700	n/a
Lydion	430	270-290	40	n/a	n/a
Sesquidalis	440	?440	50	11000	n/a
Imbrex	338	160	20	2300	30
Ridge Tile	360	165	20	2700	28.5
Tegula	360	350	47	6680	54.5

Table 48. Selected materials' characteristics and estimated representation (*based on the mean weight of the two box-flue types).

No graffiti or stamps were identified, though signature marks, keying and roll-die relief patterning was present on a number of brick, box-flue tiles or *tegulae*. Impressions of animal tracks, human hands or fingers, and examples of wet-mould cutting of tiles were also observed. These are outlined below under *Marked Tile*.

Material derived from Structure 3 accounted, by weight, for just over 56% of the assemblage, with the nearby 'feeder ditches' producing another 17.7%. *In situ* material was recorded from within Structure 3, mainly from the Room 4 hypocaust backfill. Elsewhere, distinct dumps of CBM were recorded, in particular from the enclosure ditches nearest to Structure 4 (Slots 3984, 3987, 4015, 4016, 4017, 4021, 4022, 4025, 4061 & 4093) that represented 7.2% of the site's assemblage (with only 2% coming from Structure 4 itself). This pattern of deposition – localised dumps of larger-sized fragments/items – is highlighted in the average fragment weight across feature groups. Excluding feature groups with less than 50 CBM items each (5c, 5e & 6), the average fragment weight was 82.3g or less for all groups except for Structure 3 (218.8g), the feeder ditches (201.9g) and the enclosure's outer ditch (121.4g); the high frequency in the latter of these is on account of the dumps of material from the ditch slots noted above as nearest Structure 4 that, combined with the enclosure's inner ditch there, amounted to an average of 119.9g.

In order to enable some form of comparison between the most significant CBM deposits, the following will overview the CBM as feature-group assemblages for Structure 3 with the feeder ditches, and Structure 4 combined with the aforementioned enclosure ditch slots that lie in its vicinity.

Of particular note is the prevalence of recycled or reused building materials, some occurring *in situ* within Structure 3.

Feature Group	Box flue	Brick	Floor tile	Imbrex	Ridge tile	Tegula	Unknown	TOTAL	Fabrics
1. Structure 2	.	.	.	67 (1)	.	.	694 (54)	**761 (55)**	**1,2,3,8**
2. Structure 3	76334 (355)	193993 (371)	37759 (76)	28413 (112)	42248 (178)	189781 (549)	62179 (1242)	**630707 (2883)**	**1,2,3,4,5,6, 7,8**
3. Structure 4	311 (2)	8966 (12)	339 (1)	1886 (22)	694 (2)	3540 (22)	7071 (587)	**22807 (648)**	**1,2,3,4,5,6,8**
4. Structure 1	.	.	.	338 (1)	.	.	2103 (119)	**2441 (120)**	**2,3,8**
5a. Enclosure inner ditch	2549 (15)	7378 (29)	280 (1)	4314 (32)	2364 (12)	12374 (56)	13848 (574)	**43107 (719)**	**1,2,3,4,5,6, 7,8**
5b. Enclosure outer ditch	7858 (38)	18307 (47)	0	3547 (21)	7264 (38)	34835 (135)	10277 (397)	**82088 (676)**	**1,2,3,4,5, 6,8**
5c. Fieldsystem	2120 (7)	.	.	.	.	.	71 (2)	**2191 (9)**	**1,8**
5d. Enclosure inner partition	7072 (31)	4419 (15)	670 (4)	4528 (68)	2784 (15)	14172 (59)	16218 (687)	**49863 (879)**	**1,2,3,4,5, 6,7,8**
5e. Trackway ditch	.	.	.	.	.	.	236 (21)	**236 (21)**	**2,3,4,6**
5f. Feeder ditch	9162 (26)	41548 (75)	1235 (1)	18453 (82)	18585 (61)	92972 (202)	17144 (539)	**199099 (986)**	**1,2,3,4,5,6, 7,8**
6. Pit Alignment 1 (NW)	.	434 (2)	.	.	.	997 (3)	158 (2)	**1589 (7)**	**1,4**
7. Pit Alignment 2 (SE)	.	.	.	.	.	.	315 (60)	**315 (60)**	**1,2,3,4**
8. Pit Group 3	1047 (19)	470 (2)	.	237 (2)	1582 (9)	.	2741 (181)	**6077 (213)**	**1,2,3,4,6,7,8**
9. Pit Groups 2, 4 & Isolated	1295 (7)	5397 (18)	2195 (5)	2543 (15)	739 (4)	4159 (25)	12935 (489)	**29263 (563)**	**1,2,3,4,6,8**
10. Smaller Ditches / Gullies	516 (2)	5359 (11)	.	302 (2)	406 (2)	1286 (7)	3946 (125)	**11815 (149)**	**1,2,3,4,6, 7,8**
11. Furrow	1336 (11)	4050 (25)	.	3171 (24)	193 (1)	3809 (17)	11068 (489)	**23627 (567)**	**1,2,3,4,5,6,7,8**
12. Surface finds	.	1310 (7)	428 (2)	680 (7)	171 (2)	6814 (16)	7295 (169)	**16698 (203)**	**1,2,3,4,6,8**
Total	*109600 (513)*	*291631 (614)*	*42906 (90)*	*68479 (389)*	*77030 (324)*	*364739 (1091)*	*169107 (5863)*	*1123492 (8884)*	**.**

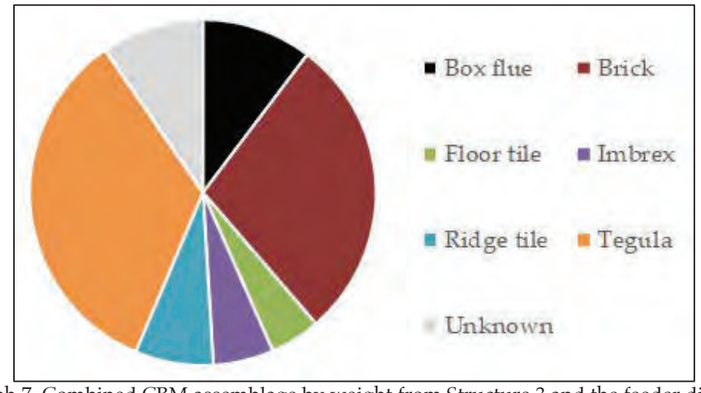
Table 49. Overview of Site VII CBM assemblage by weight and quantity (in red brackets).

Figure 42. Selected tesserae. Bottom left: stone. Bottom right and middle: ceramic

Structure 3 and Feeder Ditches

A total of 630,707g of CBM was recovered from Structure 3 with a further 199,099g of CBM collected from its connecting feeder ditches. The majority of material pertains to demolition deposits, but recording of *in situ* materials within Structure 3 (primarily belonging to the hypocaust system) was also undertaken on site, with retrieved samples from these included into the archive.

The assemblage is formed of construction materials used as lacing courses to stone walling, roofing, layers upon or within floor surfaces, and for specialised structures that include hypocaust elements and drainage (Graph 7). Notable for their absence were framing materials for openings and throughways, which may be better represented within the stone construction materials (see Timberlake, *Stone Building Materials*).



Graph 7. Combined CBM assemblage by weight from Structure 3 and the feeder ditches

Fabric	1	2	3	4	5	6	7	8	NSH	SH
Structure 3	16	20	24	18	.	5	.	17	.	.
Feeder ditches	19	15	25	20	1	2	.	17	1	.

Table 50. Fabric quantification by percentage (NSH = non-shelly; SH = shelly).

The fabric composition is largely reflective of that for the site overall (Table 50). This may not reflect patterns of batch ordering direct from the tilery; instead, the visibility of reused materials within the assemblage, as described below, is likely to account for the fabric range owing to availability at the salvage source. This also has implications for any attempt to position materials by fabric within any chronological sequence of manufacture, acquisition and use.

Ceramic Walling

At least three types of box-flue were present within the assemblage, illustrating that cavity walling was employed. Types 1 and 2 in the assemblage (see Table 48 for dimensions) were comb-keyed and are represented by complete examples. They are of contrasting character. Type 1 was a simple but large rectangular box shape with a simple 10-tooth comb diagonal cross on each face. Type 2 was long and squat with 7-tooth cross and border comb patterning on the upper and lower face, and a rectangular vent to one side. Type 3 survived only as a few fragments, their form therefore indeterminate, but represent the use of pattern-relief box-flues. Impressions of at least three different roll dies were present, one of which may be sourced to a kiln of the first quarter of the 3rd century AD associated with a villa at Ashtead, Surrey (see *Marked Tile*). There, complete examples were similar to Type 2, except that an arch-shaped vent opening was present on one long-face in addition to the smaller rectangular vent on the sort face. The mixed range of box-flue type and fabric highlights the likelihood that materials were sourced and reused from more than one building (Table 51).

Fabric	1	2	3	4	5	6	7	8
Structure 3	12.7	16.4	20	12.7	.	9.1	0.9	28.2
Feeder ditches	.	18.8	18.8	27.5	.	6.3	0	18.8

Table 51. Percentage of box-flue fabric types from the Masonry Building and feeder ditch (5f).

The use of Types 1 and 2 within cavity walling is inconclusive owing to their secondary use as hypocaust pillars or (trimmed) pillar bases (Type 1, see below) and as a ground-level drain (Type 2, F.4795 made of seven box-flues) leading from the Room 4 hypocaust to the feeder ditches. The use of Type 3 box-flues within cavity walling is supported by the presence of pattern relief impressions within the rear side of faced wall plaster (see *Mortar and Plaster*).

Although the ceramic material from the walls had been entirely robbed, a portion of coursed brick wall was found in robbing cut F.4555 context [17292] on the east side of Room 3 (Cat. No. 1917.01). This comprised a three-course lacing of fragments of (probably) *sesquipedalis* bricks. These were each broken through their long edge, which was faced towards the wall's rubble core to which it was bonded with a mortar slurry. The unbroken brick faces were covered with wall plaster on which a simple pain decoration was applied; this evidently fronted a room's interior.

Pilae

Surviving to a maximum of three courses, there were slight differences in the make-up of the Room 4a and Room 4b hypocaust *pilae*. Seven pillar stacks survived in Room 4a for which whole *tegulae* with face-up cutaways were employed as pillar bases (*pedales*). A Type 1 box-flue was used on one of these in place of a pillar stack, though *bessalis* bricks were otherwise employed. The pillar stacks tended to be graded, with slightly larger *bessales* towards the base; nevertheless, their overall dimensions (19-22cm length and width, 4-5cm thickness) lay within the size range common to Roman *bessales* (Brodribb 1987, 34-6).

The same form of *bessalis* bricks was also employed in the Room 4b *pilae*. Including the hypocaust flue, 16 pillar stacks were present. In contrast to Room 4a, the pillar bases were made from tiles of type 1 box-flues. The hypocaust flue was made of stacks of plain *lydion* bricks up to four courses tall.

As with the other materials, the *bessalis* bricks could easily have been salvaged whole from other buildings and transported to the site rather than having been made to order. There were no *in situ bipedales* or *sesquipedales*, though presence of the latter in a fragmented state were noted above as wall lacing material, and their use in the raised flooring is likely.

Ceramic Flooring

The only *in situ* evidence for any form of ceramic flooring was in Room 4c, where five fragmentary bricks had roughly been laid into mortar. These were *c*. 290mm wide and may be of the *lydion* type. The presence of mortar also on the upper side of two of the bricks may indicate either that these were part of a foundation rather than the actual floor surface, or that they represent an earlier floor later resurfaced.

Ceramic Roofing

All *tegulae* were flat, occurring in Fabrics 1, 2, 3, 4, 6 and 8. Join covers were recorded either as *imbrices* with curved sides or as ridge tile with straight sides (Table 52); Fabric 7 was also represented in these two categories. Such variety of fabric is not generally seen in roofing material in Cambridgeshire (e.g. Coates 2015). Correlation in percentages of fabric types was closest between *tegulae* and ridge tiles, though this need not necessarily imply a mutual source or origin of manufacture.

Fabric	1	2	3	4	6	7	8	Total Wt (g)
Tegula	16.5	15.6	31.4	19.7	0.6	·	16.2	282753
Imbrex	25.7	24.6	23.1	6.2	4.1	2.0	14.3	46866
Ridge Tile	16.9	10.2	39.6	11.3	3.6	0.2	18.1	60833

Table 52. Percentage and total weight of ceramic roof material.

A single nail hole at the top centre of the short side was recorded on 11 *tegulae*, pierced before firing, with one fragment from feeder ditch F.4769 context [17295] containing an iron nail still in place (Cat. No. 1785) and with white mortar adhered to one of its flanges. It is thought that only particular *tegulae* were attached, with nail fastenings probably used only for the lower course overhanging the eaves (Bodribb 1987, 11). As the most exposed element of a building, mortar surviving from roofs is rare (Warry 2006, 101). At Site VII this was noted on the flange and/or upper surface of 15 items to a degree just enough to form a seal and seat for *tegulae* to overlap. Mortar was also noted on three *imbrices* and three ridge tiles.

Working to Betts (1986) typology, lower cutaway groups A, B, D and E were noted on 16 items. Prior to publication these will be redefined into the national chronological-type series produced by Warry (2006) and refined by Mills (2013).

Structure 4 and nearby Enclosure Ditches

Brick and roof materials dominate the assemblages of Structure 4 and the slots nearby in the enclosure's inner and outer ditches (Slots 3984, 3987, 4015, 4016, 4017, 4021, 4022, 4025, 4061 & 4093). Of that derived from Structure 4, the majority came from the post pits (83.6%), with no distinction in quantity, type or fabric between those of Structure 4.1 and those of Structure 4.2 (Tables 53 & 54).

Feature Group	Box-flue	Brick	Floor tile	*Imbrex*	Ridge tile	*Tegula*	Unknown	TOTAL
Structure 4.1	100 (1)	169 (2)	339 (1)	720 (9)	397 (1)	2047 (15)	3710 (427)	*7482 (456)*
Structure 4.2	211 (1)	7995 (9)	.	1041 (11)	297 (1)	920 (5)	2463 (104)	*12927 (131)*
Structure 4 (Total inc. porch)	311 (2)	8966 (12)	339 (1)	1886 (22)	694 (2)	3540 (22)	7071 (587)	*22807 (648)*
Selected Enclosure Ditches	7997 (39)	18903 (49)	.	3452 (22)	6462 (36)	32550 (130)	12039 (403)	*81403 (679)*
Total	*8308 (41)*	*27869 (61)*	*339 (1)*	*5338 (44)*	*7156 (38)*	*36090 (152)*	*19110 (990)*	*104210 (1327)*

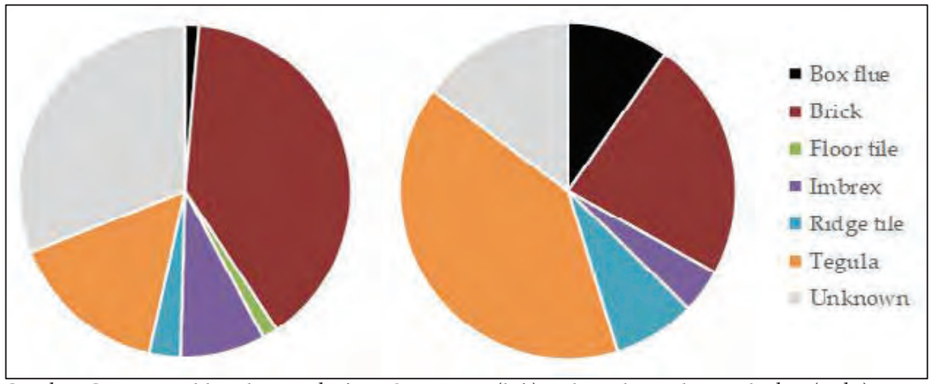
Table 53. Overview by weight (g) of CBM from Structure 4 and nearby enclosure slots; quantity in brackets.

Fabric	1	2	3	4	5	6	7	8	NSH	SH
Structure 4	28	26	5	9	2	1	.	11	15	3
Enclosure (select)	26	23	11	12	4	7	.	15	1	.

Table 54. Fabric quantification by percentage (NSH = non-shelly; SH = shelly; U = unknown).

The *tegulae*, *imbrices* and ridge tiles were the same types as those recovered from Structure 3. Mortar was present on one *imbrex* from Structure 4 and one *tegula* from the enclosure ditches.

Box-flue tiles were present mainly in the enclosure's outer ditch (Graph 8). Slot 4093 produced the highest concentration (6302g), which amounted to 75.9% of all box-flue fragments from these feature groups. All came from context [16692] of the ditch's upper profile, and consisted of small fragments of Type 1 box-flue with combed decoration. Within the same deposit was a dump of brick (7809g), possibly *pilae*. The relative absence of these materials within Structure 4 (two small box-flue fragments and 11 of brick) suggests that these were not utilised as a heating element within the building, if they were used at all.



Graph 8. CBM assemblage by weight from Structure 4 (left) and nearby enclosure ditches (right).

A second notable concentration of CBM was from Slot 3987 of the enclosure's outer ditch recut. With only two fragments of box-flue, this entailed *tegulae* (21,946g), *imbrices*/ridge tile (5607g) and bricks (10,289g) all from context [16270], the ditch's core deposit.

Within Structure 4 the distribution of CBM was mainly confined to its southeast half, which contrasts with the spatial pattern of *tesserae* along the building's entire north side.

Marked Tile

Post-production burning was recorded on 123 items (18,986g) – just 1.6% of the entire assemblage. Structure 3 and the feeder ditch accounted for 61% of this (11,292g), the majority of pieces being less than 500g.

Applied markings have been identified and are listed below (Table 55), but await detailed description and analyses. Production signature marks were present on 19 items (10 *tegulae*, two *imbrex*/ridge tile, seven unknown), all applied by fingertip swirls. Talley, batch and graffiti marks have not been identified, and their absence will be confirmed with a review prior to publication.

Type	Box-flue	Brick	Floor tile	Imbrex	Ridge tile	Tegula	Unknown	TOTAL
Combing keying	160	1	.	1	2	9	94	**267**
Relief-patterned keying	5	.	.	.	.	.	1	**5**
Finger scores	2	2	2	8	7	66	19	**106**
Finger prints	3	3	1	4	1	1	3	**16**
Animal prints	.	2	.	.	.	.	1	**3**

Table 55. Overview of marked tile.

The comb-keyed patterning on the Type 1 and Type 2 box-flues has been outlined above. Relief-patterned tiles (box-flue Type 3) amounted to five. The pattern would have been applied by a carved wooden roller, the use of which is known on British sites from the 1st century AD, though predominantly present on sites dated to the mid- to late 2nd century, and had apparently discontinued by the late 2nd / early 3rd century AD (Betts *et al*. 1997, 51). Relief-patterned tiles have been recovered from sites across Britain (Mills 2013, 460). The majority are located in southeast England, but with the exception of two sites in Suffolk, few examples (Stonea and Litlington villas) have been found in East Anglia (Betts *et al*. 1997, 52). The Site VII assemblage therefore provides an important addition to the wider corpus. The small number of such tiles within the Site VII assemblage

may suggest that only a fraction of flue-tiles was marked by relief patterning, perhaps applied as a measure of a tile batch (Mills 2013, 461), or that a combination of box-flue Types 1-3 was employed.

Rollers were not confined to a single tilery, but passed from one to another, presumably as itinerant specialist tilers moved between projects. The patterns on each of the five examples at Site VII are different, and four of these do not directly fit within any of the types recorded within the national corpus (Betts *et al*. 1997). However, there is one exact match for a type (Die 1, no.1) recorded from Ashtead Common villa in Surrey. On this example (Cat. No. 10396, a surface find from F.4500, the enclosure's interior partition) was a complex geometric pattern of at least three zones of motifs, one containing zig-zag chevrons filled with triangles and bordered with horizontal and vertical lines, another with a slight variant of this and, dividing these, a series of vertical lines within an unbroken horizontal border. (see Lowther 1929, pl. VI for a comparable example of a complete box-flue of this type from Ashtead Common). Another tile from Site VII (Cat. No. 1752) is a variant of the Die 1 type. The other tiles (Cat. Nos. 1714, 1744 and 1789) display a combination of wavey lines with zoned-enclosed vertical lines, though these are small fragments with only partially visible motifs. Comparison of these with the relief-patterns impressed into the wall plaster may further broaden and refine the pattern corpus.

A kiln from Ashtead Common, in which the Die 1 no.1 relief-patterned box-flues were manufactured, has recently been magnetically dated to 205-225AD (Noel 2011). However, the presence of this pattern type along with a range of others at Site VII is suggestive of sourcing of materials from other buildings rather than batch ordering, and the date of their use is therefore likely to be later than this date of manufacture. There are examples of relief-patterned box-flue tile having been used in constructions of a date later than the known die manufacture, notably at the Billingsgate Baths in London, constructed around the late 2nd or 3rd century, and at the 4th century AD bath-house at Cobham in Surrey (Betts *et al*. 1997, 52).

Tesserae – Marcus Brittain

The investigations recovered 7224 *tesserae* (202,952g) that combined with the *tesserae* collected from the trench evaluations in 2009 (39/295g) and 2013 (34 / 924g) totals 7297 (204,171g) items. Comprised of cut ceramic tile (2544/65,824g) and roughly shaped stone (4753/138,347g) pieces of varying colours, sizes and thicknesses mostly of rectangular shape (although triangular and other irregular forms also occur), the assemblages here are considered as a whole (Table 56; Figs. 43 & 44).

The majority of the *tesserae* derived from cut features within Structure 4 (37%), particularly from its northeast and southeast sides, and demolition deposits within Structure 3 (25.4%), with additional demolition-derived deposits from Rubble Spread 1 (11.6%) and smaller ditches or gullies (4.4%) near to Structure 3, as well as later agricultural furrows (7.4%), particularly those that passed through or near to Structure 3.

Owing to the considerable assemblage size, a sample was selected for closer detailed analysis from three feature groups: post pit F.4696 from Structure 4.1, the rubble infill of Room 4b hypocaust in Structure 3, and Rubble Spread 1 (F.4640-1) to the east of Structure 2. Together, this totalled 1479 *tesserae* (38,204g), which is a 20.3% sample of the overall assemblage by quantity.

For the analysis, the selected tesserae were recorded by context and by two size categories: small (<25mm across) and medium (>25mm across). These were further categorized by material (tile or stone), a six-colour range (white, grey, black, red, yellow, brown), predominant shape (square, triangle, oblong), the presence or absence of adhering mortar, burning, and surface markings (recorded as keying or other tool marks). The smallest and largest *tesserae* in the resulting groups were measured and the whole group was weighed.

SF. 2619 Tegula

SF. 2797 - Imbrex

Roller - impressed box-flue

Figure 43. Selected CBM

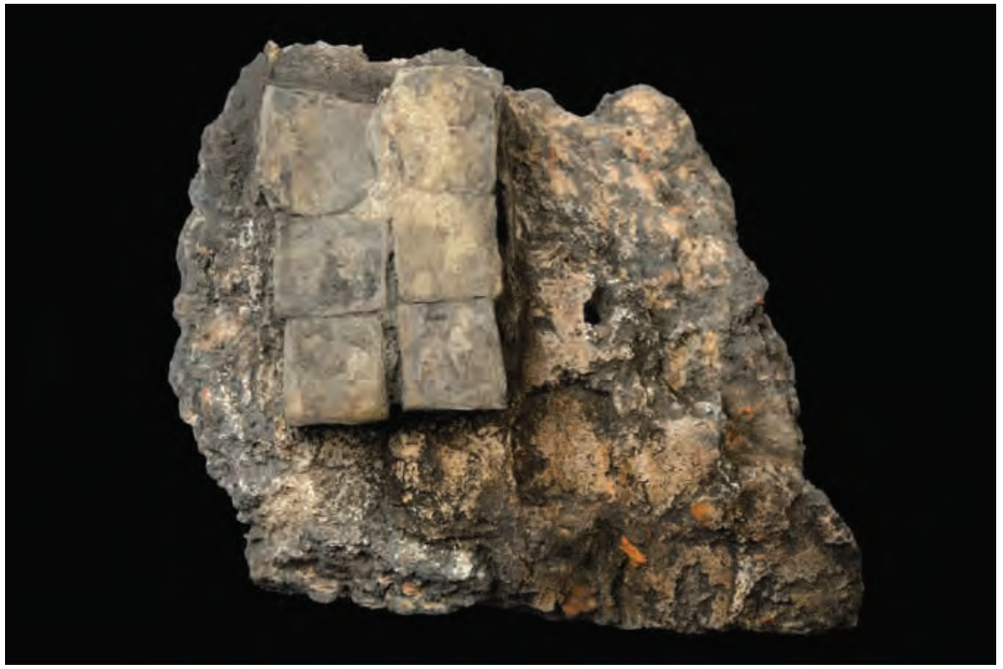


Figure 44. Tesserae groups in mortar from Structure 3, context [16783]. Top: stone. Bottom: ceramic

	Ceramic		Stone		% of total by Qty		
	Qty	Wt (g)	Qty	Wt (g)	Ceramic	Stone	All
Structure 1	1	32	2	62	<0.1	<0.1	<0.1
Structure 2	1	4	72	1622	<0.1	1.5	1.0
Structure 3	859	24470	992	29609	33.8	20.9	25.4
Structure 4.1	664	16671	1340	38153	26.1	28.2	27.5
Structure 4.2	234	5575	423	12131	9.2	8.9	9.0
Structure 4 Courtyard	6	158	34	868	0.2	0.7	0.5
5a. Enclosure inner ditch	118	2877	155	4951	4.6	3.3	3.7
5b. Enclosure outer ditch	12	342	3	56	0.5	0.1	0.2
5b. Enclosure outer ditch recut	60	1384	93	2700	2.4	2.0	2.1
5c. Fieldsystem	.	.	.	.	.	.	.
5d. Enclosure partition	106	2845	95	2650	4.2	2.0	2.8
5e. Trackway ditch	.	.	.	.	.	.	.
5f. Feeder ditch	72	1876	112	3534	2.8	2.4	2.5
Pit alignment 1 (NW)	.	.	.	.	.	.	.
Pit Alignment 2 (SE)	1	16	1	32	<0.1	<0.1	<0.1
Pit Group 1	.	.	.	.	.	.	.
Pit Group 2	4	110	3	28	0.2	0.1	0.1
Pit Group 3	25	354	11	240	1.0	0.2	0.5
Pit Group 4	3	58	17	452	0.1	0.4	0.3
Rubble Spread 1	61	1590	788	24249	2.4	16.6	11.6
Isolated pits	9	204	15	352	0.4	0.3	0.3
Smaller ditches / Gullies	75	1710	248	7590	2.9	5.2	4.4
Post-Medieval Furrows	206	5072	337	8712	8.1	7.1	7.4
Surface	27	476	12	356	1.1	0.3	0.5
Total	*2544*	*65824*	*4753*	*138347*	*100*	*100*	*100*

Table 56. Overview of *tesserae* assemblage.

Size, Material and Colour

The results of the sample analysis are presented in Tables 57-59. For both the masonry building and aisled hall the frequency of stone *tesserae* is marginally greater than ceramic *tesserae* (a ratio of *c*. 1:1.14), and medium sized *tesserae* are dominant. The rubble spread reflects selective deposition with a 100% stone assemblage, the vast majority of which are also medium sized.

There is some range of overlap across the dimensions of the tesserae that the size categories do not fully appreciate, and the average size amounted to 31x28x19mm. There was however a group of 'very' small square *tesserae* (10- 17mm length, 11-17mm width) that stand out from the overall assemblage. Neatly cut and made from a white and dark grey to black smooth stone (most tesserae otherwise displaying a rough-cut finish), these derived from contexts [17387] and [17393] of the Room 4b hypocaust rubble filling within the masonry building. As noted below, the surface of many of these was smooth and occasionally burnt. These smaller *tesserae* could have enabled detailed inlay design.

Ceramic *tesserae* were cut from a variety of tile types, primarily red in colour, although there was no evidence that this occurred on site. Stone *tesserae* were cut and trimmed from primarily from Collyweston slate, as well as from Ketton stone, Lower Greensand carstone, Lower and Middle chalk, Kimmeridge limestone, and glacial gravels and erratics. This enabled a colour palette mainly of white and off-white, with occasional brown and yellow. Again, evidence for on-site shaping of stone *tesserae*

was absent. The range of stone tesserae illustrates a multitude of geological sources, both local and further afield, such as Northamptonshire and Lincolnshire.

Feature group	Qty	Wt (*g*)	Small	Medium	Stone	Ceramic
Structure 3	266	5493	62 (23%)	204 (77%)	154 (58%)	112 (42%)
Structure 4.1	364	6872	50 (14%)	314 (86%)	207 (57%)	157 (43%)
Rubble Spread 1	849	25839	93 (11%)	756 (89%)	788 (93%)	61 (7%)
Total	*1479*	*38204*	*205 (14%)*	*1274 (86%)*	*1149 (78%)*	*330 (22%)*

Table 57. Sample overview, with percentages per feature group.

Feature group	White	Black	Grey	Red	Yellow	Brown	TOTAL
Structure 3	13	8	18	56	3	2	100%
Structure 4.1	51	1	4	36	2	5	100%
Rubble Spread 1	83	.	8	7	1.5	0.5	100%

Table 58. Sample colour range, by percentage per feature group.

Surface Adhesions and Markings

Mortar was found adhered to much of both the stone and ceramic *tesserae* (82-92%). This was mostly fine pale-white silty lime 'mortar' slurry paste; additional adhesions of *Opus Signinum* (Fabric A mortar) were occasionally noted on the surface of this paste, particularly in Rubble Spread 1 (23%) and Structure 3 (8%) but only rarely in the Structure 4 sample (1.5%).

Few examples of *tesserae* displayed a markedly smoothed or worn surface, and burning (cracked/blackened surfaces) occurred mostly, but infrequently, in Structure 3 (8%); it is notable that this was evident predominantly on the 'very' small *tesserae*.

Tool chipping marks were noted on the edges of only three stone *tesserae*, all within Rubble Spread 1. Ceramic *tesserae* were likely cut from a variety of tile types, though comparatively few (6-12%) were marked with combed key decoration illustrative of reused box-flues. The absence of waste from *tesserae* manufacture – such as that found with stone *tesserae* at Litlington villa (Wessex Archaeology 2010, 19) – may suggest that this was brought to the site in a pre-prepared state.

Feature group	Combed keying	Tool marks	Mortar	Opus Signinum	Burning	Smoothed/ worn surfaces
Structure 3	7 (6%)	.	217 (82%)	22 (8%)	21 (8%)	3 (1%)
Structure 4.1	19 (12%)	.	335 (92%)	5 (1%)	.	7 (2%)
Rubble spread 1	1 (<1%)	3 (<1%)	783 (92%)	194 (23%)	2 (<1%)	14 (<1%)
Total	*27*	*3*	*1277*	*216*	*23*	*13*

Table 59. Sample surface adhesions and markings.

All *tesserae* were found *ex situ*; however, several pieces of mortar held together a number of *tesserae* to give some indication of their general coordination (Fig. 44). A number of these came from context [16783] in Structure 3. Although in each case there were no more than six *tesserae*, it was of note that these were either exclusively ceramic or stone (i.e. monochrome). Too few tessellated floors have been uncovered in the region for stylistic comparison, although it is notable that the limited intervention at Litlington villa in South Cambridgeshire revealed a red ceramic tessellated pathing (Wessex Archaeology 2010; see also Robinson *et al*. 1995, 6), at least as a bordering frame to one of the rooms. Stone *tesserae* were also recovered there as *ex situ* dumps separate from the ceramic material. This may indicate either monochrome flooring within individual rooms or corridors, or tessellation with at least a simple block design, with localised detail using smaller *tesserae* pieces. This may help to account for the high-frequency representation of stone *tesserae* in Rubble Spread 1. This, along with much of the *tesserae* in general, was shown to have traces of mortar (and *opus signinum*) that, unlike heaps of unused tesserae found at Piddington villa in Northamptonshire (Ward 1999, 47), for example, signifies the likelihood of their strategic removal from the Site VII buildings rather than outside procurement as a sourced building material.

Neither stone nor ceramic *tesserae* appear to have been produced on site. The geological diversity of stone *tesserae* has been identified on other Roman sites in southern Britain as well as in specialist manufacturing workshops, for which an organised network of source procurement, item production and distribution must be envisaged (Allen and Fulford 2004). Although the assemblage from Site VII may not be as vast as that from the villa at Itter Crescent, Peterborough, for example, which produced

c. 59,500 stone and ceramic tesserae at 220kg (Henley *et al*. 2012, 124; Fairbairn 2014, 37), it is nonetheless sizeable and only a sample of the site's actual quantification. Assuming, for example, that the site's unexcavated halves of the Structure 4 post pits produced as much as the excavated halves, then the assemblage would amount at least to another 2715 items (74kg), and a site total in excess of 10,000 (+278kg). This implies a significant volume of material. At a basic estimate, and taking into account the thickness of mortar bonding observed in the surviving six-piece tesserae groups noted above, some 841 mid-sized tesserae would be required for a single 1sqm of floor (31.9kg).

Mortar and Plaster – Marcus Brittain

Seven mortar fabrics were represented in an assemblage of 93,468g (Tables 60 & 61). Unsurprisingly, Structure 3 produced the bulk (94.4%) of this, followed by Structure 4 (2.8%); mortar was not present in Structure 1 or Structure 2 (as well as in Feature Groups 7 and 10). Represented are examples of waterproof cement, wall plaster, and various bonding agents for different architectural elements.

Fabric	Description
A	*Opus Signinum*. Mid to light orangey pink moderately fine hard lime mortar with rare to moderate fine sand and *c*. 40% crushed orange brick or tile (max 10mm diam.).
B	Varied light yellow to light pink firm fine grained lime mortar with moderate coarse sand with occasional crushed stone, and *c*. 5% crushed brick or tile (2.5-16mm diameter); occasional grass and/or reed impressions (2mm diam.)
C	Light yellow firm fairly coarse lime mortar with large gravel inclusions (max. 37mm diam.) and very rare crushed brick or tile and grass
D	Mid to dark pinkish orange fine sandy mortar with occasional crushed gravel and rare to occasional crushed brick or tile (5mm diam.)
E	A variant of Fabrics B and C, but yellow only and with larger inclusions of stone and brick or tile, and rare grass impressions
G	Yellowish grey very hard and coarse sandy mortar with occasional brick or tile (max 10mm diam.) and occasional small air pockets or voids
H	White and soft very fine grained sandy lime plaster with occasional small crushed brick or tile and rare very small gravel

Table 60. Mortar fabrics.

Fabric:	A	B	C	D	E	G	Unknown*	*Total*
Structure 3	5423	48960	2940	13147	8470	.	8936	*87876*
Structure 4.1	22	122	.	.	.	192	.	*336*
Structure 4.2	.	1941	.	.	180	.	.	*2121*
5a. Enclosure inner ditch	120	91	.	.	.	.	33	*244*
5b. Enclosure outer ditch	.	326	.	.	.	.	.	*326*
5b. Enclosure outer ditch recut	.	34	8	.	.	.	16	*58*
5d. Enclosure partition	442	354	.	.	550	.	.	*1346*
5f. Feeder ditch	252	190	.	.	.	.	.	*442*
Pit Alignment 1 (NW)	.	4	.	.	.	.	.	*4*
Pit Group 3	.	6	.	.	.	.	.	*6*
Pit Group 4	.	22	.	.	.	.	.	*22*
Rubble Spread 1	12	.	.	.	.	18	.	*30*
Isolated pits	288	.	.	.	.	.	.	*288*
Furrow	40	257	36	.	.	36	.	*369*
Total	*6599*	*52307*	*2984*	*13147*	*9200*	*246*	*8985*	*93468*

Table 61. Mortar overview by feature group and weight (g; *quantified and discarded during excavation).

Structure 3

From Structure 3 the vast majority (90.1%) of the assemblage occurred in Slots 4153, 4154 and 4166, which correspond to Room 3 (23%), Room 4 (49.8%) and the furnace/working area on the south side of the building (17.4%). Little was produced from the building's winged frontage (4.1% in the north, 0.4% in the south), and only comparative little also from the feeder ditches immediately adjacent to the masonry building (10.6%; these are included under Structure 3 in Table 62).

Fabrics B and D were dominant as similar mortars with varying concentrations of lime and sand (vegetable matter being seemingly absent in Fabric D). These contained a fairly low (5%) frequency of crushed brick/tile, which was the main distinguishing factor from definite *opus signinum* cement (Fabric A) for which a frequency of at least 40% brick/tile was expected. Of notice in Table 62 is the stand-out percentage of Fabric B in Room 4, which may reflect its particular use there. This was registered both as a mortar bonding agent as well as a wall plaster medium with keyed and rolled impressions on one side and a finished surface, sometimes painted, on the other.

Fabric:	A	B	C	D	E
Room 3	23.2	16.8	51.0	39.4	10.8
Room 4	38.2	65.6	49.0	4.9	10.9
Furnace/ working area	18.9	7.6	.	50.1	3.7

Table 62. Percentage of Structure 3's mortar fabric groups by Rooms 3, 4 and the working area.

Moulded Mortar

From larger fragments of moulded mortar (*c*. 80-90mm thick) it was evident that generally one to three layers were present (with five in one instance), each of *c*. 15-45mm thickness. These were each distinguished by thin (*c*. 0.05mm thick) interstitial films of calcium carbonate; these are natural depositions of dissolved mineral that may occur through ground water or as moisture is brought to the material's surface during the drying process (Morgan 1992, 34-5). The formation of these interfaces illustrate a time delay between the application of mortar layers, each separated by a period of setting and, though less easily determinable, may also be an outcome of occasions of modification.

The majority of moulded mortar occurred in both Fabrics B and D from demolition layers in or near to Room 3. A corner mould in context [17194] of feeder ditch F.4509 had a 60mm long inner step to a 90 degree turn that was slightly off-set from the outer (wallside) face; a similar example was found in context [17239] of feeder ditch F.4764. A third corner mould in demolition layer [16697] gave both an inner and outer turn of *c*. 120 degrees (Fig. 45). Each was coated with a smooth calcite film and comprised up to four mortar layers, the moulded turn contained within the upper two layers. Three 35-43cm long fragments of moulded edge (two from context [16698] and one from context [17141]), were also formed of up to four layers, in one instance comprising both Fabric B (upper two) and Fabric D (lower two). Again, on each of these was a surface film of calcite on their lower, rear and upper face, which further illustrates the building's layered composition. A sense of construction sequence is provided by impressions of at least two courses of tile lacing on the rear of one of the edge moulds, and on each piece the flat lower face highlights the presence of an underlying layer of set mortar, possibly of Fabric E that, though only partial in occurrence, was found to provide a foundation over the basal cobble stones. A tile lining appears to have been sent into the mortar when still in a damp state; the upper face of the moulded edge pieces bore an extended S-profile containing impressions of large tiles, *c*. 34mm thick. The position of the tile impressions implies that in addition to horizontally-laid floor tiles were vertically-set tiles at the foot of the wall. Possible tile impressions were noted on other mortar fragments, though no obvious *tesserae* impressions were identified in Fabrics B and D.

Wall Mortar

The absence of *in situ* walls is problematic for determining the character of wall construction. Sandy lime mortar adhering to some of the building stone was largely insufficient for any meaningful

statement, other than to presume that the walls comprised a core of stone rubble bonded with a sandy lime mortar slurry with little or no inclusions other than occasional small gravel. One indication of at least a part of the wall lining was provided from robbing cut F.4555 context [17292] on the east side of Room 3. This produced a redeposited fragment of brick wall (Cat. No. 1917.01, see *CBM*) surviving to three courses and bonded with Fabric C mortar cement with a 22mm horizontal spacing between the bricks and a vertical spacing of 10mm. Each brick (probably of *sesquipedalis* type) was fragmentary, with the broken edge facing the wall core and bonded to stone and clunch lumps; the unbroken sides of the bricks were faced with plaster (see below).

Floor Mortar/plaster

Fabric A *opus signinum* represented 6% of the mortar from Structure 3 (7% of the site assemblage overall), of which over 38% came from Room 4 deposits. There were two obvious surface characteristics assigned to Fabric A. The first, noted on 58% of examples, was a flat and highly burnished surface that, revealing the texture of the tile and rock inclusions, presented a marble-like finish. Eight items also displayed a light wash of deep red, creamy white or creamy grey paint, though the overall degree to which this material was painted is uncertain. Contrasting with this, the second characteristic was the use of Fabric A as a foundation surface for *tesserae* pathing. From Context [16783] in Room 4 (Cat. No. 1506) was a large (71mm thick) complete lump of Fabric A mortar formed of two layers (20mm and 45mm thick respectively) separated by a thin calcite film. The upper surface of the lump was covered by an 8mm thick layer of near white lime slurry set into which were six stone *tesserae*. The slurry had been squeezed into the gaps between individual *tesserae* and impressions of a further eight were also visible.

Structure 4

A range of mortar fabrics (totalling 2457g) was collected from Structure 4. Only 34g came from Structure 4.1 wall robber trenches, with the majority (280g) found within its post pits. Structure 4.2 dominated the assemblage (87.1%) with more than twice as much material recovered from post pits (1447g) compared with the wall robber trenches (674g). A difference in preference of fabrics was present for each phase, with Fabric G accounting for 61.1% of the Structure 4.1 assemblage, and Fabric B comprising 89.3% of the assemblage in Structure 4.2.

Plaster Daub

Distinction was identified between the plaster applied to (solid) stone and mortar surfaces and the plaster daub applied to (soft) wattle frames – the two representing the main walls of Structure 3 and Structure 4 and, presumably, subdivisions within their internal rooms. The 'soft' walls of Structure 2, Structure 3 and Structure 4 were each manufactured with Fabric F, a fine-grained sandy daub. Structure 1 also produced a small amount (92g) of Fabric F daub. This was applied to varying thickness (14-42mm, ave. 20mm in Structures 2 and 3; 6-40mm, ave. 12mm in Structure 4) to reed (3.4-4.4mm diam.) and rod wattle panels to which coats of paint were applied (see *Painted Plaster*). Within Structure 4 three, Fabrics I, J and K were also utilised in this way (Tables 63 & 64).

Fabric	Description
F	Very light yellow and very fine grained moderately firm sandy plaster daub with rare quartz and chalk inclusions
H	White and soft very fine grained sandy lime plaster with occasional small crushed brick or tile and rare very small gravel
I	Fine grained coarse sandy daub with rare crushed flint; pinkish orange oxidised exterior and dark grey reduced interior
J	Dark grey hard porous organic-rich silty fabric with light orangey pink oxidised and slightly uneven external surface; very rare grog
K	Firm pink silty clay with rare crushed flint
P	Greenish grey hard silty clay fabric with rare chalk lumps and v. rare crushed stone and burnt out vegetable matter
R	Fine pinkish slightly porous silty lime with very small crushed brick/tile and stone; rare calcareous inclusions

Table 63. Plaster daub fabrics (excluding Fabric B).

One 'hard' wall plaster in Fabric R was exclusive to Structure 4. Examples were found in four separate contexts, and each was painted.

In Structure 3, Fabric B, which had been applied more generally as a mortar layer, was also utilised as wall plaster. The difficulty of distinguishing between mortar and plaster was only alleviated where complete wall plaster fragments up to 32mm were found with both 'rear' and 'front' surfaces intact. In addition to also having been applied to reed (3-4mm diam.) and rod (10-12mm diam., spaced 12-14mm apart) wattle panels, Fabric B was also found on five examples with impressions of relief-patterns from roll-die decorated box-flues (see *Ceramic Building Material*). For each instance of Fabric B plaster, surface facing into the rooms was smooth and slightly undulating, and 35 pieces (3462g) were painted with a range of colours. In one example (Cat. No. 1699), recovered from rubble context [17387] that filled the hypocaust of Room 4b to enable laying of a new clay floor surface, Fabric B plaster painted white and red had been re-plastered and concealed in Fabric F, which was also painted white. Different plasters were here evidently used in reapplication.

The similarity of plaster and mortar in Structure 3 was again illustrated by the intact fragment of brick and stone wall (Cat. No. 1917.01) redeposited within robbing cut F.4555 context [17292] on the east side of Room 3. The bricks facing the room's interior were covered in Fabric H plaster that was similar to the Fabric C mortar bonding the brick lacing and the wall's rubble core, but of a much finer grained composition. Over the plaster was a thin layer of calcite covered with a coat of white paint on which two vertical red lines were applied (see *Painted Plaster*).

Fabric / Feature Group	F	H	I	J	K	P	R	*Total*
Structure 1	92	·	.	.	.	.	·	92
Structure 2	2859	·	.	.	.	.	·	2859
Structure 3	4424.2	10	.	.	.	.	·	4434.2
Structure 4.1	1176.5	·	23	.	8.4	.	26	1233.9
Structure 4.2	41	52	171	.	3.5	.	474	741.5
Enclosure inner ditch	32	·	.	.	21.3	.	·	53.3
Enclosure outer ditch recut	310	·	.	.	.	.	·	310
Enclosure partition	6	8	.	170	55.7	.	8	247.7
Feeder ditch	1007	·	.	17.7	5.4	88	·	1118.1
Pit Alignment 1 (NW)	.	·	.	2.3	.	.	·	2.3
Pit Alignment 2 (SE)	.	·	.	15.3	3.4	.	·	18.7
Pit Group 3	.	·	.	7.4	5.3	.	·	12.7
Pit Group 4	6	·	.	28.5	.	.	·	34.5
Rubble Spread 1	.	·	.	.	1.4	.	·	1.4
Smaller ditches/gullies	84	·	.	7	.	.	·	91
Furrow	74	·	.	11.2	1.5	.	·	86.7
Total	*10111.7*	*70*	*194*	*259.4*	*105.9*	*88*	*508*	*11337*

Table 64. Overview of Plaster Daub distribution by feature group and weight.

Painted Plaster

The presence of painted plaster and mortar recovered during the 2009 and 2013 trenched evaluation was crucial to the recognition of the site's significance. Combining these with the 2018 assemblage amounts to 729 pieces of painted wall plaster (Fabrics B, F and R) and eight pieces of painted floor plaster/mortar (Fabric A). This was primarily recovered from deposits within Structure 3 and Structure 4 (Tables 65 & 66). From Structure 4, all but 10 sherds were found in Structure 4.1 contexts.

The following is an overview of the assemblage with a focus upon monochrome pieces; polychrome pieces are quantified and will be subject to detailed analysis prior to publication.

Eight pieces of painted floor plaster were all examples of *opus signinum*. The report on the site's *Ceramic Building Materials* outlines that 58% of this material within the archive has a surface that has been ground and/or burnished to a flat and smooth finish that, revealing the regular inclusions of brick/tile and rock, displayed a marble-like appearance. The paint applied to the eight recorded fragments was a light wash of deep red, creamy white limewash or creamy grey, and it is possible that surfaces formed of this material were treated in such a manner that has since worn away. Similar examples have been recorded in East Cambridge from a pit and well near to an aisled building at the Babraham Research Institute (Timberlake 2012), though at Site VII these were recovered only from Structure 3 and the enclosure's ditches.

Painted wall plaster was registered with a maximum of 15 different colours or colour shades from Structure 3 and a palette range of six colours from Structure 4. Only a single fragment of painted plaster was obtained from Structure 2, which may also have derived from Structure 3. A creamy white surface layer was evident on about three-quarters of the assemblage, on which other colours were applied. For both Structures 3 and 4 a distinction has been made between 'hard' wall plaster (applied directly to cavity or stone walling) and 'soft' wall plaster (applied to wattle panels). Of the hard wall plaster, Fabric R was used exclusively within Structure 4 with a creamy white monochrome paint. Within Structure 3 the use of Fabric B as floor and wall (both hard and soft) plaster was noted (see *Ceramic Building Materials*) with a range of colours also having been applied in either monochrome or a simple stripe patterned polychrome onto a white background. Painted plaster on soft wall panelling, mainly in Fabric F, comprised the majority of the painted plaster. Patterned polychrome was present only in three contexts from Structure 4.1. This included a mix of lines, dots and swirls. By contrast, polychrome pieces were recovered from 15 contexts within Structure 3 in a similar motif composition.

Differences between the two buildings include a greater colour range illustrated from Structure 3 and, at Structure 4, the use of stencil lines lightly scored into the wet plaster (three examples: Cat. Nos. 1682 and 1691). Layering of 'fresh' plaster coats over older painted plaster was also evident in Structure 3. The best of the few examples of this, from rubble [17387] used to fill the hypocaust in Room 4b, was a red over white paint surface of a moderately large fragment of plaster in Fabric B that was concealed by an application of plaster in Fabric F painted creamy white (Cat. No. 1699). The majority of the polychrome fragments from Structure 3, however, came from Room 3 (90 pieces).

Feature category	**A**	**B**	**F**	**R**	***Total***
Structure 2	.	.	4 (1)	.	*4* *(1)*
Structure 3	329 (4)	3477 (42)	2857.2 (263)	.	*6663.2* *(309)*
Structure 4	.	.	1168.5 (373)	500 (19)	*1668.5* *(392)*
Enclosure inner ditch	.	.	12 (1)	.	*12* *(1)*
Enclosure partition ditch	198 (3)	164 (9)	309 (15)	.	*671* *(27)*
Feeder ditch	244 (1)	.	169 (5)	.	*413* *(6)*
Total	*771* *(8)*	*3641* *(51)*	*4519.7* *(659)*	*500* *(19)*	*9431.7* *(737)*

Table 65. Fabric range of painted plaster and mortar by weight in grammes (no. pieces in brackets) of feature groups containing painted plaster.

The simplicity of bordered geometric motif with which Structures 3 and 4 appear to have been decorated is a feature of other buildings within the Cambridge hinterland, such as the aisled building at Babraham (Timberlake 2012), and further afield; e.g. Stonea Grange (northern Cambridgeshire fenland, Jackson 1996), Littlington (south Cambridgeshire, Wessex Archaeology 2010). More elaborate designs have been noted for buildings investigated during 19th century antiquarian interest within the Cambridge region, although their record is unfortunately partial (Liversidge 1951). The Site VII buildings are distinct from these by their extensive colour range.

Figure 45. Moulded mortar and painted plaster, all from Structure 3, Room 3

Colour	Munsell Colour	Str. 2	Str. 3	Str. 4	5a. Enclosure inner ditch	5d. Enclosure partition ditch	5f. Feeder ditch	*TOTAL*
Cream	2.5Y8/6	.	4	.	.		.	*4*
Creamy Grey	7.5B7/2	.	8	79	.		1	*88*
Creamy Pink	10R6/6	.	7	.	.		.	*7*
Creamy White	7.5Y9/2	.	80	168	1	11	3	*263*
Deep Pink	2.5RP5/2	.	6	.	.		.	*6*
Deep Red	7.5R4/4	.	4	13	.		.	*17*
Greenish Blue	2.5G8/4	.	1	.	.		.	*1*
Greenish Yellow	2.5GY8/6	.	2	.	.		.	*2*
Light Blue	7.5BG8/2	.	2	.	.		.	*2*
Mid blueish grey	5B3/2	.	23	.	.		.	*23*
Mid greyish green	2.5G4/2	1	1	6	1	1	1	*11*
Orangey Red	5R2/2	.	40	36	.		1	*77*
Reddish Purple	7.5R3/4	1	11	39	.		.	*51*
Turquoise	10GY8/6	.	6	.	.		.	*6*
Yellow	10Y8/6	.	10	.	.		.	*10*
Polychrome	.	.	101	46	.	4	.	*151*
Total	.	*2*	*306*	*387*	*2*	*16*	*6*	*719*

Table 66. Colour range of painted wall plaster from monochrome pieces.

Environmental and Economic Data

The site was intensively samples to elucidate its setting and ground conditions, plus also what might have been the basis of its production/consumption patterns. Unfortunately, its preservation generally proved poor and, accordingly, the insights offered by the data are limited.

Pollen – Steve Boreham

Nine sub-samples of sediment were taken from two feature groups: the enclosure's inner ditch (F.4508) and the feeder ditches (F.4754 & F.4768) connecting to the rear of Structure 3 (Table 67). Unfortunately, eight of the nine pollen sub-samples investigated in this study proved to be barren (Table 67). This is surprising since all of the contexts chosen were assessed as having at least moderate preservation potential. This strongly suggests that water tables across the North West Cambridge site have fluctuated over time exposing the sediments to oxidative processes. It is quite unusual to find sediments where not even the most resistant palynomorphs have survived, hinting at the intensity of water fluctuation. Since chemical redox processes are reversible once water tables rise again, evidence for this oxidation is not always apparent, even though bacterial degradation of playnomorphs has taken place. It is for this reason that visual inspection of sediments for preservation potential can result in a 'moderate' assessment, even though the pollen sub-samples themselves prove to be barren.

The nine sub-samples were prepared using the standard hydrofluoric acid technique, and counted for pollen using a high-power stereo microscope at x400 magnification.

Only the 40cm pollen sub-sample from Number 1227 of the enclosure's inner ditch, assessed as having moderate to high preservation potential, yielded countable pollen (Table 68). This sub-sample also contained abundant micro-charcoal. It should be noted that the four pollen sub-samples from Numbers 1243 and 1244 of the feeder ditches also contained large amounts of micro-charcoal.

Sample	Depth (cm)	Context	Sub-sample depth (cm)	Description
Enclosure Inner Ditch F.4508 Slot 4061				
1226	0-14	16604	7	soft light grey mottled clay
1226	14-18	16603	16	stiff dark grey mottled clay
1226	18-30	16601	24	light grey clay with occasional charcoal flecks and possible shell fragments
1227	30-39	16601	.	light grey clay with an oyster shell
1227	39-71	16600	65	dark grey clay with brick and flint with some charcoal flecks
1227	71-121	16580	111	dark grey black silty clay with abundant charcoal flecks, shell fragments and small pebbles, including a lump of chalk
Feeder Ditch F.4754 Slot 4152				
1243	0-16	17258	8	Black brown grey mottled organic silt with charcoal and lumps of grey silty clay
1243	16-29	17257	24	Black brown organic silt with a few small pebbles
Feeder Ditch F.4768 Slot 4152				
1244	0-14	1720	8	Grey buff and black silty clay with flecks of organic material
1244	14-26	1720	22	Black grey buff organic silty clay with charcoal, small pebbles and fragments of brick and tile

Table 67. Overview of pollen sample contexts analysed.

The 40cm sub-sample of Number 1227 had a pollen concentration of 35,057 grains per ml. The sub-sample contained charcoal and finely divided organic debris. The preservation of the fossil pollen grains (palynomorphs) was often poor. An assessment pollen count was made from a single slide. The pollen sum achieved (total land pollen and spores) was 70. This count does not exceed the statistically desirable total of 300 pollen grains main sum and as a consequence caution must be employed during the interpretation of the results.

The 40cm sub-sample from Number 1227 was dominated by undifferentiated monolete fern spores (32.9%), with grass (Poaceae; 17.1%) and herbs including sedges (Cyperaceae; 4.3%), dock (*Rumex*; 4.3%), the cabbage family (Brassicaceae; 2.9%), the lettuce family (Asteraceae [Lactuceae] undif.; 2.9%) and meadowsweet (*Filipendula*; 1.4%). Cereal pollen was apparently absent. Arboreal pollen was represented by hazel (*Corylus*; 7.1%), alder (*Alnus*; 4.3%), willow (*Salix*; 2.9%), oak (*Quercus*; 2.9%), pine (*Pinus*; 2.9%) and juniper (*Juniperus*; 1.4%). Mature trees are indicated by the epiphytic polypody fern (*Polypodium*; 4.3%), and trilete fern spores accounted for 5.7%. Obligate aquatics were represented by bur-reed (*Sparganium*; 2.9%).

Feature	4508
Sample	**1227**
Context	**16580**
Pollen sub-sample	**40cm**
Trees & Shrubs	
Pinus	2.9
Quercus	2.9
Alnus	4.3
Corylus	7.1
Salix	2.9
Juniperus	1.4
Herbs	
Poaceae	17.1
Cyperaceae	4.3
Asteraceae (Asteroidea/Cardueae) undif.	1.4
Asteraceae (Lactuceae) undif.	2.9
Brassicaceae	2.9
Filipendula	1.4
Ranunculus type	1.4
Rumex	4.3
Lower Plants	
Polypodium	4.3
Pteropsida (monolete) undif.	32.9
Pteropsida (trilete) undif.	5.7
Aquatics	
Sparganium type	2.9
Sum trees	10.0
Sum shrubs	11.4
Sum herbs	35.7
Sum spores	42.9
Main Sum	*70*
Concentration (grains per ml)	*35057*

Table 68. Percentage of pollen from Sample 1227.

It is clear that the pollen sub-sample from F.4508, taken from the top of the enclosure's inner ditch sequence, offers the best chance to understand vegetation and landscape from Site VII. The pollen assemblage is post-clearance, but there is little evidence for arable activity (cereals) and soil disturbance (ribwort plantain). There is grassland, and a wetland signal with alder, willow, sedges and bur-reed in the spectrum. Riparian and tall-herb vegetation communities are also represented. It is not clear whether the strong fern signal comes from plants lining a damp ditch in deep shade, or if this is a signal derived from post-depositional oxidation, leaving the resistant fern spores over-abundant in the pollen spectrum. There is clearly some hazel-juniper scrub (or hedgerow) nearby, but the presence of mature trees with large boles (perhaps oak and pine) hints that these might be within a parkland or

garden setting, rather than growing as hedgerow trees or spinneys within an agricultural landscape.

The failure of the pollen sub-samples from Site VII is unfortunate, but shows that while oxidation can sometimes be easily spotted, in some deposits exposed to atmospheric oxygen above the water table, microbial breakdown of organic material can occur without creating obvious signs during assessment. Although determining past environments through pollen analysis can often be helpful, as always, care must be taken not to over-interpret assessment pollen counts.

Environmental Analysis – Val Fryer

Samples for the retrieval of the plant macrofossil assemblages were taken from across the excavated area, with a total of sixty-eight being submitted for assessment. The samples were processed by manual water flotation/washover, with the flots being collected in a 300-micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x16 and the plant macrofossils and other remains noted are listed in Tables 69-74. Nomenclature within the tables follows Stace (2010) for the plant remains and Kerney and Cameron (1979) for the molluscan remains. With the exception of a single mineral replaced seed (denoted within the table by an 'm' suffix), all plant remains were charred. Modern roots, seeds and arthropod remains were also recorded, although generally at a low density. The non-floating residues were collected in a 1mm mesh sieve and were sorted when dry. All artefacts/ecofacts were retained for further specialist analysis.

Cereals, seeds and nutshell fragments were recorded within all but 14 of the assemblages studied, although mostly at a very low density. Preservation was generally poor, with many of the cereal grains being severely puffed and distorted, probably as a result of very high temperature combustion.

Oat (*Avena* sp.), barley (*Hordeum* sp.), rye (*Secale cereale*) and wheat (*Triticum* sp.) grains were recorded along with numerous cereals that were too poorly preserved for close identification. Wheat appeared to be dominant, with both elongated 'drop' form grains – of probable spelt (*T. spelta*) type – and more rounded hexaploid types being noted. Occasional spelt glume bases were also present within ten assemblages, but other chaff elements were exceedingly scarce. Barley, rye and oat grains were also scarce (occurring within only five, two and four assemblages respectively), and it may be assumed that most were present as contaminants of the main wheat crop. Four cotyledon fragments of an indeterminate large pulse (noted within Sample 1242 from Feeder Ditch F.4754 to the rear of Structure 3) were the only potential non-cereal crop plant remains noted.

Weed seeds were generally scarce and most were poorly preserved. Common segetal weed species occur most frequently, with taxa noted including brome (*Bromus* sp.), small legumes (Fabaceae), black bindweed (*Fallopia convolvulus*), goosegrass (*Galium aparine*), grasses (Poaceae) and dock (*Rumex* sp.). A single onion-couch (*Arrhenatherum* sp.) type tuber was recorded within Sample 1251 (from Feeder Ditch F.4754 to the rear of Structure 3) and Sample 1221 (from Structure 2 posthole F.4614) included an individual mineral replaced seed of corn gromwell (*Lithospermum arvense*). Wetland plant macrofossils included nutlets of sedge (*Carex* sp.), saw-sedge (*Cladium mariscus*) and bur-reed (*Sparganium erectum*), and although rare, occasional pieces of hazel (*Corylus avellana*) nutshell were also noted. Comminuted charcoal/charred wood fragments were present throughout, but larger fragments were scarce. Other plant macrofossils include pieces of charred root/stem and indeterminate culm nodes.

Fragments of black porous and tarry material were recorded within most assemblages, and it would appear that all were probably derived from the high temperature combustion of organic materials (including cereal grains). Other remains occurred less frequently, but include small pieces of bone (some of which are burnt/calcined), other possible dietary refuse (including fish bones/scales and eggshell), probable structural materials (including burnt/fired clay, mortar/plaster and what appears to be *opus signinum*) and minute pieces of coal (coal 'dust'). Burnt organic concretions, which were

possibly derived from either a burnt foodstuff or charred dung, were present within Sample 1246 from feeder ditch F.4754 to the rear of Structure 3 and Sample 1213 from the enclosure's interior partition ditch F.4500.

Shells of a range of terrestrial and marsh/slum molluscs were present within a number of assemblages, most notably those from the feeder ditches and the enclosure ditch fills. Some were well-preserved, retaining surface coloration and structuring, whilst others were fragmented and abraded. It is currently unclear whether these remains were later contaminants or contemporary with the features' fills.

Feature Group Overview

Structure 2 (Table 69) - Six samples came from five postholes. The assemblages were small (i.e. <0.1 litres in volume) and sparse, and although cereal grains were present, there was little to suggest that the structure was primarily used for the storage of agricultural produce. Bone fragments were present throughout, but again at an insufficient density to suggest that the building was either pastoral in nature or used for the processing of meat/livestock.

Structure 3 (Table 70) - Fifteen samples came from the Room 4 hypocaust, the feeder ditches to the rear of the building and collapsed floor deposits that seal the Room 4b hypocaust. Most assemblages were sparse; however, those from feeder ditches F.4509 (Samples 1004 & 1006), F.4754 (Samples 1242, 1246 & 1251) and F.4768 (Sample 1250) were of note as all contained comparatively high densities of cereals, seeds and what appeared to be straw, as well as an abundance of charcoal/charred wood fragments. These remains could all be indicative of the use of cereal processing waste as tinder, kindling or fuel for the hypocaust, with the burnt remains subsequently being dumped away from the main building. This is further indicated by samples taken directly from the heating system, as the assemblages were virtually barren, suggesting that the hypocaust was cleared regularly to minimize the risk of accidental fires.

Structure 4.1 (Table 71) - Fifteen samples were from features associated with Structure 4.1's use and closure. The assemblages were all small (i.e. 0.1 litres in volume or less) and largely inconclusive. Cereal grains were present within all but three samples, along with occasional seeds and culm nodes. Although there was insufficient material to indicate that the building was used for agricultural purposes, it is possible that it was used (at least in part) for the storage of fodder, bedding or fuel. The assemblages from post-pits F.4658 (sample 1239) and F.4655 (sample 1240) were particularly rich, with both also containing a moderate to high density of black porous material. This concentration of materials may possibly be the result of a fire either within the building or immediately adjacent to the wall.

Structure 4.2 (Table 72) - Ten samples were from features associated with the building's second period of use and closure. Cereals were again present, but at a very low density, and it would appear quite likely that either the structure was being little used by this stage or that the use of Structure 4.2 differed to that of Structure 4.1. Small pieces of mortar/plaster were also noted.

Enclosure-compound (Table 73) - Thirteen assemblages were from samples taken from the inner and outer ditches of the large rectilinear enclosure, as well as from its interior partition. The composition of the eight assemblages from the inner ditch was broadly similar to those from Structure 3 (see Table 70), and it may tentatively be suggested that the remains had a common source, i.e. refuse from the hypocaust system.

The two assemblages from the enclosure's outer ditch were sparse, although a very small quantity of burnt refuse may again be present within sample 1211 (F.4515); this was seen also in the enclosure's interior partition F.4500.

Similarly sparse assemblages with very small quantities of burnt refuse were present within the ditches of the pre-enclosure field system.

Pit Alignments 1 and 2 (Table 74) - The five assemblages from Pit Alignment 1 were very sparse. The few remains that were recorded were all possibly derived from scattered refuse, all of which was probably accidentally incorporated within the pit fills.

A single sample was submitted for Pit Alignment 2. As with Pit Alignment 1, the assemblage is small and severely limited, and is thought to be derived from scattered or wind-dispersed refuse.

Isolated Pits (Table 74)

Sample 1012 was from pit F.4688 situated between the Aisled Barn and Pit Alignment 2. Scattered refuse again appeared to be present.

Sample 1202 was taken from pit F.4605 of possible Iron Age date containing part of a burnt saddlequern. The assemblage contained little other than flecks of charcoal.

In summary, the assemblages were all small and mostly very limited in composition, and for many it remains unclear whether the assemblages were contemporary with the features from which they were taken, or whether significant disturbance of the deposits occurred when the site fell into disuse and the buildings were robbed of their construction materials. As a result, the plant macrofossil evidence is somewhat enigmatic; in spite of the presence of large, solid structures, the area appears to have been kept incredibly clean. This may have been in deference to the status of the buildings, particularly Structure 3, or a wise precaution for the prevention of fires. Nonetheless, the paucity of the assemblages is very unusual, particularly for a site of Roman date.

Notwithstanding these issues, the following points may be noted:

- Cereals are present, but there is little or nothing to suggest that the occupants of Structure 3 were engaged in an agricultural economy. The hypocaust system appears to have used some cereal processing waste as tinder or kindling. However, contemporary evidence from elsewhere suggests that this material was often traded for such purposes (Van der Veen 1999), and is therefore not a reliable indicator for local agricultural production.

- It would appear most likely that the cereal requirements of the site's occupants were being met by the importation of prime grain from elsewhere, small quantities of which may have been stored within the aisled hall during its first phase of use.

- Environmental indicators are rare within the current assemblages. However, it is tentatively suggested that some of the ditches may have been sufficiently damp to allow for the growth of saw-sedge, a plant that was often used for the capping material on thatched roofs.

Key to Tables
x = 1 – 10 specimens xx = 11 – 50 specimens xxx = 51 – 100 specimens xxxx = 100+ specimens
cf = compare fg = fragment m = mineral replaced b = burnt coty = cotyledon

Table 69. Structure 2.

Feature No.	**4561**	**4633**	**4633**	**4614**	**4632**	**4636**
Context No.	**16205**	**16573**	**16574**	**16510**	**16543**	**16622**
Slot No.	**3937**	**4070**	**4070**	**4053**	**4060**	**4078**
Sample No.	**1199**	**1200**	**1201**	**1221**	**1223**	**1228**
Cereals						
Triticum sp. (grains)	1cf					1
(spikelet bases)	1					
T. spelta L. (glume bases)	1					
Cereal indet. (grains)	8fg	2		2cf	6cffg	6
Dry land herbs						
Bromus sp.						2
Lithospermum arvense L.				1m		
Tree/shrub macrofossils						
Corylus avellana L.	1					
Other plant macrofossils						
Charcoal <2mm	xx	x	xx	x	xxx	xx
Charcoal >2mm	xx	xx	xxx	x	xx	x
Charcoal >5mm		x	xx			x
Charcoal >10mm	x	x	xx	x		
Other remains						
Black porous material		x			x	x
Black tarry material					x	
Bone	x	x	x xb	x	x	x
Burnt/fired clay					x	
Fish bone			x			
Mortar/plaster			x	x	x	
Small coal frags.	x	x			x	x
Small mammal/amphibian bones	x				x	
Mollusc shells						
Woodland/shade loving species						
Discus rotundatus	x	x	x	x	x	x
Oxychilus sp.			x		x	
Open country species						
Pupilla muscorum		x				
Vallonia sp.		x			x	
V. costata	x					x
Catholic species						
Cochlicopa sp.	x	x				
Trichia hispida group	x				x	x
Sample volume (litres)	**10**	**10**	**20**	**10**	**10**	**10**
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 70. Structure 3 and Feeder Ditches

Feature No.	**4509**	**4509**	**4754**	**4754**	**4754**	**4768**	**4755**	**4795**	**4795**	**Room 4a**	**Room 4b**	**Room 4b**		**Room 4b**	
Feature type	**Feeder Ditches**						**Tank**	**Room 4a Box Flue Drain**		**Deposit**	**Deposit**	**Infill**		**Floor layers over infill**	
Context No.	**16158**	**16146**	**17097**	**17097**	**17257**	**17202**	**17198**	**17384**	**17384**	**16783**	**17339**	**17393**	**17396**	**17214**	**17213**
Slot No.	**4154**	**4154**	**4152**	**4152**	**4152**	**4152**	**4178**	**4178**	**4178**	**4153**	**4166**	**4153**	**4153**	**4153**	**4153**
Sample No.	**1004**	**1006**	**1242**	**1251**	**1246**	**1250**	**1255**	**1253**	**1254**	**1238**	**1256**	**1265**	**1266**	**1263**	**1264**
Cereals and other possible crop plants															
Avena sp. (grains)			1cf	2cf	6cf										
Hordeum sp. (grains)			5cf				1cf								
Secale cereale L. (grains)			1cf	1cf											
Triticum sp. (grains)	4		137	61	42	17	7								
(glume bases)	2		1												
(spikelet bases)			1	5	4										
T. spelta L. (glume bases)			26	3											
Cereal indet. (grains)	17	4fg	111	60	74	10	3fg				2	1fg	1		
Large Fabaceae indet.			4cotyfg												
Dry land herbs															
Arrhenatherum sp. (tuber)				1											
Bromus sp.	1cffg		16	8	6	2cf									
Small Fabaceae indet.			3+3coty	10+8coty	6coty	1+1coty									
Fallopia convolvulus (L.)A.Love				6											
Fumaria officinalis L.				1cf											
Galium aparine L.			8+4fg	1+2fg	6										
Medicago/Trifolium/Lotus sp.			1cf												
Small Poaceae indet.			1	3											
Rumex sp.				5	4										
Veronica hederifolia L.					2										

Feature No.	4509	4509	4754	4754	4754	4768	4755	4795	4795	Room 4a	Room 4b	Room 4b		Room 4b	
Feature type	Feeder Ditches						Tank	Room 4a Box Flue Drain		Deposit	Deposit	Infill		Floor layers over infill	
Context No.	16158	16146	17097	17097	17257	17202	17198	17384	17384	16783	17339	17393	17396	17214	17213
Slot No.	4154	4154	4152	4152	4152	4152	4178	4178	4178	4153	4166	4153	4153	4153	4153
Sample No.	1004	1006	1242	1251	1246	1250	1255	1253	1254	1238	1256	1265	1266	1263	1264
Wetland plants															
Cladium mariscus (L.)Pohl	2		3		2										
Tree/shrub macrofossils															
Corylus avellana L.				1											
Other plant macrofossils															
Charcoal <2mm	xxxx	x	xxxx	xxxx	xxxx	xxx	x	x	x	x	x	xx	x	x	x
Charcoal >2mm	xxx	x	xxx	xxxx	xxxx	x	x	xx	x	x	x	x	x	x	x
Charcoal >5mm	xx	x	xx	xx	xx	x	x						x		
Charcoal >10mm			x	x	x	x									
Charred root/stem	x		xx	x	xx		x	x	x						
Indet. capsule frag.			1												
Indet. culm nodes	1fg		10	22	34	1fg									
Indet. culm fragments			xxx												
Indet. seeds					2										
Other remains															
Black porous material	xx	x	xx		xxxx	x	x		x		xx	xxxx	xxx		x
Black tarry material			x	x	xxx	x							xxx		
Bone	x	x	x xb	x xb			x				x				
Burnt/fired clay	x		x	xx	xx	x									
Burnt organic concretions					xx										
Burnt soil concretions				xxx											
Eggshell				x											
Fish bone	x		x	x	xx				x						

Feature No.	4509	4509	4754	4754	4754	4768	4755	4795	4795	Room 4a	Room 4b	Room 4b		Room 4b	
Feature type	**Feeder Ditches**						**Tank**	**Room 4a Box Flue Drain**		**Deposit**	**Deposit**	**Infill**		**Floor layers over infill**	
Context No.	**16158**	**16146**	**17097**	**17097**	**17257**	**17202**	**17198**	**17384**	**17384**	**16783**	**17339**	**17393**	**17396**	**17214**	**17213**
Slot No.	**4154**	**4154**	**4152**	**4152**	**4152**	**4152**	**4178**	**4178**	**4178**	**4153**	**4166**	**4153**	**4153**	**4153**	**4153**
Sample No.	**1004**	**1006**	**1242**	**1251**	**1246**	**1250**	**1255**	**1253**	**1254**	**1238**	**1256**	**1265**	**1266**	**1263**	**1264**
Mineralised concretions													xx		
Mortar/plaster				x						x					
?Opus signinum			xcf		xcf					xcf		xcf			xcf
Small coal frags.				x											
Small mammal/amphibian bones			x	x	x	x		x	x						
Mollusc shells															
Woodland/shade loving species															
Aegopinella sp.				x											
Carychium sp.		x													
Discus rotundatus	x	x	x	x	x	x	x								x
Oxychilus sp.	x	x	x	x		xcf									
Punctum pygmaeum	x														
Vitrina sp.				xcf											
Open country species															
Helicella itala			x			x			x		x				
Pupilla muscorum	x		x	x				x			x				
Vallonia costata	x	x	x	x	x			x					x		x
Vertigo pygmaea	x														
Catholic species															
Cepaea sp.			x								x				
Cochlicopa sp.			x					x							
Nesovitrea hammonis			x												

Feature No.	**4509**	**4509**	**4754**	**4754**	**4754**	**4768**	**4755**	**4795**	**4795**	**Room 4a**	**Room 4b**	**Room 4b**		**Room 4b**	
Feature type	**Feeder Ditches**						**Tank**	**Room 4a Box Flue Drain**		**Deposit**	**Deposit**	**Infill**		**Floor layers over infill**	
Context No.	**16158**	**16146**	**17097**	**17097**	**17257**	**17202**	**17198**	**17384**	**17384**	**16783**	**17339**	**17393**	**17396**	**17214**	**17213**
Slot No.	**4154**	**4154**	**4152**	**4152**	**4152**	**4152**	**4178**	**4178**	**4178**	**4153**	**4166**	**4153**	**4153**	**4153**	**4153**
Sample No.	**1004**	**1006**	**1242**	**1251**	**1246**	**1250**	**1255**	**1253**	**1254**	**1238**	**1256**	**1265**	**1266**	**1263**	**1264**
Trichia hispida group	x	x	x		x		x								
Marsh/slum species															
Lymnaea sp.	x		x	x	x		x	x							
Succinea sp.	x	x			x										
Freshwater species															
Pisidium sp.					x		x								
Other															
Limacid plates					x										
Sample volume (litres)	**26**	**20**	**40**	**20**	**20**	**10**	**10**	**10**	**10**	**10**	**20**	**10**	**20**	**20**	**10**
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**0.1**	**0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 71. Structure 4.1

Feature No.	**4533**	**4533**	**4533**	**4686**	**4691**	**4731**	**4696**	**4696**	**4740**	**4644**	**4644**	**4644**	**4658**	**4655**	**4740**
Context No.	**16093**	**16094**	**16098**	**16907**	**16935**	**17080**	**17044**	**17049**	**17127**	**16679**	**16680**	**16687**	**16819**	**16791**	**17125**
Slot No.	**3937**	**3937**	**3937**	**4130**	**4134**	**4151**	**4137**	**4137**	**4157**	**4087**	**4087**	**4087**	**4103**	**4102**	**4157**
Sample No.	**1001**	**1002**	**1003**	**1009**	**1014**	**1018**	**1089**	**1090**	**1094**	**1233**	**1234**	**1235**	**1239**	**1240**	**1241**
Cereals															
Avena sp. (grains)							1cf								
Hordeum sp. (grains)															2+2cf
Triticum sp. (grains)		2											26	14	3
(spikelet bases)													3	2	
T. spelta L. (glume bases)													5		
Cereal indet. (grains)	1+3cf	10fg	1cf	1fg	1	10	1fg			1	2		37	104	5
(detached embryos)													1		
Dry land herbs															
Brassicaceae indet.															
Bromus sp.													1+2cf		
Small Fabaceae indet.	1coty			1											
Galium aparine L.														50+26fg	
Small Poaceae indet.			1										1		
Large Poaceae indet.														4	
Rumex sp.													1		
Wetland plants															
Cladium mariscus (L.)Pohl													1		
Sparganium erectum L.						1fg									
Tree/shrub macrofossils															
Corylus avellana L.					14					x					
Other plant macrofossils															
Charcoal <2mm	xxxx	xxxx	xxxx	xx	xxxx	xxxx	xxxx	xxxx	xxx	xxxx	xxxx	x	xxxx	xxxx	xxxx
Charcoal >2mm	xxx	xxx	x	x	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	x	xxxx	xxxx	xxxx

Feature No.	**4533**	**4533**	**4533**	**4686**	**4691**	**4731**	**4696**	**4696**	**4740**	**4644**	**4644**	**4644**	**4658**	**4655**	**4740**
Context No.	**16093**	**16094**	**16098**	**16907**	**16935**	**17080**	**17044**	**17049**	**17127**	**16679**	**16680**	**16687**	**16819**	**16791**	**17125**
Slot No.	**3937**	**3937**	**3937**	**4130**	**4134**	**4151**	**4137**	**4137**	**4157**	**4087**	**4087**	**4087**	**4103**	**4102**	**4157**
Sample No.	**1001**	**1002**	**1003**	**1009**	**1014**	**1018**	**1089**	**1090**	**1094**	**1233**	**1234**	**1235**	**1239**	**1240**	**1241**
Charcoal >5mm	x	x	x	x	xxx	xx	xxx	xx	xx	xxxx	xx		xx	xx	xxx
Charcoal >10mm		x			xx	x	xx	x	xx	xx				x	xx
Charred root/stem					x	x							x		
Indet. culm nodes		18fg		1	3					1fg			25fg	2	
Indet. seeds	1					1									
Other remains															
Black porous material	xx	xx	x	x	x	x	x		x		x		xx	xxx	
Black tarry material	x			x								x	x		
Bone				x xb	xb										
Burnt/fired clay			x		x						x				
Burnt stone					x										
Fish bone			x												
Mortar/plaster		x						x			x				xx
?Opus signinum											xcf			xcf	
Small coal frags.	x	x		x		xx	x			x			x	x	
Vitreous material		x		x			x	x		x					
Mollusc shells															
Woodland/shade loving species															
Aegopinella sp.															
Discus rotundatus								x				x			
Oxychilus sp.															
Open country species															
Helicella itala					x	x	x						x		
Pupilla muscorum					x	x				x					
Vallonia sp.						x	x							x	x

Feature No.	**4533**	**4533**	**4533**	**4686**	**4691**	**4731**	**4696**	**4696**	**4740**	**4644**	**4644**	**4644**	**4658**	**4655**	**4740**
Context No.	**16093**	**16094**	**16098**	**16907**	**16935**	**17080**	**17044**	**17049**	**17127**	**16679**	**16680**	**16687**	**16819**	**16791**	**17125**
Slot No.	**3937**	**3937**	**3937**	**4130**	**4134**	**4151**	**4137**	**4137**	**4157**	**4087**	**4087**	**4087**	**4103**	**4102**	**4157**
Sample No.	**1001**	**1002**	**1003**	**1009**	**1014**	**1018**	**1089**	**1090**	**1094**	**1233**	**1234**	**1235**	**1239**	**1240**	**1241**
V. costata						x									
V. excentrica															
Vertigo pygmaea						x									
Catholic species															
Cochlicopa sp.													x		
Trichia hispida group						x	x					x	x	x	x
Marsh/slum species															
Lymnaea sp.															
Succinea sp.									x						
Sample volume (litres)	**20**	**15**	**10**	**10**	**10**	**10**	**20**	**5**	**10**	**20**	**10**	**10**	**10**	**20**	**10**
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 72. Structure 4.2.

Feature No.	**4602**	**4663**	**4664**	**4693**	**4695**	**4700**	**4707**	**4716**	**4732**	**4732**
Feature type	**Post Pits**							**Robbed Wall**	**Pit**	
Context No.	**16654**	**16831**	**16842**	**16931**	**17038**	**16957**	**16977**	**17068**	**17087**	**17085**
Slot No.	**4087**	**4103**	**4109**	**4134**	**4137**	**4139**	**4130**	**4143**	**4151**	**4151**
Sample No.	**1232**	**1008**	**1204**	**1013**	**1088**	**1015**	**1016**	**1091**	**1092**	**1093**
Cereals										
Hordeum sp. (grains)								1fg		
Triticum sp. (grains)	1	1		2						
Cereal indet. (grains)	1	1		2	3fg	1		2fg		
Dry land herbs										
Brassicaceae indet.				1fg						
Bromus sp.							1cffg			
Tree/shrub macrofossils										
Corylus avellana L.				1						
Other plant macrofossils										
Charcoal <2mm	xx	xx	xxx	xx	x	xx	xxx	xx	x	x
Charcoal >2mm	xx	xx	xxx	xx	x	xx	xxx	xx	x	xx
Charcoal >5mm	x	xx		x	x	x	x	x		
Charred root/stem			x							
Indet. culm nodes		2						6fg		
Indet. seeds						1				
Other remains										
Black porous material	x	xx	x	x	x	x	x	x		
Black tarry material	x									
Bone						x	xb	x		
Burnt/fired clay	x	x		x	x	x	x	x		
Fish bone	x									

Feature No.	**4602**	**4663**	**4664**	**4693**	**4695**	**4700**	**4707**	**4716**	**4732**	**4732**
Feature type	**Post Pits**							**Robbed Wall**	**Pit**	
Context No.	**16654**	**16831**	**16842**	**16931**	**17038**	**16957**	**16977**	**17068**	**17087**	**17085**
Slot No.	**4087**	**4103**	**4109**	**4134**	**4137**	**4139**	**4130**	**4143**	**4151**	**4151**
Sample No.	**1232**	**1008**	**1204**	**1013**	**1088**	**1015**	**1016**	**1091**	**1092**	**1093**
Mortar/plaster					x	xx	x	x		
Small coal frags.	x				x		x	x		x
Vitreous material								x		
Mollusc Shells										
Woodland/shade loving species										
Aegopinella sp.						xcf				
Discus rotundatus		x	xx		xx	x	x	x		
Oxychilus sp.		x	x			x				
Open country species										
Helicella itala								x		
Pupilla muscorum					x					
Vallonia sp.	x							x		
V. costata		x		x	x		x			
V. excentrica					xcf					
Vertigo pygmaea					x		x			
Catholic species										
Cochlicopa sp.			x							
Trichia hispida group				x	x		x			
Marsh/slum species										
Anisus leucostoma	x							x		
Lymnaea sp.					x					
Sample volume (litres)	**10**	**10**	**10**	**10**	**10**	**20**	**10**	**10**	**10**	**10**
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
% flot sorted	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 73. Enclosure ditches and fieldsystem.

Feature No.	**4508**	**4508**	**4508**	**4508**	**4508**	**4508**	**4513**	**4513**	**4506**	**4515**	**4644**	**4500**	**4500**
Feature Group	**Enclosure Inner Ditch**								**Enclosure Outer Ditch**		**Field system**	**Enclosure Partition**	
Context No.	**16214**	**16372**	**16546**	**16580**	**16631**	**16636**	**16189**	**16195**	**16719**	**16270**	**16706**	**16344**	**16345**
Slot No.	**3976**	**4015**	**4061**	**4061**	**4061**	**4061**	**3967**	**3969**	**4095**	**3987**	**4095**	**4009**	**4009**
Sample No.	**1210**	**1216**	**1222**	**1225**	**1229**	**1230**	**1005**	**1085**	**1237**	**1211**	**1236**	**1213**	**1214**
Cereals													
Avena sp, (awn frags.)				2fg									
Hordeum sp. (grains)				1cf									
Triticum sp. (grains)			1	3cf	2		1	6cf		2		6	3cf
(glume bases)				6		5							
(spikelet bases)					1								
T. spelta L. (glume bases)		1		2	2		1				1	2	
Cereal indet. (grains)	2	5fg	2cf	29fg	3		4	11		9		20	7fg
(detached embryos)				1									
(rachis internode frag.)						1							
Dry land herbs													
Anthemis cotula L.				1									
Bromus sp.		1+1cf			4+1fg								
Chenopodiaceae indet.				1									
Small Fabaceae indet.				2+4coty									
Fallopia convolvulus (L.)A.Love												1	
Medicago/Trifolium/Lotus sp.				1		1							
Small Poaceae indet.						1+1fg				1			
Large Poaceae indet.			1fg	1									
Wetland plants													
Carex sp.						1							
Cladium mariscus (L.)Pohl							1						

Feature No.	4508	4508	4508	4508	4508	4508	4513	4513	4506	4515	4644	4500	4500
Feature Group	Enclosure Inner Ditch								Enclosure Outer Ditch		Field system	Enclosure Partition	
Context No.	16214	16372	16546	16580	16631	16636	16189	16195	16719	16270	16706	16344	16345
Slot No.	3976	4015	4061	4061	4061	4061	3967	3969	4095	3987	4095	4009	4009
Sample No.	1210	1216	1222	1225	1229	1230	1005	1085	1237	1211	1236	1213	1214
Tree/shrub macrofossils													
Corylus avellana L.				2									
Other plant macrofossils													
Charcoal <2mm	xx	xx	xxx	xxxx	xx	xx	x	xx	x	xxxx	xxxx	xxx	xx
Charcoal >2mm		x	xx	xxx	xx	xx	x	xxx	x	xxx	xxxx	xxx	x
Charcoal >5mm		x	x	xx			xx	x		x	xxx	x	
Charcoal >10mm		x	x	x				x		x	xx		
Charred root/stem		x		x	x		x	x		x		x	
Indet. culm nodes					1fg					3			
Indet. seeds				1									
Other remains													
Black porous material	x	x	x	xx	x		x	xx		x		x	x
Black tarry material								x		x	x	x	
Bone	x xb	x		x xb	xb	x		x	x	x	x	x xb	x
Burnt/fired clay					x					x	x		
Burnt organic concretions												x	
Ferrous frag.					x								
Fish bone				x		x							
Mortar/plaster		x											
Opus signinum			xcf										
Small coal frags.	x		x							x		xx	x
Small mammal/amphibian bones				x				x					x
Mollusc Shells													

Feature No.	4508	4508	4508	4508	4508	4508	4513	4513	4506	4515	4644	4500	4500
Feature Group	Enclosure Inner Ditch								Enclosure Outer Ditch		Field system	Enclosure Partition	
Context No.	16214	16372	16546	16580	16631	16636	16189	16195	16719	16270	16706	16344	16345
Slot No.	3976	4015	4061	4061	4061	4061	3967	3969	4095	3987	4095	4009	4009
Sample No.	1210	1216	1222	1225	1229	1230	1005	1085	1237	1211	1236	1213	1214
Woodland/shade loving species													
Aegopinella sp.						x	x	x		x			
Carychium sp.						x		x			x		
Discus rotundatus	x	x		x		x	x	xx				x	
Ena sp.								x					
Oxychilus sp.		x						x					
Punctum pygmaeum							x						
Vitrea sp.									x				
Open country species													
Helicella itala			x	x									
Pupilla muscorum			x									x	
Vallonia sp.			x	x		x			x	x	x	x	x
V. costata		x	x	x	x		x	x		x	x	x	
Vertigo pygmaea											x		
Catholic species													
Cochlicopa sp.	x			x		x	x	x			x	x	x
Nesovitrea hammonis		x		x	x		x				x		x
Trichia hispida group		x		x	x	x	x	x		x	x	x	xx
Marsh/slum species													
Anisus leucostoma					x	x	x	x		xx	x		xx
Lymnaea sp.			x						x	xx	x		x
L. stagnalis							x						
Succinea sp.							x						

Feature No.	4508	4508	4508	4508	4508	4508	4513	4513	4506	4515	4644	4500	4500
Feature Group	Enclosure Inner Ditch								Enclosure Outer Ditch		Field system	Enclosure Partition	
Context No.	16214	16372	16546	16580	16631	16636	16189	16195	16719	16270	16706	16344	16345
Slot No.	3976	4015	4061	4061	4061	4061	3967	3969	4095	3987	4095	4009	4009
Sample No.	1210	1216	1222	1225	1229	1230	1005	1085	1237	1211	1236	1213	1214
Freshwater species													
Bithynia sp.										x			
Other													
Limacid plates				x									
Sample volume (litres)	10	20	10	40	20	20	20	10	10	20	20	20	20
Volume of flot (litres)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
% flot sorted	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 74. Structure 1, Pit Alignments 1 and 2, and Isolated Features.

Feature No.	**4544**	**4545**	**4584**	**4586**	**4588**	**4638**	**4688**	**4605**	**4540**
Feature type	**Pit/gully**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**
Feature Group	**Pit Alignment 1 (NW)**					**Pit Alignment 2 (SE)**	**Roman**	**Iron Age**	**Structure 1**
Context No.	**16330**	**16290**	**16315**	**16332**	**16334**	**16639**	**16917**	**16446**	**16577**
Slot No.	**4005**	**3993**	**4001**	**4006**	**4008**	**4082**	**4131**	**4034**	**4071**
Sample No.	**1219**	**1007**	**1212**	**1218**	**1217**	**1203**	**1012**	**1202**	**1224**
Cereals									
Triticum sp. (grains)	2cf	1	2	1		4			4
(glume bases)						1			
(spikelet base)							1		
(rachis internode)									1
Cereal indet. (grains)	3	1	2fg	4cffg	4fg	2	1cf		1
Dry land herbs									
Bromus sp.						1			
Small Fabaceae indet.			1coty						
Large Poaceae indet.									
Wetland plants									
Cladium mariscus (L.)Pohl									1
Other plant macrofossils									
Charcoal <2mm	xx	x	x	x	x	x	x	x	x
Charcoal >2mm	x	x	x		x		x	x	x
Charcoal >5mm	x	x							x
Charcoal >10mm	x								
Charred root/stem					x				
Other remains									
Black porous material	x		x		x		x		
Black tarry material	x						x		x
Bone	xb			x	x xb	x	x		

Feature No.	**4544**	**4545**	**4584**	**4586**	**4588**	**4638**	**4688**	**4605**	**4540**
Feature type	**Pit/gully**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**	**Pit**
Feature Group	**Pit Alignment 1 (NW)**					**Pit Alignment 2 (SE)**	**Roman**	**Iron Age**	**Structure 1**
Context No.	**16330**	**16290**	**16315**	**16332**	**16334**	**16639**	**16917**	**16446**	**16577**
Slot No.	**4005**	**3993**	**4001**	**4006**	**4008**	**4082**	**4131**	**4034**	**4071**
Sample No.	**1219**	**1007**	**1212**	**1218**	**1217**	**1203**	**1012**	**1202**	**1224**
Burnt/fired clay	x		x						
Small coal frags.			x	x	x	x	x		x
Vitreous material					x				
Mollusc Shells									
Woodland/shade loving species									
Aegopinella sp.									x
Carychium sp.									x
Discus rotundatus							x		xx
Punctum pygmaeum									x
Open country species									
Vallonia sp.			x						
V. costata									x
Vertigo pygmaea									x
Catholic species									
Cochlicopa sp.									x
Nesovitrea hammonia					x				
Trichia hispida group		x			x				
Marsh/slum species									
Anisus leucostoma									x
Freshwater species									
Bithynia sp.								x	
Sample volume (litres)	**10**	**20**	**5**	**10**	**10**	**20**	**10**	**10**	**20**
Volume of flot (litres)	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.1**

Animal Bone – Vida Rajkovača

The assemblage amounted to 13,227 fragments (77,230g), of which some 2251 assessable specimens were recorded, with 699 assigned to species (31%). This report covers the manually-recovered material; bone from residues of the bulk soil sample processing amounted to 223 fragments (100g) and will be included in the final published results.

The majority of bone waste came from the estate enclosure ditches (Table 75). Based on a small amount of Iron Age pottery and notable practices of carcass processing not normally associated with Roman or later butchery, it is possible that a small proportion of the site's bone material is of an earlier date.

For the purpose of this assessment, animal bone was quantified and considered according to feature group. Complete appraisal of this assemblage, which will look for differences in animal use, food practices and management between earlier and later stages of (albeit relatively short) occupation, will be carried out as part of a full site study prior to publication.

Feature category	**ID to species**	**TOTAL**	***% of assemblage***
Structure 1	12	42	*1.9*
Structure 2	3	16	*0.7*
Structure 3	54	156	*6.9*
Structure 4	7	36	*1.6*
Enclosure Inner Ditch	136	452	*20.1*
Enclosure Outer Ditch	76	264	*11.7*
Fieldsystem	4	13	*0.6*
Enclosure Partition Ditch	195	633	*28.1*
Trackway	1	4	*0.2*
Feeder Ditch	148	404	*18*
Pit alignment 1 (NW)	9	30	*1.3*
Pit alignment 2 (SE)	6	19	*0.8*
Pit Group 3	3	9	*0.4*
Pit Groups 2, 4 & Isolated	30	129	*5.7*
Smaller ditches/ gullies	15	44	*2*
Total	*699*	*2251*	*100*

Table 75. Number of Identified Specimens, the total specimen count and the percentage of specimens.

Methods

Along with weights, the assemblage's NISP and MNI values were all used to quantify the material. The zooarchaeological investigation followed the system implemented by Bournemouth University with all identifiable elements recorded (NISP: Number of Identifiable Specimens). A record of diagnostic zoning (amended from Dobney and Reilly 1988) was used to calculate MNE (Minimum Number of Elements) from which MNI (Minimum Number of Individuals) was derived.

	Site Total		
Taxon	**NISP**	**%NISP**	**MNI**
Cow	329	*46.2*	18
Sheep/ goat	172	*24.2*	*7*
Sheep	2	*0.3*	1
Pig	77	*10.8*	5
Horse	96	*13.5*	5
Dog	4	*0.6*	2
Dog/ Fox	1	*0.1*	1
Fox	2	*0.3*	1
Red deer	7	*1*	2
Wild boar	1	*0.1*	1
?Rabbit	1	*0.1*	1
Chicken	8	*1.2*	2
Galliformes	2	*0.3*	1
Mallard	7	*1*	2
Anseriformes	1	*0.1*	1
Goose	1	*0.1*	1
?Wader	1	*0.1*	1
Sub-total to species	*712*	*100*	.
Cattle-sized	752	.	.
Sheep-sized	479	.	.
Mammal n.f.i.	344	.	.
Bird n.f.i.	34	.	.
Fish n.f.i.	1	.	.
Total	*2322*	.	.

Table 76. Number of Identified Specimens and the Minimum Number of Individuals for all species from all contexts (the abbreviation n.f.i. denotes that the specimen could not be further identified.

Identification of the assemblage was undertaken with the aid of Schmid (1972), Hillson (1999), Pales and Lambert (1971a; 1971b) and the reference material from the Cambridge Archaeological Unit. Those fragments impossible to assign to species level were categorised to size (cattle/red deer-sized, pig/ sheep/goat-sized and rodent-sized). Most, but not all, caprine bones are difficult to identify to species; however, using the criteria of Boessneck (1969) and Halstead (Halstead *et al*. 2002), it was possible to identify a selective set of elements from the assemblage as sheep.

Ageing across the assemblage employed both mandibular tooth wear (following Matschke 1967; Payne 1973; Grant 1982; Levine 1982; Worley *et al*. 2016) and fusion of proximal and distal epiphyses (Silver 1969; O'Connor 1989). Sexing was undertaken for pig canines, based on the bases of their size, shape and root morphology (Schmid 1972, 80). Older sources will be complemented by either the more recent methods or considerations of combinations of methods such as Greenfield & Arnold (2008), Jones and Sadler (2012), Legge (2013), McGrory *et al*. (2012), Sykes and Symmons (2007) and Zeder and Pilaar (2010).

Where possible, measurements were taken following Von den Driesch (1976). Withers height calculations followed the conversion factors of Kiesewalter for horse, Matolsci for cattle, Teichert for ovicaprids and Harcourt for dog (see Von den Driesch and Boessneck 1974). All pig measurements follow Payne and Bull (1988). For measurement of sheep bones, Davis (1996; 2000) was consulted.

Bones were examined for both natural and cultural taphonomic changes; evidence of weathering, surface erosion, gnawing, charring and butchery were all recorded where present.

Preservation and Taphonomy

Overall, preservation was moderate (*c.* 56%). Although a sizeable percentage of the material was recorded with quite good/good level of preservation (*c.* 20%), represented by the specimens with minimal erosion and weathering, some 24% of the assemblage was recorded as poorly preserved. Gnawing was observed on a fraction of the assemblage (35 specimens, 1.5%), and an even smaller percentage of bone was butchered (1.3%).

Results

A negligible amount of animal bone was recorded for Structures 1-4 (Table 77). Structures 1, 2 and 4 were all almost entirely devoid of animal bone, with only a few specimens recorded. Structure 3 did generate a somewhat more substantial quantity of faunal waste, yet only some 50 specimens were identified to species. Structure 3 was the only of the structures to produce wild or avian fauna (red deer and wild boar, as well as chicken), which hints towards a possibly elevated status for this structure. In the main, it was clear that each of the structures was kept clear from food waste.

	Structure 1			**Structure 2**			**Structure 3**			**Structure 4**		
	NISP	**%NISP**	**MNI**	**NISP**	**%NISP**	**MNI**	**NISP**	**%NISP**	**MNI**	**NISP**	**%NISP**	**MNI**
Cow	4	*33.3*	1	2	*66.7*	1	26	*48.1*	1	5	*71.5*	1
Sheep/ goat	2	*16.7*	1	.	.	.	12	*22.2*	1	2	*28.5*	1
Pig	.	.	.	1	*33.3*	1	8	*14.7*	1	.	.	.
Horse	5	*41.7*	1	.	.	.	4	*7.4*	1	.	.	.
Dog	1	*8.3*	1	.	.	.	.	.	.	.	.	.
Red deer	.	.	.	.	.	.	1	*1.9*	1	.	.	.
Wild boar	.	.	.	.	.	.	1	*1.9*	1	.	.	.
Chicken	.	.	.	.	.	.	1	*1.9*	1	.	.	.
Galliformes	.	.	.	.	.	.	1	*1.9*	1	.	.	.
Sub-total to species	*12*	*100*	.	*3*	*100*	.	*54*	*100*	.	*7*	*100*	.
Cattle-sized	14	.	.	6	.	.	65	.	.	5	.	.
Sheep-sized	5	.	.	6	.	.	22	.	.	23	.	.
Mammal n.f.i.	11	.	.	1	.	.	5	.	.	.	.	.
Bird n.f.i.	.	.	.	.	.	.	10	.	.	1	.	.
Total	*42*	.	.	*16*	.	.	*156*	.	.	*36*	.	.

Table 77. Number of Identified Specimens and the Minimum Number of Individuals for all species from all contexts – breakdown by structure/ feature group (n.f.i denotes that the specimen could not be further identified).

Bone that accumulated in the ditches accounted for 78.6% (1770 specimens) of the site's assemblage. The enclosure's inner and outer ditches totalled 716 specimens, amounting to almost one-third of the overall assemblage (Table 78). Largely dominated by cattle, range in species was relatively varied, with (potential) fox, red deer, mallard and (?wild) goose recorded. The enclosure partition contained the bulk of this faunal waste, in which the species range was again heavily dominated by the primary livestock species, in which cattle was especially abundant within NISP and MNI counts. The bone from the feeder ditch – primarily within its uppermost contexts – generated an almost identical species range as found in the enclosure ditch contexts, which suggests that this remained partially open, perhaps only as a wide hollow, when the enclosure was established.

	Enclosure Inner Ditch			Enclosure Outer Ditch			Fieldsystem			Enclosure partition			Trackway			Feeder Ditch		
	NISP	%NISP	MNI	NISP	%NISP	MNI	NISP	%NISP	MNI	NISP	%NISP	MNI	NISP	%NISP	MNI	NISP	%NISP	MNI
Cow	71	*52.2*	3	32	*42.1*	2	3	*75*	1	82	*42.1*	*7*	.	.	.	69	*46.6*	5
Sheep/ goat	26	*19.1*	1	24	*31.6*	1	.	.	.	52	*26.7*	2	.	.	.	32	*21.6*	2
Sheep	.	.	.	.	.	.	.	.	.	2	*1*	1	.	.	.	.	.	.
Pig	11	*8.1*	1	.	.	.	.	.	.	28	*14.4*	2	1	*100*	1	22	*14.9*	2
Horse	16	*11.8*	1	18	*23.7*	1	1	*25*	1	27	*13.8*	2	.	.	.	18	*12.2*	1
Dog	2	*1.5*	1	1	*1.3*	1	.	.	.	.	.	.	.	.	.	.	.	.
Dog/ Fox	1	*0.7*	1	.		.	.	.	.	.	.	.	.	.	.	.	.	.
Fox	2	*1.5*	1	.		.	.	.	.	.	.	.	.	.	.	.	.	.
Red deer	.	.	.	1	*1.3*	1	.	.	.	.	.	.	.	.	.	.	.	.
Chicken	3	*2.2*	1	.		.	.	.	.	1	*0.5*	1	.	.	.	3	*2*	1
Galli-formes	.	.	.	.		.	.	.	.	.	.	.	.	.	.	1	0.7	1
Mallard	3	*2.2*	1	.		.	.	.	.	1	*0.5*	1	.	.	.	3	*2*	1
Anseri-formes	.	.	.	.		.	.	.	.	1	*0.5*	1	.	.	.	.	.	.
Goose	1	*0.7*	1	.		.	.	.	.	.	.	.	.	.	.	.	.	.
?Wader	.	.	.	.		.	.	.	.	1	*0.5*	1	.	.	.	.	.	.
Sub-total to species	*136*	*100*	.	*76*	*100*	.	*4*	*100*	.	*195*	*100*	.	*1*	*100*	.	*148*	*100*	
Cattle-sized	133	.	.	109	.	.	4	.	.	215	.	.	3	.	.	103		
Sheep-sized	60	.	.	34	.	.	5	.	.	111	.	.	.	.	.	106		
Mammal n.f.i.	113	.	.	45	.	.	.	.	.	101	.	.	.	.	.	44		
Bird n.f.i.	10	.	.	.	.	.	.	.	.	10	.	.	.	.	.	3		
Fish n.f.i. (*?Pike*)	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.		
Total	*452*	.	.	*264*	.	.	*13*	.	.	*633*	.	.	*4*	.	.	*404*		

Table 78. Number of Identified Specimens and the Minimum Number of Individuals for all species from all contexts – breakdown by ditch line/ feature group (n.f.i denotes that the specimen could not be further identified).

	Pit Alignment 1 (NW)			Pit Alignment 2 (SE)			Pit Group 3			Pit Group 2, 4 & Isolated			Smaller ditches/ gullies		
	NISP	%NISP	MNI	NISP	%NISP	MNI	NISP	%NISP	MNI	NISP	%NISP	MNI	NISP	%NISP	MNI
Cow	5	*55.6*	2	1	*16.7*	1	2	*66.7*	1	13	*43.4*	1	10	*66.6*	1
Sheep/ goat	1	*11.1*	1	5	*83.3*	1	1	*33.3*	1	12	*40*	1	3	*20*	1
Pig	.	.	.	.	.	.	.	.	.	.	.	.	1	*6.7*	1
Horse	3	*33.3*	1	.	.	.	.	.	.	3	*10*	1	1	*6.7*	1
Red deer	.	.	.	.	.	.	.	.	.	1	*3.3*	1	.	.	.
Rabbit	.	.	.	.	.	.	.	.	.	1	*3.3*	1	.	.	.
Sub-total to species	*9*	*100*	.	*6*	*100*	.	*3*	*100*	.	*30*	*100*	.	*15*	*100*	.
Cattle-sized	21	.	.	1	.	.	1	.	.	21	.	.	17	.	.
Sheep-sized	.	.	.	4	.	.	5	.	.	69	.	.	7	.	.
Mammal n.f.i.	.	.	.	8	.	.	.	.	.	9	.	.	5	.	.
Total	*30*	.	.	*19*	.	.	*9*	.	.	*129*	.	.	*44*	.	.

Table 79. Number of Identified Specimens and the Minimum Number of Individuals for all species from all contexts – breakdown by pit/ feature group; the abbreviation denotes that the specimen could not be further identified.

With significantly fewer bone-bearing contexts than other feature categories, various pit contexts excavated within alignments or clusters, along with isolated pits and small ditches or gullies, all yielded considerably smaller quantities of bone. Cattle, ovicapra and horse were the only identified species in these feature categories, while pig was almost entirely absent (Table 79).

The 70kg of animal bone make for a substantial assemblage if taking into account the relatively small volume of excavated features and the site's relatively short duration of occupation. The spatial distribution between different feature groups is clear: the estate enclosure ditches received the largest proportion of waste, whereas structures were kept relatively clear from waste. There was little species variability overall, except in Structure 3 that on account of its wild and avian fauna combined with cow, sheep, horse and pig, showed a faunal signature hinting towards a heightened status. The enclosure ditches produced a relatively high value horse component as well as pig, which is more in keeping with the pattern seen for this period in the broader area.

Skeletal element count for the main species showed that carcasses were represented whole, with fragmentation affecting the assemblage and resulting in a larger percentage of loose teeth. Butchery practices were typically Romano-British, such as cattle scapulae displaying trimming from a *spina articularis* origin – a mark associated with meat curing. In general, carcass processing was crude and deep heavy-blade chops were used to perform these actions. Exposure to heat was also used to crack open some of the denser shafts, probably as part of marrow removal.

A few cases of pathologies, exostoses and non-metrical traits were recorded, and within the pig cohort it was possible to establish the presence of male and female animals. Available biometrical data indicated that both cattle and horse measurements were at the lower end of the size range, which is somewhat unusual for the later Roman period.

By looking at the quality of meat joints and the nature of carcass processing and consumption, the assemblage offers an opportunity to compare the nature of the site's socio-cultural status against a cluster of rural farmsteads in the area. Subtleties in changes of animal use or the food supply may also be highlighted as well as the roles that animals and their meat played in different economic circumstances within Cambridge's later Roman communities.

Human Bone – Benjamin Neil

Two refitting fragments of left femur from pit F.4732 are reported. Although the pit is of Roman date, cutting a post pit belonging to Structure 4.1, it contained 23 sherds of later Iron Age pottery. The pottery clearly being secondary to the pit, so too may the human bone be redeposited from a later prehistoric context.

Metric dimensions were taken according to criteria outlined in Buikstra *et al*. (1994, 69-84). Age at death estimation was based on gross developmental and dimensional characteristics. The bone was recorded according to zonation criteria set out by Knüsel and Outram (2004). The overall completeness of a skeleton was calculated according to the percentage of elements present, using data outlined by Rowbotham *et al*. (2017). Stages of preservation followed the notation system developed by McKinley (2004, 16).

The results of analysis are presented in Table 80.

Feature	Context	Position	Preservation	Age	Sex	Zone	Compl.	Pathology/trauma
4732	17087	Disart.	Moderate (3)	18+	Indet.	3 (p), 6, 7 (p), 8 (p)	c.7%	None

Table 80. Summary of human bone (p = partial).

The femoral fragments were clearly not neonate, infant or juvenile, thus the inference was adult. There were no sexually dimorphic landmarks, thus osteological sex was indeterminate. The bone was a greyish whitish-yellow colour with rare spots of light brown discolouration. The former suggests a limited period of sun exposure; the latter suggests contact with a sandy soil matrix (Dupras and Schultz 2014). The stepped/ transverse-irregular post-mortem fracture margins are rounded and weathered.

Shell – Christopher Boulton

Of the marine shell assemblage, 90% consisted of the European Flat Oyster (*Ostrea edulis*). The other 10% was made up of the Common or Blue Mussel (*Mytilus edulis*), the Common Whelk (*Buccinum undatum*) and the Netted Dog Whelk (*Tritia reticulata*; Table 81). The measurable shells were sorted into left and right valves, weighed and measured and then analysed for infestation marks and signs of human interference or consumption.

Species	Qty	Wt (*g*)	Qty %	Wt %
Oyster (*Ostrea edulis*)	1106	15258	90.9	98.3
Blue Mussel (*Mytilus edulis*)	95	99	7.8	0.6
Common Whelk (*Buccinum undatum*)	1	17	0.1	0.1
Netted Dog Whelk (*Tritia reticulata*)	15	148	1.2	1.0

Table 81. Marine species recovered from site by weight and quantity

Marine Species - Oysters

In total, there were 1106 oyster fragments (15258g), of which 480 were whole shells, 503 were near-complete, 123 were fragmented pieces, and 983 were identifiable as left (426) or right (557) valves,

equating to a Minimum Number of Individuals (MNI) of 557 complete oysters. Of predominantly uniform shape, whole shells were measured and sorted into a size range of small (0-33mm), medium (34-66mm) and large (67-100mm). The average shell size was 50mm length and 59mm height, with 822 measurable shells within the medium range of length and 619 within that same range in height.

Infestation markers were also noted on the measurable pieces and appear in fairly low numbers suggesting a relatively clean source of oysters to harvest (Table 82). The *Polydora ciliata* worm (7.6%) and the *Cliona celata* sponge (6.5%) were most prevalent, and a small percentage of the *Polydora hoplura* worm (1.9%) was also recorded. Both *Polydora ciliata* worms and *Cliona celata* sponges are widespread and found on a variety of coasts (Winder 2017, 251; Wessex Archaeology 2014, 30). Boreholes were identified on a number of shells, three of which may be remains of barnacles. Under light, the edges of the holes have faint ridges associated with barnacles and on two of these (Cat. Nos. 937 & 10409.05) are remaining barnacles.

Infestation	Qty with infestation	% of Assemblage
Polydora ciliata	75	7.6
Polydora hoplura	19	1.9
Cliona celata	64	6.5
Barnacles	3	0.3
Attached Shell	23	2.3

Table 82. Quantity of measurable oyster shell with infestation.

Attachment of two oysters was noted in 23 instances (2.3% of the measurable oysters; Table 82). This occurs when the young oysters (spats) attach themselves to older, already established shells. In most cases only small pieces of shell adherence remain, however, there are a few that have larger shells still attached; with Cat. No. 1060 there was only a slight difference in size between the two shells (59mm and 68mm in length, 83mm and 85mm in height), the combined weight of which (65g) is the heaviest of the entire assemblage.

Perforations or notches on a number of oyster shells were mainly a result of modern wear and tear, though two (Cat. Nos. 10429.03 & 10526.03) appear to have been caused by human interference, probably for consumption. The notches on the outer face of the edge of the thickened hinge area were generally 'V'-shaped like those of a knife or edged object used to lever the oyster open (Winder 2011). Fairly small, none of these displayed marks corresponding with removing the meat from inside (*ibid*.). Cat. No. 10526.03 had a circular perforation with rough edges or pecking and a circular indent next to it may be unfinished drilling of a second perforation. Neither of these shells was particularly robust. Pierced flat oyster shells have been found on a number of 3rd-4th century AD sites, such as at Stonea Grange, Cambridgeshire (Cartwright 1996, 539-40, fig. 201:3), and Ashwell, Hertfordshire (Jackson 2018b, 292-6, fig. 342). These may have been decorative, fastened either by thread or with nails.

Other Species

A small number (99g) of the Common or Blue Mussel (*Mytilus edulis*) was also present (Table 81), of which five whole valves were recovered. A single Common Whelk (*Buccinum undatum*) was recovered along with 11 whole and four fragmented pieces of the Netted Dog Whelk (*Tritia reticulata*; Table 81). All the marine species in the assemblage are widely distributed in the British Isles and have similar or overlapping habitats, with rocky, gravel, sand and muddy types being the most prevalent. Thirteen fragments (83%) of the Netted Dog Whelk were recovered from the enclosure's inner ditch (F.4508) and partition (F.4500), which also produced some of the largest concentrations of oyster and mussel fragments in the assemblage (Table 83). A single Common Whelk came from a modern wheel rut passing through Structure 3, from which it must have derived. Each of these species is edible but their low frequency and overlapping habitats suggest that they were brought to the site as a product secondary to the harvesting and consumption of oysters.

Distribution

The largest shell concentration came from the enclosure's inner and partition ditches, the feeder ditches and the rubble spread east of Structure 3 (Table 83). Within Structure 3 itself, five shell fragments came from the furnace pit (F.4799 & F.4800) of Room 4 hypocaust and nine fragments were found within rubble deposits [16249] and [16697]. A larger assemblage was drawn from Structure 4 with 21 oyster shells from Structure 4.1 and 41 plus a whelk from Structure 4.2.

Feature Number	4500	4508	4509	4640-1			
Feature Category	Enclosure Partition	Enclosure Inner Ditch	Feeder Ditch	Rubble Spread 1	Str.1	Str.3	Str.4
Oyster	707	188	167	135	9	14	62
Mussel	50	5	13	.	1	.	.
Netted Dog Whelk	5	.	8	.	.	.	1
Common Whelk	.	.	.	.	.	1	.

Table 83. Features with the largest concentration of marine species.

Terrestrial Species

Land snails that are likely to have been included as consumables were recovered in small numbers and include *Cepaea nemoralis*, *Cornu aspersum* and *Helix pomatia* (Table 84). The finding of five fragments of *Helix pomatia* is of particular interest. Commonly referred to as the Roman snail or Burgundy snail (Cameron 2003, 63), these are rare and protected in the British Isles, and are mainly found in the south of England in undisturbed grass or bush wastelands (Cameron 2003, 63). These were introduced to Britain during the Roman period as a food delicacy. All but one of the fragments of *Helix pomatia* were found within contexts that also included fragments of oyster, mussel and netted dog whelk.

Other than consumption, there was no evidence for the use of shell in industrial contexts. The quantity of shell significantly contrasts with that of Sites II and IV, where the combined assemblage totalled 344, all of flat oyster. The Site VII assemblage, while consisting mainly of flat oyster, also produced a small and varied collection of other marine and land mollusc species. This compares favourably with other later Roman sites across the region that have produced high shell counts (Table 85).

Feature Number	Species Qty (in frags.)		
	Cepaea nemoralis	*Cornu aspersum*	*Helix pomatia*
4500	4	.	1
4508	1	.	1
4509	5	.	1
4512	1	.	.
4513	4	1	2
4515	1	.	.
4547	5	.	.
4567	.	.	3
4641	4	.	.
4696	1	.	.

Table 84. Features containing land snails and quantity of fragments.

The regularity of oyster shape, their healthy condition and predominantly individual state suggests that these were harvested from a productive, possibly managed and spacious bed (Bond 1977; Winder 2017, 246; Wessex Archaeology 2014, 29-30). Their range of size (83% medium, 17% small or large) indicates that fixed size was not a specific requirement. This may contrast with the Brancaster military fort, for example. There, located close to saltwater marshes and creaks, it is thought that an appropriately sized dredge net was used to harvest only large oysters (60-100mm; Wessex Archaeology 2014, 29-30), with deliberate rejection also occurring (Bond 1977, 6). Mussels and whelks are likely to have been collected in small numbers along with oysters, perhaps dredged from the same beds. Their meat value would have been minimal, but nonetheless contributed to a varied cuisine. In addition to the consumption of marine species it is clear that consumption of terrestrial species also occurred. Whether these were farmed or conspicuously collected is not clear from the evidence.

	Oyster	Mussel	Netted Dog Whelk	Common Whelk	Cockle
NWC Sites II and IV	*c.* 650 (100)	.	.	.	.
NWC Site VII	1106 (90.9)	95 (7.8)	15 (1.2)	1 (0.1)	.
Brancaster, Norfolk	861 (92.4)	18 (1.9)	.	40 (4.3)	13 (1.4)
Icklingham, Suffolk	(99.6)	(0.1)	.	(0.1)	(0.1)

Table 85. Comparison of selected local and regional marine shell-rich assemblages (with bracketed entry indicating per cent; after Bond 1977; Murphy 1978).

Coal – Marcus Brittain

Eighteen fragments (129g) of coal were recovered as small finds from 10 features; though not quantified for this report, small coal fragments were also collected within the flots of 29 samples from 26 features (Table 86). Charcoal was present within flots from a range of features, though it was notable that flots from most samples from Structures 2, 3 and 4 produced coal fragments.

Feature group	Qty	Wt (g)	Enviro flots
4. Structure 1	1	2	Yes
1. Structure 2	4	100	Yes
2. Structure 3	.	.	Yes
3. Structure 4	.	.	Yes
Enclosure Inner Ditch	1	2	Yes
Enclosure Outer Ditch	1	4	Yes
Fieldsystem	.		Yes
Enclosure Partition Ditch	2	5	Yes
Trackway	1	2	n/a
Feeder Ditch	.	.	Yes
Pit alignment 1 (NW)	.	.	.
Pit alignment 2 (SE)	.		Yes
Pit Group 3	.	.	n/a
Pit Groups 2, 4 & Isolated	8	14	Yes
Smaller ditches/ gullies	.	.	.
TOTAL	**18**	**129**	**.**

Table 86. Coal present within feature groups.

Use of coal as a fuel in Roman Britain is widely known, with a small number of examples of use in hearths and hypocausts having recently been documented (Dearne and Branigan 2011); although rare, the use of coal in a cremation in York has also been recognized (Wenham 1968). It was not an exclusive fuel medium at Site VII, but does appear to have been used in conjunction with wood and, perhaps, other materials, in the hypocaust of Structure 3 and perhaps in hearths within Structure 1 and Structure 4. The connection of coal as fuel to the presence of molten lead waste cannot be confirmed.

The fort at Caister-on-Sea is one of the nearest examples of coal use to fuel a hypocaust chamber (Darling and Gurney 1993, 30). There, some 2.29kg of coal was recovered from the site overall, and analysis suggested provenance from coalfields somewhere between Yorkshire and Durham (Smith 1993). Analysis of coal from extra-mural settlement associated with Brancaster fort on the north Norfolk coast, was found in contexts containing box-flue fragments (Hinchliffe and Green 1985, 4), but was too degraded for provenance analysis (Smith 1985).

Coal from within the fill of the later Roman Car Dyke in Cambridgeshire, suggested to originate from a Durham coalfield, may indicate its transport along this route, though its navigability is questionable and the use of road systems for coal transport has generally been preferred (e.g. Smith 1997, 319; Webster 1955). At Worsted Lodge, immediately northeast of Babraham in south Cambridgeshire, a deposit of coal was encountered (during excavation of a pipeline trench) between the rammed basal chalk and gravel capping of a road broadly dated as Roman (Dewhurst 1963-4, 50). Analysis of the coal's miospore content sourced this to the Nottinghamshire and South Derbyshire coalfields (*ibid*.).

POST-ROMAN

Entirely assigned to Feature Group 11, the post-Roman features consisted of furrows, plough or subsoiling scars and field drains that crossed the site over a northeast-southwest orientation. Also included here are wheel ruts. This was the outcome of dumper machine-tracking connected to the development and, once recognised for its potential impact to the site's archaeology, this was ceased in 2014. Unfortunately, they ran through the winged frontage of Structure 3. These later features reached a depth of up to 0.3m and had clearly truncated or mixed the uppermost horizon of earlier contexts, the shallowest of which may evidently have been severely impacted or even entirely erased. Such impact was most prevalent within later Roman Structure 3 (by Fs.4525, 4526, 4541, 4548, 4549, 4564, 4565, 4566 & 4647) and Structure 4 (by Fs.4705, 4718 & 4746). Furrow F.4543/4550 had also clearly impact the upper horizon of the inner ditch to the Roman enclosure-compound, with furrow F.4801 observed as cutting through the outer ditch and the connecting fieldsystem. These later agricultural features produced a small assemblage of 16th to 20th century pottery (13 sherds) as well as 50 sherds of Roman pottery.

Medieval and Post-Medieval Pottery – Marcus Brittain

The assemblage consisted of 100 sherds (697g) found either as intrusive to earlier contexts, from within later agricultural furrows, or as surface finds (Table 87). One very worn sherd of Thetford Ware of the 11-12th century was present, but the date range was otherwise within the 16th to 20th centuries.

Cat	Feature	Context	Slot	Qty	Wt (*g*)	Type	Date
307	4500	16032	3924	2	11	Glazed Red Earthenware	C16-C18
10396.01	4500	SF2306		1	5	Cup handle with roll-impressed decoration on exterior	C18-C20
10402.01	4500	SF2312		2	6	Glazed Red Earthenware	C16-C18
10659	4506	SF2569		1	1	Glazed Red Earthenware	C16-C18
365	4508	16213	3976	1	2	Glazed Red Earthenware	C16-C18
397	4508	16320	4003	1	2	Babylon ware	C16-C17
10576	4508	SF2486		1	9	Brownish-green glazed stoneware	C16-C19
314	4512	16046	3928	1	2	Staffs White Salt-Glazed Stoneware	C18
10657	4512	SF2567		17	48	Whiteware	C18-C19
363	4513	16207	3974	1	<1	White ware - porcelain	C19-C20
363	4513	16207	3974	1	<1	Red Ware - plant pot	C18-C20
430	4513	16468	4040	1	10	Red Ware - plant pot	C18-C20
10584	4513	SF2494		1	4	Glazed Red Earthenware	C16-C18
10672	4513	SF2582		2	5	Glazed Red Earthenware	C16-C18
10677	4513	SF2587		1	<1	Blue and white cup base	C18-C19
380	4515	16271	3987	2	<1	Glazed Red Earthenware	C16-C18
1067	4521	16407	4521	4	11	Glazed Red Earthenware	C16-C18
480	4521	16607	4075	1	7	Glazed Red Earthenware	C16-C18
332	4526	16092	3936	1	1	German stoneware	C17-C19
332	4526	16092	3936	1	4	Thin-walled reddish brown vessel base and body with wavey line decoration	C18-C20
332	4526	16092	3936	1	18	Glazed Red Earthenware	C16-C18
1064	4526	16112	3942	1	31	Stoneware base	C18-C19
341	4526	16123	3953	2	8	German stoneware	C17-C19
350	4526	16163	3958	1	13	German stoneware	C17-C19
345	4529	16141	3953	4	14	Glazed Red Earthenware	C16-C18
10531	4538	SF2441.01		1	20	Cream ware Saucer base	C18-C19
336	4543	16105	3940	1	<1	German stoneware	C17-C19
336	4543	16105	3940	2	3	Glazed Red Earthenware	C16-C18
412	4543	16388	4020	5	49	Glazed brown stoneware with square tooth-impressed decoration	C18-C19
10549	4543	SF2459		1	62	Glazed Red Earthenware	C16-C18
10550	4543	SF2460		1	48	Grey-glazed stoneware base	C18-C19
10552	4543	SF2462		1	5	Whiteware saucer base	C18-C19
10556	4543	SF2466.01		1	<1	Staffs type slip ware	C18-C19
337	4549	16110	3941	2	23	Glazed Red Earthenware	C16-C18
385	4550	16280	3990	2	65	Glazed Red Earthenware	C16-C18
10588	4552	SF2498		1	12	Coarse Red ware	C18-C19
10589	4552	SF2499		1	9	Red Ware	C18-C19
10591	4552	SF2501		1	3	Red Ware - plant pot	C18-C20
10591	4552	SF2501		1	3	White ware - porcelain	C19-C20
10594	4552	SF2504		2	1	Whiteware	C18-C19
10673	4552	SF2583		3	13	Whiteware	C18-C19

Cat	Feature	Context	Slot	Qty	Wt (*g*)	Type	Date
10676	4552	SF2586.01		1	2	Glazed Red Earthenware	C16-C18
378	4569	16258	3985	1	<1	Blue and white	C18-C19
387	4575	16292	3994	1	<1	Glazed Red Earthenware	C16-C18
479	4576	16593	4074	1	11	Red Ware with black glaze	C18-C19
482	4622	16614	4076	1	6	Glazed Red Earthenware	C16-C18
482	4622	16614	4076	1	22	Rim of Thetford Ware?	C11-C12
357	4641	16193	4985	1	<1	Coarse creamware handle	C18-C19
517	4682	16891	4124	1	2	Glazed Red Earthenware	C16-C18
525	4698	16947	4138	1	2	Glazed Red Earthenware	C16-C18
491	4701	16970	4139	2	6	Glazed Red Earthenware	C16-C18
526	4705	16966	4139	1	1	Blue and white	C18-C19
543	4740	17126	4157	1	6	Glazed Red Earthenware	C16-C18
548	4746	17184	4162	1	5	Glazed Red Earthenware	C16-C18
571	4771	17286	4172	1	1	Glazed Red Earthenware	C16-C18
588	4910	16456	4037	2	5	Blue and white cup rim	C18-C19
10535		SF2445		1	49	Westerwald blue salt-glazed vessel rim	C17-C18
10536		SF2446		2	48	Blue and white saucer rim	C18-C19
10644		SF2554		1	3	Staffs type slip ware	C18-C19
10864.01		SF2774		1	<1	Red ware tin-glazed with brown and two incised lines along rim	C18-C19

Table 87. Summary of Medieval and Post-Medieval pottery.

Metalwork – Justin Wiles

The majority of the post-Roman metalwork was collected during the metal-detecting survey of the site's subsoil during its machine removal. In addition to 18 coins and tokens (Table 89), this comprised items of copper alloy (67), iron (17) and lead (44; Table 88). These are characteristic of casual loss and of deliberate dumping, particularly during the 19th century when cloth rags were used to fertilize agricultural land. Post-Roman items of note include 20 lead pistol bullets and a 12-13th century lead seal with seated figure (Cat. No. 1020; Fig. 46).

Post-Roman Copper Alloy

Cat. No. 9984. SF.1804. Two 'S'-shaped links of copper alloy chain. Length 51.3mm, thickness of link 3.3mm, weight 8.3g. Post-Medieval in date.

Cat. No. 9987. SF.1807. A disc-shaped suspension loop with centrally located circular hole. A portion of the circumference is elongated where it would have been attached possibly to a tool, such as a small file. Dimensions 19.6x18.9x1.7mm, weight 2.9g. Post-Medieval in date.

Cat. No. 9988. SF.1808. A small fragment of shoe buckle frame, only part of a side which includes a socket for the central bar. Dimensions 26.1x8.7x3.5mm, weight 3.7g; 18th century in date.

Cat. No. 9989. SF.1809. A machine-made cylindrical knob or handle of unknown function. Several short parallel grooves run around the outside edge for grip and traces of red paint are present. Length 42.7mm, diameter at widest 9.3mm, weight 8.9g; 20th century in date.

Cat. No. 10004. SF.1914. The domed-shaped head from a copper alloy tack. The head is filled with pewter and the shank is missing. Diameter 16.4mm, height 5.1mm, weight 3.7g; 17th-18th century in date.

Figure 46. Pewter or lead seal <10210> of 12th-13th century

Cat. No. 10005. SF.1915. The incomplete elongated eye from a possible copper alloy hasp. Oval in cross-section, the upper part of the eye and two partial sides remain. A more complete parallel is recorded in Nonsuch Palace (Biddle, 2005, 363, fig. 171). Dimensions 27.3x22.5x4.9mm, weight 7.4g; 17th century in date.

Cat. No. 10009. SF.1919. A tombac button with an undecorated upper surface. The reverse has a raised conical mount for the intact copper alloy eye loop. Diameter 19.9mm, weight 3.3g; 18th century in date.

Cat. No. 10019. SF.1929. An incomplete copper alloy rivet with circular-sectioned shaft. One head is present and circular, the other is incomplete. Diameter of shaft 5.5mm, length of shaft 8.2mm, diameter of head 12.6mm, weight 3.5g. Post-Medieval in date.

Cat. No. 10020. SF.1930. A large copper alloy button or cloak fastener. The convex upper surface has sixteen grooves radiating from the centre. The concave reverse has a raised dome where a loop has broken off. Diameter 31.3g, height 7.6, weight 12.2g; 18t-19th century in date.

Cat. No. 10021. SF.1931. A convex furniture escutcheon plate in the form of a flower with six petals. A rectangular perforation measuring 37.9x34.3mm is present in the centre of the mount. A parallel is illustrated in East Anglian Archaeology Report No 30 (Margeson. 1993. P80). Dimensions 37.0x34.2mm, weight 8.5g. Mid-17th/18th century in date.

Cat. No. 10023. SF.1933. An incomplete cast pewter button, there is a cone shank with the remains of an imbedded iron loop. A mould seam is also visible on the reverse. Diameter 28.8mm, weight 6.4g. Early 18th century in date.

Cat. No. 10029. SF.1939. A fragment of a pair of cast copper alloy scissors. One circular finger loop and a partial arm remain. The arm has a 'D'-shaped cross section and curves before joining the finger loop. Length 53.1, diameter of loop 18.3mm, cross section of arm 4.8x4.6mm, weight 8.2g. Post-Medieval in date.

Cat. No. 10045. S.F.1955. A flat discoid button or cloak fastener with a very shallow scar where the loop would have attached. The upper surface is decorated with a raised bar with diagonal grooves and a slightly tilted *fleur-de-lys* to the upper left of the bar. The rest of the upper surface is obscured with corrosion. Diameter 27.7mm, weight 5.2g; 18th-19th century in date.

Cat. No. 10049. SF.1959. An undecorated tombac button. The reverse has a raised conical mount for the intact copper alloy loop. Diameter 20.1, height 9.8mm, weight 4.2g; 18th-19th century in date.

Cat. No. 10050. SF.1960. A cast copper alloy buckle. The frame is oval with a tapering, integral plate that terminates in a square tab. The pin and one side of the plate are missing. In addition to the hole for the pin there are two rivet holes; one near the frame and the other is centrally placed in the tab. Length 50.5mm, width of frame 17.2mm, weight 3.6g. Mid-13th/early 15th century in date (Egan & Pritchard. 2002. P78).

Cat. No. 10051. SF.1961. An undecorated circular tombac button with intact copper alloy loop. Diameter 15.3mm, weight 3.0g; 18th century in date.

Cat. No. 10102. SF.2012. A curving copper alloy strip with rectangular cross-section. The upper surface has been marked with regularly spaced incised grooves and the numbers '3', '4', '5' and '6'. The grooves are 3.2mm apart and may indicate weight. Possibly part of a hand-held set of scales. Length 59.5mm, cross-section 2.1x6.3mm, weight 4.2g. 18th-19th century in date.

Cat. No. 10110. SF.2020. Three refitting fragments of sheet copper alloy, roughly circular in shape. Heavily distorted but may have been a bi-conical button. Diameter 26.3mm, weight 3.3g. Post-Medieval in date.

Cat. No. 10112. SF.2022. A two-piece discoid button with stamped circles forming a honeycomb pattern within a circumferential groove. The copper alloy loop is heavily corroded and distorted but complete. Dimensions 13.2mm, weight 1.0g. Mid-Late 19th century in date.

Cat. No. 10117. SF.2027. A complete copper alloy suspension ring with an oval cross section. The surface is roughly finished with file marks over all surfaces. External diameter 26.3mm, thickness 5.1mm, weight 4.9. Late Medieval-Early Post-Medieval in date.

Cat. No. 10151. SF.2061. A copper alloy button, the upper surface is undecorated. The reverse is gilt with illegible text between two concentric grooves. The loop is intact and has traces of gilt. Diameter 20.1mm, weight 3.9g; 19th century in date.

Cat. No. 10158. SF.2068. A copper alloy mount formed of a *fleur-de-lys* over an isosceles triangle in turn over a circle. There are two bent prongs on the reverse for attachment. 32.6, width 12.7, weight 3.1g. Late 15th-17th century in date. This is a larger version of Cat. No. 10199. recorded below.

Cat. No. 10160. SF.2070. An undecorated tombac button with copper alloy loop intact. Diameter 17.6mm, weight 4.7g; 18th-19th century in date.

Cat. No. 10161. SF.2071. A copper alloy stud or mount with dome-shaped head. Some flecks of gilding remain on the upper surface. The square sectioned shank is incomplete. Diameter 11.3mm, dimensions of shank 2.7x2.6mm, weight 1.0g. Post-Medieval in date.

Cat. No. 10163. A copper alloy book clasp, rectangular in shape with the inner end flaring and decorated with three notches. The opposite end has a centrally place hook. The upper surface is decorated with a rivet within two concentric circles. Several parallels are illustrated in Margeson. (1993. P74). Early 17-late 18th century in date.

Cat. No. 10166. SF. 2076. A rectangular sheet of cast copper alloy, the two opposing sides are folded upwards to an approximate 80-degree angle. Uncertain function. Dimensions 37.4x23.3x1.7mm, weight 9.9g. Post-Medieval in date.

Cat. No. 10171. SF.2081. A copper alloy disk with centrally located indentation. The object has an uncertain junction. Diameter 18.8mm, weight 4.7g. Post-Medieval in date.

Cat. No. 10184. SF.2094. A fragment of copper alloy strip roughly rectangular in shape and slightly tapering edges. Two small circular rivet holes are punched along one edge. Both edges have slightly raised ridges. Width at widest 9.8mm, width at narrowest 8.1mm, length 25.3mm, weight 1.5g. Probable binding strip. Post-Medieval in date.

Cat. No. 10185. SF.2095. A square sheet of sheet copper alloy, an off-centre nail hole has been punched through. Dimensions 34.8x32.5x1.9mm, diameter of nail hole 6.9mm, weight 9.3g. Post-Medieval in date.

Cat. No. 10187. SF.2097. A copper alloy suspension ring with oval cross section. Diameter 25.5mm, thickness 2.7mm, weight 1.9mm. Probable Post-Medieval date.

Cat. No. 10199. SF.2109. A copper alloy mount formed of a *fleur-de-lys* over an isosceles triangle, in turn over a circle. There are two prongs on the reverse for attachment, it has been suggested that double prongs are characteristic of horse harness mounts (Egan 2005. P40). Length 26.1mm, width 9.2mm, weight 1.8g. Late 15th-17th century in date.

Cat. No. 10222. SF.2132. A tombac button, the upper surface is undecorated and convex in shape, the loop is intact. Diameter 14.4mm, weight 2.1g. 18–19th century in date.

Cat. No. 10233. SF.2143. Very small fragment of cast copper alloy comprising of one complete 'D'-shaped and one incomplete probably circular aperture. Possible fragment of open work buckle or strap end. Dimensions 7.2x7.2x1mm, weight 0.1g. Post-Medieval in date.

Cat. No. 10253. SF.2163. A cast copper alloy domed mount with a single perforation for a rivet. Traces of gilding remain on the upper surface. Possibly related to horse equipment. A similar object was recovered during excavations at West Fen Road, Ely (Mortimer *et al*. 2005. Pg. 87) Diameter 40.9mm, thickness 4.4mm, weight 7.8g. Probably 16th century in date.

Cat. No. 10260. SF.2170. A fragment of rectangular shoe buckle, one complete and one partially complete side remains. The frame is formed of an openwork looping cable overlain with a ribbon

with the following text, 'TO FREDERI...'. A similar is recorded on the PAS database (PAS ID: NMS-02E9C2). Dimensions 41.3x20.9x1.8mm, weight 4.3g. Late 18th century in date.

Cat. No. 10266. SF.2176. A copper alloy furniture fitting in the form of an escutcheon plate. Disc-shaped with a centrally punched hole for a handle. Convex at the front and flat at the rear. The only decoration is a circumferential moulded groove. Diameter 41.8mm, diameter of punched hole 7.3mm, weight 20.9g; 18-19th century in date.

Cat. No. 10267. SF.2177. A copper alloy button with silvering to the upper surface. Decorated with two circular grooves enclosing radiating lines. Loop intact. Diameter 19.8mm, weight 3.2g. Mid-19th – Early 20th century in date.

Cat. No. 10276. SF.2186. A copper alloy button, the upper surface is undecorated. The reverse has the following text within two concentric grooves, 'TREBBLE GILT STD COL MS & JD'. The loop is distorted but intact. Diameter 19.2mm, weight 3.4g; 19th century in date.

Cat. No. 10283. SF.2193. A copper alloy circular coin weight, much of the surface is obscured with copper corrosion, although an outer border of pips is visible on one side and a head facing right with a *fleur-le-lys* topped sceptre are just visible on the other. The dimensions and weight match those of a *unite* of James I (2nd coinage revalued), an example is recorded on the PAS database (Record ID: HAMP-294BA6). Diameter 18.8mm, thickness 4.5, weight 9.2. Early - Mid 17th century in date.

Cat. No. 10286. SF.2196. A rectangular fragment of copper alloy sheet. A punched rectangular nail or rivet hole is centrally located. Dimensions 45.9x19.6x1.4mm, dimensions of rivet hole 3.7x3.0mm, weight 6.0g. Medieval or later in date.

Cat. No. 10301. SF.2211. The sub-oval shaped bowl from a copper alloy spoon. The reverse of the spoon has an elongated raised triangular rats-tail. Length 37.8mm, width 22.6mm, depth 6.1mm, weight 4.7g; 17th century in date.

Cat. No. 10315. SF.2225 F4500. An irregularly shaped fragment of copper alloy sheet. Undecorated except for three rivet holes, one located centrally, the others in opposite corners. Dimensions 61.1mmx52.8mm, thickness 0.7mm, weight 8.8g. Post-Medieval in date.

Cat. No. 10342. SF.2252. Two refitting fragments of shoe buckle. One complete side and partial edge is present, the central bar is missing. A groove runs along the outside edge of both fragments. Length of complete side 55.1mm, thickness 5.6mm, weight 6.7g. Mid-late 18th century in date.

Cat. No. 10390., SF.2300. A plain flat copper alloy button with heavily corroded loop intact. Diameter 24mm, weight 3.9g; 19th century in date.

Cat. No. 10392. SF.2302. An undecorated flat tombac button. The reverse has a dome with the remains of a copper alloy wire loop remaining. Diameter 16mm, weight 2.6g. Early–Mid 19th century in date.

Cat. No. 10393. SF.2303. A plain flat copper alloy button. No loop remains. Diameter 16mm, weight 1.1g. Post-Medieval in date.

Cat. No. 10253. SF.2163. A circular domed mount with rivet hole. The upper surface is pitted and in poor condition although traces of gilding remain. A possible handle plate from furniture or horse equipment (Biddle. 2005. P 362). Post-Medieval in date.

Cat. No. 10750. SF.2660 Subsoil. A circular escutcheon plate with centrally located hole. Convex and undecorated. Diameter 31.0mm, weight 7.2g; 18th-19th century in date.

Cat. No. 10751. SF.2661. A heavily corroded single plate of a copper alloy strap end. Rectangular in shape with angled end. A heavily corroded rivet is located centrally at the broad end. A parallel is recorded on the *Portable Antiquities Scheme database* (ID OXON-5451C1). Length 42.3mm, girth 14.5mm, thickness 1.2mm, weight 3.5g. Medieval in date.

Cat. No. 10753. SF.2662. A copper alloy oval loop with oval cross-section which is attached to a second small loop, broken presumably from use. One side of the larger loop is flattened and may

have rested against a surface during use. The object is of uncertain function but may be part of horse equipment, such as a bit. The larger loop measures 58.5x31.8x98mm, the second loop measures 32.9x18.0x4.2mm, combined weight 44g. Post-Medieval in date.

Cat. No. 10754. SF.2664 Subsoil. A circular tombac button, the upper surface is decorated with an engraved flower comprised of five petals and five short, triangular leaves. The loop is missing. A similar button is recorded on the PAS database (Record ID: LANCUM-690497). Diameter 17.4mm, weight 3.8g; 18th -19th century in date.

Cat. No. 10758. SF.2668. A large circular button with a slight raised ridge around the circumference and traces of silver plate remaining on the upper surface. The copper alloy loop is complete. Diameter 24.8mm, weight 3.0g; 18th-19th century in date.

Cat. No. 10759. SF.2669. An undecorated tombac button with loop intact. The reverse has a central domed boss where an incomplete loop is attached. Diameter 23.1mm, weight 4.0g; 18th – 19th century in date.

Cat. No. 10761. SF.2671. A cast copper alloy circular escutcheon plate with a centrally punched hole, decorated with alternating concentric ridges and grooves. A parallel is recorded on the PAS database (Record ID: LVPL-32637A) Part of the outside edge is flattened possibly due to wear. Diameter 27.4mm, weight 4.3g. Mid-17th/Mid-18th century in date.

Cat. No. 10762. SF.2672. A cast solid copper alloy button. Plano-convex in shape with integral stemmed loop. Several are illustrated in Egan (Egan 2005. P49). Diameter 10.9mm, weight 2.7g; 17th century in date.

Cat. No. 10776. SF.2686. An undecorated tombac button with intact loop. Diameter 26.6mm, weight 7.3g; 18th – 19th century in date.

Cat. No. 10781. SF.2691. A plain rectangular fragment of copper alloy sheet. Dimensions 27.5x17.8x0.8mm, weight 1.7g. Unidentified. Post-Medieval in date.

Cat. No. 10787. SF.2697. A fragment of cast copper alloy, two incomplete rectangular-sectioned arms project away from a raised circular aperture. Unknown function. Dimensions 24.1x16.0x4.8mm, weight 3.2g. Post-Medieval in date.

Cat. No. 10790. SF.2700. A complete single loop-frame 'D'-shaped copper alloy buckle, undecorated and the pin is missing. The bar is square in section. Width 40.7mm, depth 23.2mm, weight 5.0g. Early Post-Medieval in date.

Cat. No. 10792. SF.2702. A complete, but flattened two-part sheet copper alloy button with wire loop. Diameter 16.4mm, weight 1.3g. Probable 17th century date.

Cat. No. 10794. SF.2704. An undecorated circular copper alloy button with silver plating to the upper surface, the loop is missing. Diameter 18.8mm, thickness 1.2mm, weight 1.7mm; 18th-19th century in date.

Cat. No. 10795. SF.2705. A cast copper alloy leg fragment from a Post-Medieval cauldron. The surface is very corroded and pitted. A very similar example is recorded on the *Portable Antiquities Scheme Database* (ID FAKL-0FCC12). Height 31.9mm, width 51.4mm, weight 131.6; 16th-17th century in date.

Cat. No. 10797. SF.2707. A white metal plated copper alloy button, discoid in shape, loop missing. Diameter 19.8mm, weight 3.4g; 18th to 19th century in date.

Cat. No. 10807. SF.2717. Copper alloy Royal Engineers button, some gilding remains on the upper surface. Shank intact. Diameter 16.6mm, weight 1.4g; 19th century in date.

Cat. No. 10808. SF.2718. A silver plated cast copper alloy button. There is pitting and corrosion to the convex upper surface. The reverse has 'PLATED' and two olive branches stamped around the circumference. Diameter 19.7mm, weight 3.3g; 19th century in date.

Cat. No. 10830a. SF.2740. A copper alloy sock buckle with rectangular frame and three stud chape. The central bar has three prongs. Dimensions 30x27mm, weight 5.4g; 18th century in date.

Cat. No. 11009. [16270] SL.3987 F.4515. Two refitting fragments of copper alloy plate in poor condition. A single punched rivet hole is located at one end, and transverse groove with two additional grooves that form an 'X' are located at the other. A possible buckle plate or book mount. Medieval/early Post-Medieval in date.

Cat. No. 11183. [16112] F.4526. An undecorated circular button with loop intact. Traces of gilding remain on the reverse. Diameter 13.4mm, weight 1.3g. Post-Medieval in date.

Post-Roman Iron

Cat. No. 252. SF.1303. An iron washer with sub-circular aperture and plano-convex in section. Diameter 39mm, thickness 6.5mm, weight 21.9g. Probably Post-Medieval in date.

Cat. No. 253. SF. 1304 A length of iron chain link. Formed from 45 circular sectioned oval links. Each link measures 28.5x18.6x5.5mm, Total length 815mm, weight 490.3g. Late 19th-20th century in date.

Cat. No. 10000. SF.1910. A complete circular-sectioned large cast iron ring. Diameter 68.3mm, thickness 10.4mm, weight 112.4g. Post-Medieval in date.

Cat. No. 10001. SF.1911. A heavily corroded horseshoe arm with no visible nail holes or caulkin. Length 118.1mm, cross-section 29.2x10.9mm, weight 132.5g; 18th-19th century in date.

Cat. No. 10284. SF.2194. One half of the upper ring from a wavy-edged shoe pattern frame, made from cast iron and rectangular in section. Parallels are illustrated in *Nonsuch Palace* (Biddle, 2005. Pg. 408 Fig 202) and the *Portable Antiquities Scheme Database* (ID BERK-68B68D). Length 118.6mm, depth 51.1mm, dimensions of cross-section 8.4x5.7mm, weight 33.8g; 17th century in date.

Cat. No. 10288. SF.2198. Incomplete rectangular-sectioned strip, tapering and curving at one end. Length 63.7mm, width at widest 19.7mm, width at narrowest 15.7mm, thickness 6.7mm.

Cat. No. 10302. SF.2212. A heavily corroded incomplete iron handle fragment with a roughly triangular-shaped terminal with a centrally place iron rivet; a possible door handle. The curving arm is incomplete and formed from a hollow oval-sectioned rod. Dimensions 71.7x36.9, weight 32.1g. Probably Post-Medieval in date.

Cat. No. 10338. S.F.2248 F.4500. A simple cast iron handle, incomplete and heavily corroded with tapering cross section that changes from oval to circular. Probably from a large vessel or door. Length 106.8, width 17.7mm (widest), weight 29.5g. Post-Medieval in date.

Cat. No. 10541. SF.2451. A rectangular sectioned iron fragment narrowing at one end with a rounded notch on one face. Length 73.5mm, cross-section 19.3x17.3mm, weight 113.8g. Post-Medieval in date.

Cat. No. 10788. SF.2698. A simple undecorated square buckle frame with rectangular cross-section. The pin is complete with square cross-section. A parallel is recorded on *Portable Antiquities Scheme Database* (ID NLM-4CE1EB). Dimensions 37.4x36.8, thickness 5.9mm, weight 14g; 16th-17th century in date.

Cat. No. 10814. SF.2724. An incomplete rectangular fragment of iron. Slightly curved on its longest axis and possibly from a vessel. Dimensions 41.2x26.7x7.3mm, weight 29.4g. Post-Medieval in date.

Cat. No. 10842. SF.2752. A tapering fragment of rectangular sectioned iron, at its midway point there is a right angle bend. Possibly an incomplete staple or other structural ironwork. Dimensions 57.7x49.4x14.1, weight 23.7g. Probably Post-Medieval in date.

Cat. No. 10874. SF.2784. A small rectangular tag with two hooks on the opposing narrow edges, one curving up and one curving down. Heavily corroded on one side with possible rivets on each corner. Dimensions 27.4x11.6x3.7mm, weight 3.6g; 18th-19th century in date.

Cat. No. 10900. SF.2810 [17214] SL.4185. A wrought iron leg of rectangular section. May be part of a tripod, possibly from a candlestick. The leg is straight and slightly tapering to a rounded foot. Length 77.3mm, cross-section at widest 10.7x7.6mm, weight 17.8g; 17-18th century in date.

Cat. No. 11107. [16116] F.4549, Furrow. Fragment of irregularly-shaped cast iron vessel, less than 25% of the diameter survives. Dimensions 70.4x41.7x3.9mm, weight 46.3g. Post-Medieval in date.

Cat. No. 11123. [16508] SL.4052 F.4622, Enclosure Outer Ditch. A fragment of iron wire folded over to form a clip, one end is curled over to form a loop. Dimensions 37x11.6mm, weight 2.7g. Post-Medieval in date.

Cat. No. 11152. [17181] SL.4162 F.4753, Structure 4. A heavily corroded fragment of iron frame 'U' shaped in section, possibly to hold window glass. Length 75.1mm, width 15.3, thickness 8.1g, weight 9.8g. Late 19-20th century in date.

Post-Roman Lead

Cat. No.	SF No.	Wt (*g*)	Diam. (*mm*)		Bore	Notes
			Max	Min		
10014	1924	10.31	12.9	11.0	Pistol/ Musket	Slight impact damage. Mould seam visible. Erosion damage over surface.
10066	1976	8.51	11.9	11.5	Pistol/ Musket	Mould seam visible. Damage from cutting sprue.
10094	2004	12.76	13.5	12.4	Pistol/ Musket	Mould scar visible, impact damage. Probable post depositional damage.
10105	2015	9.09	12.0	11.8	Pistol/ Musket	Sprue scar visible.
10109	2019	11.22	12.8	11.9	Pistol/ Musket	Mould seam visible. Damage from cutting sprue.
10163	2073	12.53	13.8	11.4	Pistol/ Musket	Slight impact damage.
10186	2096	11.99	12.6	12.4	Pistol/ Musket	Mould seam visible, sprue not completely removed.
10211	2121	3.72	9.1	7.4	Buckshot	Deep scar from cutting sprue. Impact damage.
10242	2152	10.81	14.8	9.1	Pistol/ Musket	Heavily distorted probably from post depositional damage, sprue scar visible.
10249	2159	17.80	14.5	14.3	Carbine	Mould seam visible, Sprue scar visible. Very good condition.
10255	2165	13.06	13.3	13.0	Pistol/ Musket	Mould seam and sprue visible.
10265	2175	17.58	15.5	13.2	Carbine	Impact damage.
10273	2183	6.55	10.5	10.2	Buckshot	Snipped sprue visible and possible impact damage.
10274	2184	6.62	10.4	10.3	Buckshot	Mould seam partially visible.
10277	2187	6.18	10.5	10.3	Buckshot	Mould seam and sprue visible,
10388	2298	2.24	10.0	4.4	Buckshot?	Probable failed casting of a bullet, hemispherical with flash attached to one side.
10766	2676	13.54	13.1	12.8	Pistol/Musket	Mould seam visible.
10780	2690	12.32	12.9	12.6	Pistol/ Musket	Sprue scar visible.
10783	2693	14.84	13.6	13.5	Pistol/ Musket	Sprue scar visible.
10806	2716	11.35	15.8	8.4	Pistol/ Musket	Heavy impact damage.

Table 88. Summary of lead Pistol/Musket bullets.

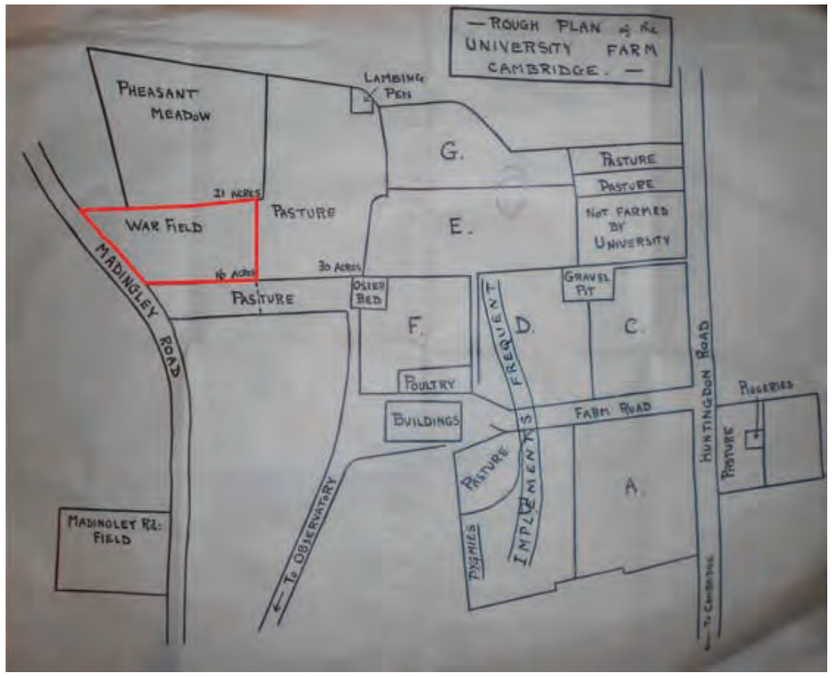


Figure 47. Lead bullets and mid - 20th century university map of the site

Fragments of casting waste and offcuts of lead sheet are not listed here. In total 20 lead pistol/musket balls and other assorted bullets were recovered, and are recorded in Table 88 (Fig. 47). Seven bullets displayed evidence that they had hit a solid surface; the remainder were either never fired or missed their intended target.

Cat. No. 9986. SF.1806. A complete but misshapen lead vessel with a semi-circular base. The sides are slightly flaring and step out at a right angle towards the rim to form an internal ridge. A central raised ridge runs around the rim. The rear face is flat and undecorated. A similar is published by Egan (2005, P129. 617). Width 56.8mm, depth 29.6mm, weight 64.9g; 16-17th century in date.

Cat. No. 9990. SF.1810. A lead alloy bullet, domed at the top with a flat base. 12.1mm in diameter, length 12mm, weight 9.5g. Late 19th or early 20th century in date.

Cat. No. 10007. SF.1917. A sub-circular undecorated pan weight measuring 24.3x26.4x3.7mm, weight 14.1g (0.49oz). Post-Medieval in date.

Cat. No. 10044. SF.1954. A lead weight cast in the form of an elongated heart. The upper surface is smooth and lightly patinated which may indicate a later date. The lower surface and sides are uneven and roughly finished. Dimensions 25.9x17.1x5.8mm, weight 15.6g (0.55oz); 17-19th century in date.

Cat. No. 10068. SF.1978. A large sub-spherical cast lead weight. A centrally placed circular aperture runs through the object and the upper surface has a centrally placed circular-sectioned integral cross-bar. The reverse is very roughly finished with the aperture becoming irregular in shape. Weighing 1187g (41.85oz) it is too large to be for a scale or steelyard and it is probably integral to a piece of machinery. Diameter 72.5mm, height 39.7mm. Likely late–Post-Medieval in date.

Cat. No. 10070. SF.1980. A large sub-spherical cast lead weight, similar to Cat. No. 10068. but more roughly finished. A centrally placed circular aperture runs through the object and the upper surface has a centrally placed circular-sectioned integral cross-bar. The reverse is very roughly finished with the aperture becoming irregular in shape. Weighing 1322g (46.65oz) it is too large to be for a scale or steelyard and it is probably integral to a piece of machinery. Dimensions 74.4x63.9mm, thickness 49.6mm. Likely late – Post-Medieval in date.

Cat. No. 10111. SF.2021. A fragment of lead alloy sheet, roughly square with one corner folded over. An incomplete circular sectioned rod has been attached off-centre, possibly part of a hook or latch. Dimensions 21.3x21.2x7.3mm, weight 3.8g. Unidentified but Post-Medieval in date.

Cat. No. 10146. SF.2056. A miniature lead boot from a toy or figurine, it is plain and broken off just above the ankle. A heel is clearly defined and semi-circular in section. The boot widens towards the toe. The style and condition of the object would indicate a Post-Medieval date. Length 14.2mm, width 5.6mm, height 9.8mm, weight 2.8g.

Cat. No. 10159. SF.2069. A sub-circular shaped lead token or weight, one surface has eight raised lines forming an eight-pointed star with a pellet in each field. The other side is rough and several illegible letters are present. A small scar from the sprue is present. Length 24.3mm, thickness 2.9mm, weight 5g; 16th-17th century in date.

Cat. No. 10200. SF.2110. Two refitting fragments of lead sheet, roughly rectangular in shape with two complete sub-triangular punched holes and three incomplete probable holes equally spaced around the outside edges. Dimensions 52.9x31.9x3mm, weight 24.3g. Undated.

Cat. No. 10210. SF.2120, subsoil. A rolled 12th-13th century pewter or lead seal, showing a King with a *fleur de lis*-topped spectre (see Fig. 46). Weight 43g. Possibly made from a royal seal matrix, the top border has the imprint of a Continental coin and the piece may well be imported (Martin Henig, *pers. comm*.). The manner in which the figure is centrally trimmed, and then the piece tightly rolled, could suggest that its deposition was somehow votive and probably done in knowledge of the earlier Roman settlement, perhaps as masonry from its buildings was then still

visible. However, the imprint of the coin, and with no legend or scroll border, may also point to a practice of forgery of a seal, and perhaps also of coins. Further analysis is ongoing.

Cat. No. 10250. SF.2160. A small fragment of thin milled lead window came with faint diagonal reeding on both sides of the web. Length 39.7, width 8.8 height 3.4mm, weight 2.9g. Probably 17-18th century in date.

Cat. No. 10254. SF.2164 A sheet of lead that has been folded in half and folded twice again to form an 'S'-shape. A single sub-rectangular hole has been punched through one end. Dimensions 36.2x24.4x17.2mm, weight 28.7g. Late Medieval or Post-Medieval in date.

Cat. No. 10278. SF.2188. A circular undecorated lead pan weight, slightly distorted but with an average diameter of 24.7mm, average thickness of 3.4mm and weighing 14.2g (0.49oz). Post-Medieval in date.

Cat. No. 10289. SF.2199. A circular lead weight with slight surface damage. One surface may be decorated with a very faint circle. Diameter 41.4mm, thickness 6.3mm, weight 71.2g (2.51oz). Early Medieval to 19th century in date.

Cat. No. 10341. SF.2251 Two refitting fragments from a lead bag or sack seal consisting of two discs that were originally joined by a short rectangular tab. The top disc has a circular rivet with a raised letter 'T' placed centrally, the lower disc has a central circular hole that the rivet would have been pushed through. Several similar examples are recorded on the *Portable Antiquities Scheme* database (WMID-65F2E6 and DENO-F65CE7). Dimensions 27.2x23.1x5.6mm, weight 8.5g; 17th-18th century in date.

Cat. No. 10345. SF.2255. An irregularly shaped fragment of lead sheet, folded over twice. Dimensions 66.2x50.9x20.3mm, weight 113.2g. Undated.

Cat. No. 10387. SF.2297. A lead line or net weight formed from rolling a rectangular piece of cast lead sheet. A parallel has been published by Egan (Egan 2005. 158. fig 154) and recovered from 16th-17th century deposits; however, this form of weight was in use from at least the early medieval period. Dimensions 24.7x6.2x5.1mm, weight 4.8g.

Cat. No. 10509. SF.2419 F.4513, Enclosure Inner Ditch. A probable setting for an iron bar, distorted and flattened, the aperture for the iron bar appears to have been circular in section. A parallel is recorded by Biddle (2005, P347. Fig 162). Dimensions 44x41.1x23.6, weight 129.1g. Late Medieval to Post-Medieval in date.

Cat. No. 10778. SF.2688. A curved fragment of pewter, rectangular in section and tapering. Casting seams run along both sides. Possibly the lower part of a tankard handle or other pewter vessel. Length 31.4mm, width (widest 7.5mm), height 3.5mm, weight 4.1g. Post-Medieval in date.

Cat. No. 10801. SF.2711. A cast lead filling or palm guard. The object is oval in plan with a 'D' shaped cross section. Dimensions 41.6x34.3x13.7mm, weight 84.7g. Post-Medieval in date.

Cat. No. 10802. SF.2712. A lead line or net weight formed from rolling a rectangular piece of cast lead sheet. Dimensions 23.5x11.0x5.6mm, weight 8.5g.

Cat. No. 10803. SF.2713. An irregularly shaped fragment of folded lead sheet with two punched holes. Dimensions 27.9x21.8x7.7mm, weight 11.5g. Probably Post-Medieval in date.

Cat. No. 10821. SF.2721. A lead alloy weight, the surfaces are worked and faint detailing is just visible. A small hole is located centrally. Diameter 19.6mm, thickness 2.8mm, weight 6.7g. Medieval or Post-Medieval in date.

Table 89. Post-Medieval Coins and Tokens.

Feature Group	Cat. No.	SF No.	Feature	Context	Slot	Mat.	Description	Diam. (mm)	Wt (g)	Date
Furrow	11012		4541	16160	3957	Cu	Ship type jetton, R. Fleur-de-lis within a diamond. Jetton.	26	1.26	16th-17th
Subsoil	10818	2728		Spoil Heap (west)		Cu	Very poor condition. Farthing.	22	3.89	Post-Med
Subsoil	10010	1920		Surface		Pb	Token with fern or tree like design.	14	2.33	17th
Subsoil	10015	1925		Surface		Pb	Lead token with central circle and radiating lines.	17	2.17	Late 15th-Early 16th
Subsoil	10031	1941		Surface		Cu	Victoria, R. Britannia. Farthing.	22	4.4	1838-1860
Subsoil	10039	1949		Surface		Cu	George III, 'GEORGIVS…', R. Britannia just visible, 1st issue. Halfpenny.	26	6.6	1770-1775
Subsoil	10042	1952		Surface		Ag	Edward I, 'EDW R ANGL DNS hYB', R. Long cross, London mint. Penny.	20	1.3	1272-1307
Subsoil	10046	1956		Surface		Pb	Lead token with 'fern' like design on one side and flower petal design on the reverse. Token.	14	2.66	17th
Subsoil	10178	2088		Surface		Ag	Victoria, '…TIA BRITANNIA…',R. Wreath, ' SIX PENCE, 1842'.	20	2.44	1842
Subsoil	10189	2099		Surface		Cu	Possible Rose farthing.	15	0.69	17th?
Subsoil	10240	2150		Surface		Cu	George II, R. Illegible. Halfpenny.	29	8.45	1729-1754
Subsoil	10275	2185		Surface		Cu	Hans Krauwincel II rose orb Jetton.	21	0.68	1586
Subsoil	10292	2202		Surface		Pb	Token with fern or tree like design.	26	13.78	17th
Subsoil	10293	2203		Surface		Cu	William III, poor condition. Halfpenny.	29	9.21	1695-1701
Subsoil	10298	2208		Surface		Ag	Elizabeth I, R. Coat of arms. Threefarthings.	14	0.42	1558-1603
Subsoil	10384	2294		Surface		Cu	Hans Krauwincel II rose orb Jetton.	25	1.3	17th
Subsoil	10752	2662		Surface		Pb	Lead token with 'X' pettern on one side and 'I.H' on the other.	24	4.71	17th
Subsoil	10796	2706		Surface		Cu	Farthing sized trade token, One side has two lions on a shield. The reverse has '…ES…ERIS…170…'.	22	3.35	18th

Glass – Vicki Herring

A small quantity of 18/19th century vessel glass (23) and window glass (3) was collected from both features and surface deposits.

Enclosure Inner Ditch

Cat. No. 871, F.4513 [16195]. Thickness: 1.9-1.3mm. Vessel. Utility bottle. Pale green. Free blown. Undiagnostic body fragment. Form unknown. Thick opalescent patina; 18th-19th century.

Cat. No. 10581, F.4508 [2491]. Thickness: 10.1-8mm. Vessel. Utility bottle. Dark Olive green. Free blown. Base fragment. From large base kick. Bottle form unknown. Very thick opalescent patina; 18-19th century.

Cat. No. 10657, F.4512 [2567]. Diameter: *c.* 90-100mm. Thickness: 4.7-2.9mm. Vessel. Utility bottle. Olive green. Free blown. Base fragments x2. Body fragments x2. Specific form unsure, squat cylindrical to cylindrical. Very thin opalescent patina; *c.* 1750-1820.

Enclosure Outer Ditch

Cat. No. 874, F.4506 [16251]. Thickness: 0.9mm. Vessel. Bottle or phial. Pale green. Undiagnostic fragment. Form unknown. Thick brown and opalescent patina. Post-Medieval.

Enclosure Partition

Cat. No. 857, F.4500 [16020]. Thickness: 1.6mm. Vessel. Unknown. Colourless green tinge. Undiagnostic body fragment. Form unknown. Thick opalescent patina. Post-Medieval?

Pit Alignment 2

Cat. No. 885, F.4528 [16485]. Thickness: 1.5mm. Vessel. Utility bottle. Olive green. Undiagnostic body fragment. Possible ground out mould line? Form unknown; 19th century.

Pit Group 2

Cat. No. 879, F.4582 [16307], posthole. Thickness: 3.9mm. Vessel. Utility bottle. Olive green. Free blown. Undiagnostic body fragment. Form unknown; 18th-19th century.

Pit Group 3

Cat. No. 884, F.4610 [16456]. Diameter: *c.* 100mm base. Thickness: 9.8mm. Vessel. Utility bottle. 'Black'. Free blown? Base fragment. Remains of high, rounded base kick. Form unknown. Likely cylindrical. Very thick opalescent patina; 19th century.

Small Ditches and Gullies

Cat. No. 862, F.4534 [16115]. Thickness: 3.9mm. Vessel. Utility bottle. Colourless green tinge. Moulded. Undiagnostic body fragment with vertical mould seam. Form unknown. Late 19th-early 20th century.

Furrows - Vessel Glass

Cat. No. 861, F.4543 [16105]. Thickness: 4mm. Vessel. Utility bottle? Pale green. Free blown. Undiagnostic fragment. No original surfaces. Form unknown. Probable utility bottle; 18th-19th century.

Cat. No. 864, F.4526 [16123]. Thickness: 6.3-5mm. Vessel. Utility bottle. Olive green. Free blown. Undiagnostic body fragment. Form unknown, probably squat cylindrical - cylindrical. Thin patina. Scratches and wear on outer surface; 18th-19th century.

Cat. No. 869, F.4541 [16160]. Thickness: 1.3mm. Vessel. Utility bottle. Olive green. Free blown. Undiagnostic body fragment. Form unknown. Onion - squat cylindrical. Thin translucent white patina; 18th century.

Cat. No. 876, F.4569 [16258]. Thickness: 1.1mm. Vessel. Prismatic bottle. Blue green. Undiagnostic body fragment. Flat piece from side of a square, rectangular or hexagonal bottle. Very thin opalescent patina. Possible thin-walled area of Roman prismatic bottle or more likely part of a Post-Medieval pharmaceutical bottle; 19th century.

Cat. No. 882, F.4521 [16407]. Thickness: 3.3mm. Vessel. Utility bottle. Pale green. Free blown. Undiagnostic body fragment. Form unknown. Thick brown opalescent patina; 18th-19th century.

Cat. No. 10556, F.4543 [2466.02]. Thickness: 4.1-3.1mm. Vessel. Utility bottle. Green. Free blown. Base/body fragment. Vessel form unknown, probably squat cylindrical to cylindrical. Thick opalescent patina; 18th-19th century.

Cat. No. 10590, F.4552 [2500]. Diameter: 31.3mm rim. Thickness: 4.3-3.8mm. Vessel. Utility bottle. 'Black'. Free blown. Neck and top only. Complete form unsure, squat cylindrical to cylindrical. Single applied collar just below slightly out-turned rim. Slight opalescent patina; *c.* 1750-1820.

Cat. No. 10676, F.4552. [2586.03]. Thickness: 1mm. Vessel. Unknown. Pale green. Small, thin, undiagnostic body fragment. Vessel form unknown. Thin opalescent patina. Post-Medieval.

Cat. No. 10676, F.4552 [2586.03]. Thickness: 3.5-2mm. Vessel. Utility bottle. Green. Free blown. Undiagnostic fragments x2. Bottle form unknown. Thick opalescent patina. Same vessel as context 2587. Post-Medieval (18th-19th century).

Cat. No. 10676, F.4552 [2586.03]. Thickness: 2mm. Vessel. Unknown. Black with white flashing. Flashed. Undiagnostic body fragment. Thin layer of white flashed on internal surface over black. Post-Medieval.

Cat. No. 10677, F.4552 [2587]. Thickness: 6.2-3mm. Vessel. Utility bottle. Green. Free blown. Three fragments - 2x base and 1x body. Bottle form unknown. Remains of high base kick. Possible onion. Very thick opalescent patina; 18th-19th century.

Furrows - Window Glass

Cat. No. 10588, F.4552 [2498]. Thickness: 1.6mm. Window. Quarry fragment. Very pale green. Plate cylinder? Small fragment. Even thickness. Few bubbles, impurities etc. Very thin patina; 18th-19th century.

Cat. No. 10677, F.4552 [2587]. Thickness: 1.9mm. Window. Quarry fragment. Green. Unknown. Small fragment with remains of one grozed edge. Even thickness with few bubbles. Thin opalescent patina on both surfaces. Post-Medieval.

Cat. No. 10738, F.4550 [2648]. Thickness: 0.7mm. Window. Quarry fragment. Pale green. Plate cylinder. Incomplete. No original edges. Smooth. Relatively few bubbles. Thin brown patina. Post-Medieval.

DISCUSSION

A now vast amount of fieldwork has occurred, both in the course of the North West Cambridge Project and the University's West Cambridge development, and this now frames Sites VII's results. Particularly important is Vicar's Farm's sequence that features in the Unit's forthcoming West Cambridge *Hinterlands* volume (Evans & Lucas forthcoming). Beyond this, in order to still further appreciate the status of Site VII's remains, brief review of Cambridge's two (definite) villa sites is here warranted: Arbury's Kings Hedges and Teversham's Hinton Fields.

Cambridge's Villas

Unfortunately, both of Cambridge's main, earlier-dug villa sites were rather ill-served by their excavations. We would have hoped to be able to draw upon their findings (and densities) to gauge Site VII's results; given the available sources, this simply is not possible.

The history of Arbury's King's Hedges villa's fieldwork is sadly vexed. First trench-investigated in 1950s by a Leys School society (and, later, by one 'M. Howard'), in the main it was dug by John Alexander and David Trump, between 1964 and 1969, as part of summer training schools. Unfortunately, only poorly illustrated and 'sketchy' interim notices ever arose from this (e.g. Alexander *et al*. 1969) and the work went unpublished. This situation was meant to have been rectified in 1994 when, anticipating the school's expansion there, Tempus Reparatum undertook further excavations and were meant to publish the earlier campaigns. Shortly thereafter, however, they went bankrupt and the post-excavation was never completed (various useful archive and background summaries were, though, produced by them: Lisboa 1994a & b).

During the course of Alexander (*et al*.)'s fieldwork, other sites/enclosure there were also test-investigated, as were the outbuildings relating to the villa's estate (including a possible corn-drier, a timber-frame well and an aisled barn), which cropmarks suggested could have covered upwards of 10ha. In both phases, though, the brunt of the fieldwork concentrated on the main house. In the later 2nd/3rd century AD it appears to have started out as an aisled two-storey hall (*c*. 14.5 x 29m), with stone pier bases and buttresses, and having chalk and limestone foundations (largely robbed out). In 3rd to late 4th centuries, this was rebuilt and extended, it being expanded with front wings to cover, in total, over c. 850 sqm (*c*. 47 x 18m max. dimensions). The villa certainly displayed a degree of architectural 'aspiration', having limestone roof tiles, window glass and painted plaster, plus evidence of tessellated pavements and a hypocaust. Quantities of animal bone were present (cattle predominant), with fish having been consumed. Some quantity of ironworking slag was apparently recovered. Amongst the metalwork were a gold 'Celtic' coin and an iron 'slave chain'; arguably, the most spectacular find was an inscribed 'military' stele-stone that had been reset in the packing of a pillar.

As plotted by Rog Palmer, the larger rectangular-block cropmark ditch-system in which the villa lay was not aligned with the northern route of Akeman Street/Mere Way and, indeed, the road appears to cut obliquely across it (see Timberlake 2006). Given the Arbury-area's limited-scale fieldwork exposures, there clearly are facets of its organisation and layout that remain far from understood.

The Arbury Road burials lay near to where, in 1952–53, Frend exposed a substantial stone-footed building and other settlement features (Frend 1955, figs. 1 & 2). 'Quality' building materials were also recovered there, including quantities of painted wall plaster. Located some 600m south of King's Hedges' villa, the evidence suggests that this was still another high status settlement complex in its own right.

Located on chalk marl on the east side of Cambridge (south of the airport), while not formally published as such, the report issued of the 1978–86 excavation of the villa at Teversham's Hinton Fields is relatively comprehensive (if lacking in much archaeological 'science'; Pullinger & White 1991). That said, typical of the time, its fieldwork was undertaken by a range of volunteer groups over summer seasons, with only its final season determined by a rescue need due to the insertion of a major storm-water service. Augmented by small exploratory trenches, two main areas were investigated. The dominant feature within that to the northwest (Site A) was a curvilinear enclosure of 3rd–4th century AD date. Considered a foundation trench for upright posts, its interior surface-area was cobbled and had a kiln and clay pit.

The main area, Site B, lying some 400m to the southeast, involved a 15 x 170m exposure, though only the *c*. 50m length of the eastern end – where the villa *per se* lay – was intensively examined. Preceded by a second century timber building, the villa proper dated to the later 3rd/early 4th centuries AD. Its construction involved wall foundation trenches, with timber uprights packed with clay and large flints (at one point a collapsed flint and limestone wall-length survived). There was evidence of both floor and roof tiles, with at least one room thought to have had a tessellated pavement; *opus signinum* was present and some window glass was recovered.

Given the nature of the available plans (and the work's trench-excavation format), it is difficult to get much sense of the Teversham complex's layout. It would seem to have been of a winged corridor- and/or courtyard-type with an open central hollow, thought perhaps to have been a sunken garden. Altogether, it appears to have extended over at least 60 x 60m and the evidence suggests that it might have had a more elaborate layout than King's Hedges' villa. Seemingly associated, extensive cropmarks are known in the area. The fields to the northwest, bordering the airport, have recently been evaluated by the CAU, with both widespread Roman and Iron Age settlement evidence and ditch systems recovered (Brittain 2017). At the latter's southwestern end, and beside the Saxon/Medieval hamlet of *Hintona* (Cherry Hinton; Cessford & Slater 2014), Oxford Archaeology East has excavated an Early Anglo-Saxon cemetery that developed around a ditch-enclosed Romano-British cremation cemetery (Hatherdene Close; Ladd & Mortimer 2017). The latter's grave-goods largely comprised miniature (pottery) flagons/beakers, with up to six accompanying the cremations and their main cinerary urns. Lying, however, at a distance from Pullinger and White's Teversham Site B, it is unlikely that these burials were directly associated with the villa.

Early Roman pottery kilns were also found at the Hatherdene Site. These resonate with the major Conquest Period pottery production site at Greenhouse Farm, on the north side of the airport (Gibson & Lucas 2002) and where extensive Iron Age/Early Roman settlements have also been investigated (see Evans *et al*. 2018, fig. 6.22). While not as yet investigated in such a coherent manner as the West and North West Cambridge lands, the picture arising from the eastern Teversham-/airport-area would suggest comparable later prehistoric/Roman settlement densities. Clearly, these too were 'complicated' lands, as was also Arbury's to the north and, to the south, Addenbrooke's and Trumpington (see *ibid*., chap. 6).

Cambridge's villas seem fairly modest when compared, for example, to the two investigated adjacent to Godmanchester (Green 1978; Lyons forthcoming) or Litlington's developed-courtyard 30-room plan and Ickleton's layout (17 rooms; Lucas 2000). Other villa candidates are known within the area (*ibid*.; Evans *et al*. 2008, fig. 3.23). These include one investigated on Cambridge's southern fringe, at the Perse School (Walker 1910; *BLS*, 17–18) and, in the north, at the Milton Landfill Site. At the latter, however, its southern swathe, where its postulated villa was thought to lie, was only summarily investigated under dire rescue circumstances and never actually excavated. Accordingly, its villa attribution cannot be confirmed. That said, preceded by an Iron Age settlement, its Roman complex apparently included a corn-drier, 'timber barn' and 'latrine' – plus a cremation-related mortuary enclosure/barrow (Reynolds 1995) – and, subsequently a network of horticultural lazy-/planting-beds have been found in association (Collins nd).

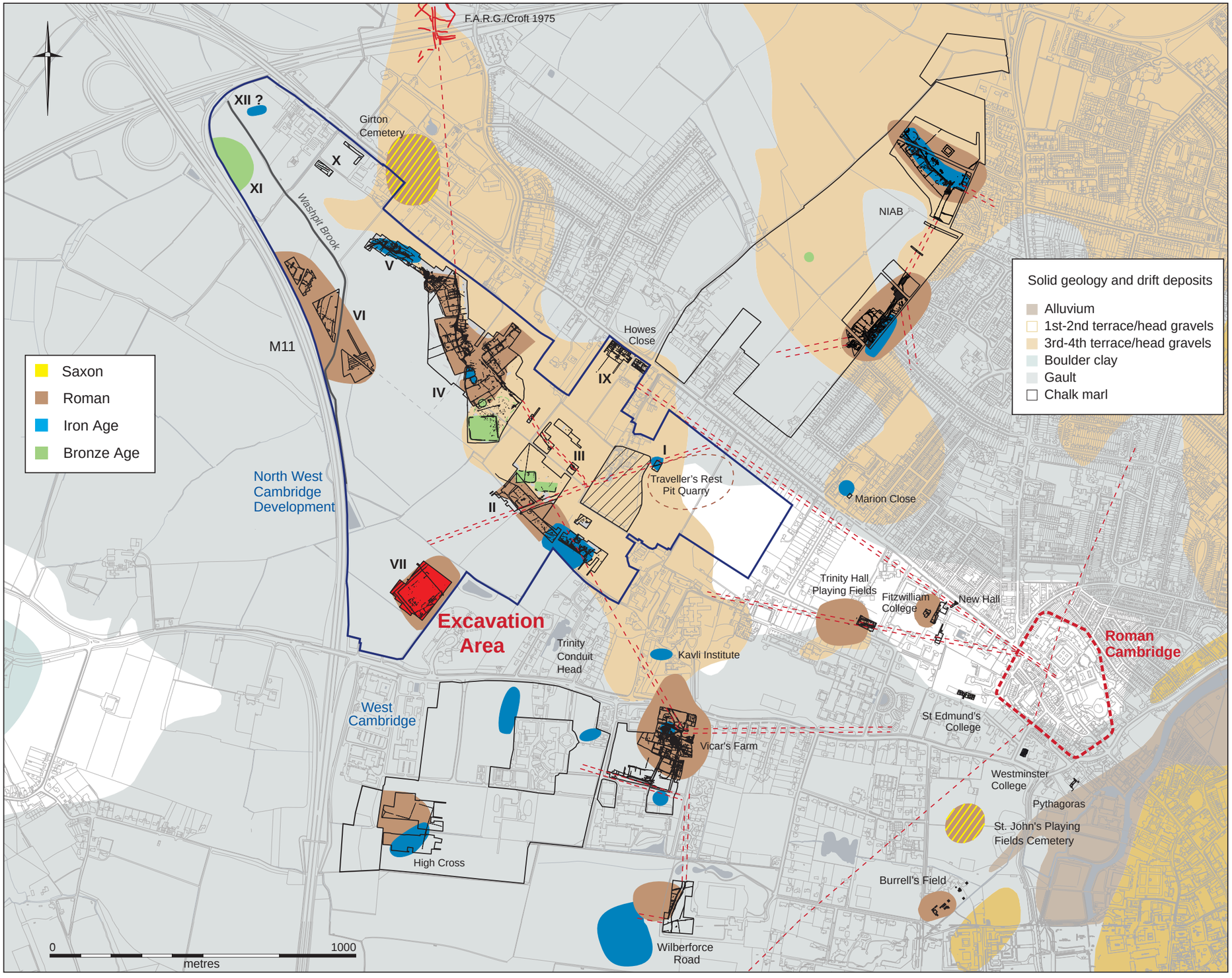


Figure 48. The Western Cambridge Lands

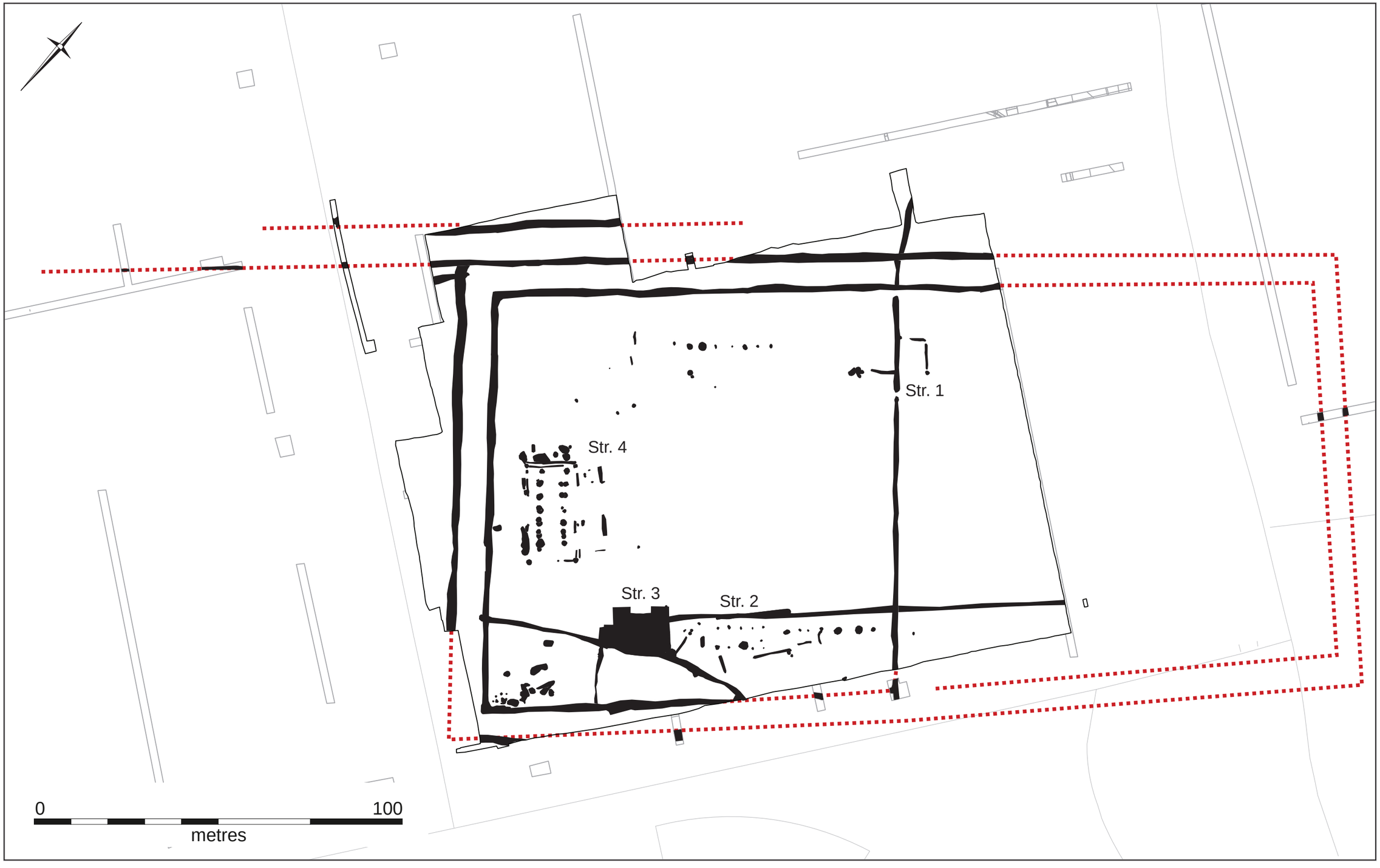


Figure 49. The enclosure-compound

The War Field Villa – Attribution and Phasing Issues

As is discussed at length in the forthcoming West Cambridge *Hinterlands* volume, the complex's location suggests a subtle appreciation of low clayland topography. Generally, the area's 'low' settlements were located on the slight ground-slope rises, but also still close to where seasonal water would pool. The question nonetheless remains why site a high status residence in the 'heavy' low ground at all, as opposed upon the better-drained gravel ridge. In this regard, it can only be presumed that its location related to crop regimes and water resourcing at the foot of the ridge-slope and beside the Washpit Brook. Accordingly, not only then would the evidence of Site VI East's lazy-bed agriculture be relevant (Timberlake 2014) but, in hindsight, that it can be recognised that such agricultural planting systems also occurred in evaluation trenches just to the northwest of the villa's compound (Evans & Newman 2010).

Albeit relatively small, the quantity of the site's Late/later Iron Age pottery (56 sherds) is reflective of a degree of earlier, pre-villa activity. With only one contemporary feature identified, this is likely to have been of low intensity. Much of the 1st-2nd century AD Roman pottery (95 sherds), including eight samian sherds and a single Terra Nigra piece – plus a Nauheim derivative brooch (<11173>; there also being a possible Late Iron Age coin, <11040>) – likely reflects similarly 'incidental' activity and/or the area's agricultural usage. (The site's single later Neolithic sherd and one worked flint recovered tells of an even earlier presence, but one whose impact was clearly minimal.) What is of some relevance here are the five recovered saddlequern pieces and four hammer/rubbing stones. Based on precedent, at least the saddlequern is unlikely to have derived from the Late Iron Age (rotary quern then being the norm); either this material had later been imported to the site – perhaps as hard-core – or else tells of still other earlier activity (Early to Middle Iron Age or earlier).

Given that it seems likely that the complex only lasted for less than a century (see below), the degree that its main buildings were modified and rebuilt seems extraordinary. Not only was this a matter of the extensive reworking of its aisled hall – with its mid 4th century rebuilding probably due to a fire – but also the degree with which the bath-house was modified. With a number of such episodes evident it could be posited that, when first constructed, the latter's hypocaust (Structure 3.1) was made by skilled individuals, with high quality materials, who fully understood its intended operation. Its intense modification thereafter might, though, indicate that there was a decline in standards; particularly whether the role of *opus signinum* was fully understood and if waterproof seals could still be rendered. In short, its intense repair/rebuilding sequence suggests later 'makeshift' qualities, eventually leading to the system's abandonment.

Due to the necessary operation of the site's bath-house – and of the needs of daily living generally – we were expecting at some point to find a major well to provide the complex's water supply. That none was forthcoming implies

that the Feeder Ditch, that likely ran down from the area of Trinity Conduit Head/the Traveller's Rest Sub-site springheads (Figs. 27 & 48; Evans 2015), must have been the main source of its supply. If so, while reflecting a degree of hydraulic-engineering ambition/skills, this seems remarkable. The water-delivered by it must have been quite unhygienic and probably undependable; this also could have contributed to the demise of the hypocaust.

The character of what seems to have been the building proper's latest phase of rebuilding and extension warrants notice. Evidently involving extensive shallow-footed 'pad-type' construction, we have no way of establishing the full-plan of the building's final manifestation. Certainly, though, its winged frontage – and even, perhaps, its arched entranceway – would suggest something quite grandiose and of considerable aspirations.

Although much less grand than either Arbury or Teversham's villas, it certainly seems entirely justified to accredit Site VII's complex as a villa-estate. The question though arises just what was the villa building *per se*. The site's great aisled hall (Structure 4) would seem the main candidate. Carried on massive posts, at *c*. 30m length, porched (and with a tile roof and possibly interior mosaics), this clearly was a 'quality-status' residence and, arguably, *the villa* as such. While its plan is comparable to what on other sites has been assign as great aisled barns (e.g. Woodditton, see Fig. 51; Mustchin *et al*. 2016), as is apparent on Figure 50, it is also directly comparable to the timber hall that preceded King's Hedges' villa's masonry version.

The brevity of the complex's sequence makes it difficult to nuance its chronology, just as its limited survival means we cannot fully detail Structure 3.2's plan. Yet, rather than trying to establish a phasing sequence primarily based on the complex's buildings, it might be more fruitful to focus on the logic of its enclosure and ditch systems. With the Phase I road/trackway running along its northwestern aspect, the character of the double-ditch system may well be significant. Arguably, as at Colne Fen's Camp Ground's port-village (Evans *et al*. 2013) or, more recently, at Northstowe Site 18, it delineated an embanked perimeter, one possibly capped by a hedge. If a valid interpretation, then it is very difficult to see how the Feeder Ditch system could have possibly functioned in relationship to it (i.e. effectively passed through). If, as it seems, that ditch-line provided the main source of water for Structure 3's baths, then logically the bath-house's usage must have pre-dated the double-ditch system. Structure 2 may have been the only building contemporary with the bath-house. Given this, Structure 4's aisled hall and, possibly with it, Structure 3's secondary shallow-pad (non-hypocaust) rebuilding would have been contemporary with the double-ditch compound.

This, of course, begs the question of how in the complex's second-phase water was obtained. Unfortunately, there seems no obvious answer for this and one can only think that a major well must have lain somewhere in the unexcavated portion of the complex.

It is with Phase I.2's Structure 2's aisled building and Number 3's bath-house that we see the first expression of the villa complex as such. Neither would amount to a 'grand' residence (i.e. comparable to Structure 4's later 'Hall') and, thereby, this leaves open the possibility that any such building might have stood south of the excavation (and then have largely been destroyed with the construction of the Park-&-Ride). What is, though, significant in this capacity is the status of Structure 2 and its marked similarity to Vicar's Farm's aisled building: they effectively match each other (Fig. 51). The issue surrounding such buildings is whether they just related to 'grand barns' or if they were multi-functional and involved residence. At Vicar's Farm that structure would seem to have directly related to the settlement's 'official' overseer function. Accordingly, this seems to have ceased in that settlement's final phase, after AD270. This then raises the possibility that its function had shifted to Site VII's (proto-)villa and, with it, regulatory control of the immediate landscape. If so, what is interesting is, despite this – perhaps due to its continued market function and that it may have received displaced labourers/families from other neighbouring settlements – Vicar's Farm then saw its floruit in the 4th century AD and clearly still fulfilled a vibrant economic function.

Whatever logic is applied to the complex's phasing, because of the paucity of the site's stratigraphic interrelationships, there is ambiguity concerning its sequence. This primarily relates to its brevity, the reliance on its coin-dating and, with it, the nature of Phase 1.2's layout and the villa's arrangement prior to the establishment of the enclosure-compound. Perhaps framed by rows of trees planted in the two pit alignments, as presented here it would consist of Structure 3's bath-house and Structure 2's (small) aisled building. While, as mentioned, in such a scenario a main residential building might then have lain (unexposed) to the south, in this case it is possible that Structure 2 served as some manner of 'proto-hall' and was then the main domicile (Structure 1 being some manner of ancillary shed or the like). The alternative to this would be to have the primary version of Structure 4's great hall pre-date the layout of the enclosure-compound and be contemporary with Structure 3.1's bath-house; if so, Structure 2 might then have simply been a barn, perhaps for the local storage of tithed/tax-collected crops.

There remains still another issue. If, as it seems, Structure 4's aisled (residential) hall and the rebuilt non-hypocaust version of Structure 3 (.2) stood together, if no longer a bath-house, what then was the latter's function? It certainly remained a grand building, one then having an impressive winged 'show front'. Could two officials then have been in residence within the complex? This seems unlikely and rather, perhaps, Structure 3 then served as a reception space to conduct official business. Given the dating evidence and the thoroughness of the building's demolition-robbing, this will likely have to remain an open question.

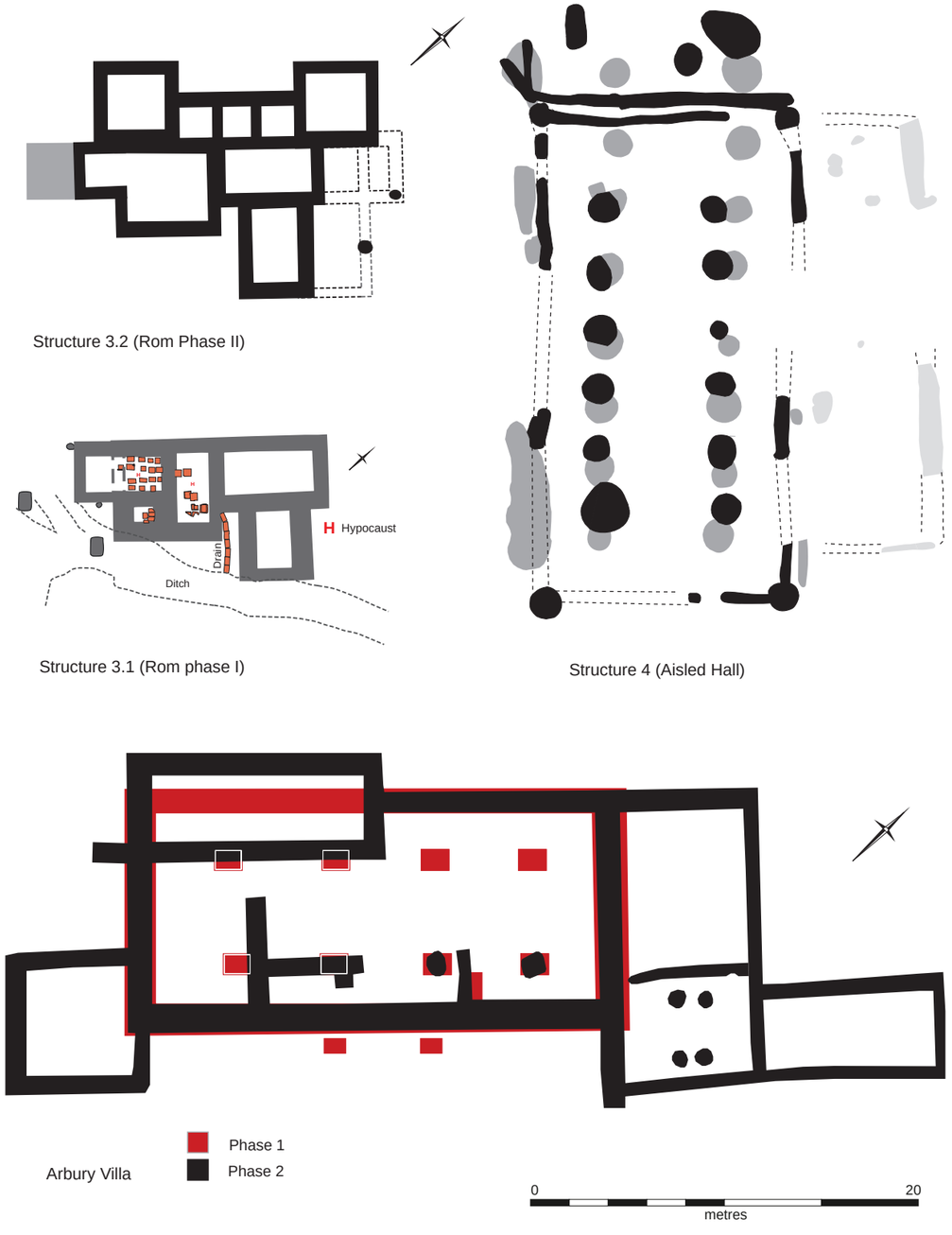


Figure 50. The War Field Villa's main buildings compared to the Arbury Villa's main range

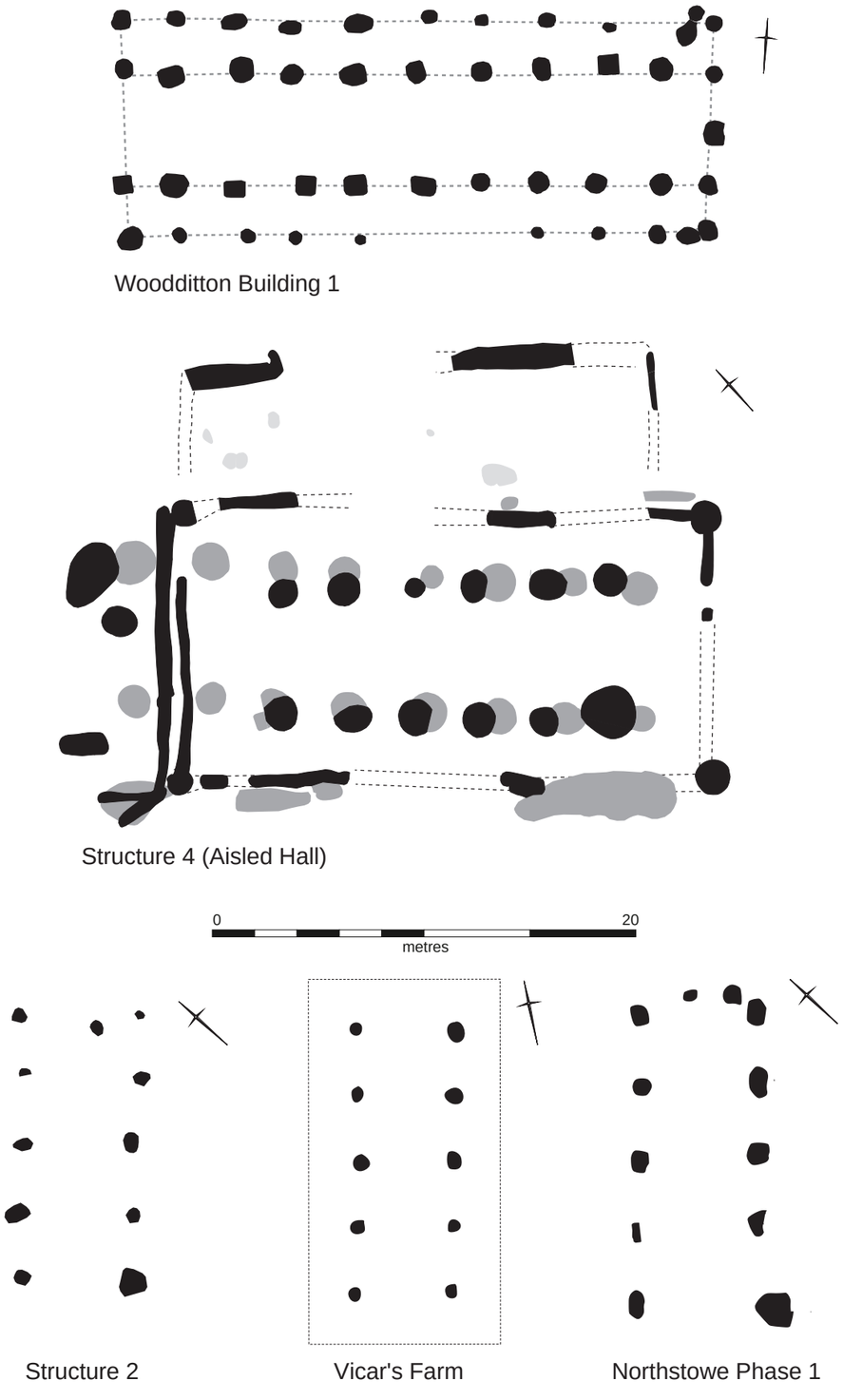


Figure 51. Comparable listed buildings

A Controlled Space

While the site's finds assemblages are certainly respectable, their quantities are not great. Yet, in this respect their measure must be appreciated in relationship to the apparent brevity of the villa's sequence. Given that it seems safe to presume that it participated in a cash economy, its *c.* 150 coins are, therefore, likely to reflect its actual duration. Of these, just two pre-dated the fourth century and the latest issues dates to AD388: just a *c.* 80-90 year span and perhaps as short as 50-60 years. Not only should this frame our appraisal of its assemblages, but it also implies that its usage ended at least some 20 years before the occupation of the neighbouring Vicar's Farm or Site IV/Bunker's Hill settlements. The robbing of the villa's stonework, therefore, likely occurred in Late(st) Roman times (though the area's Anglo-Saxon residents may have also contributed). Also relevant is both of those sites' evidence of ironworking, but particularly at the Bunker's Hill settlement. Given this and what we know to be the scale of later Roman ironwork recycling, it may well be the case that much of the villa complex's metalwork had been picked over and removed for this purpose.

Thus acknowledging potential 'removals', aside from the quality of its buildings and their materials, is there anything else that distinguishes the site's assemblages from the neighbouring contemporary settlement's domestic assemblages? As stressed by Mazzilli, there is the percentage of its pottery finewares. At 45% this, for example, is considerably higher than at Vicar's Farm's Phase III (*c.* 25%). Also noteworthy is the quantity of the site's glass. Leaving aside the evidence of its window glass (Vicar's Farm have only one such shard), was its evidence of at least 47 different glass vessels; clearly these people ate/drank and served in style.

While very few tools as such were recovered – possibly for splitting timber, <10857>'s iron wedge is an exception – there are metalwork finds that are suggestive of some status, including the <11167b> latch-lifter and <10695>'s lamp hanger. Though the site's lead weights tell of measurement and regulation, no styli were recovered that would directly attests to written 'control'. An intriguing aspect of the copper alloy assemblage is the number of armlets or, at least, fragments thereof. While at risk of gender stereotyping (but which is justified based on the period's sexed grave-goods), this could be read as reflective of a relatively high female component and could, perhaps, reflect the household's service staff.

Of the complex's foodstuffs, noteworthy is the relatively high proportion of pig bones associated with Structure 3. While its faunal remains were otherwise typically dominated by cattle and, then, sheep, distinct is the quantity of its shellfish. Amounting to more than a thousand items, as these would have had to have been regularly imported from the coast, they reflect 'elite' consumption patterns. As regards the site's plant remains, it is unfortunate that its once waterlogged features proved so desiccated, as they could have been a source of 'exotic' introductions. The same is also true of the poor preservation of the site's pollen; though, Boreham's suggestion of a park-like setting based on its one successful core-sample could be insightful.

In reference to Table 9's values, Structure 3 clearly saw the vast majority of the complex's building materials (especially the painted plaster), and this becomes all the more marked if the material from the conjoining Feeder Ditch is taken into account. Against its levels, Structure 4's building materials – apart from its *tesserae* – comes a poor second. Yet, here the material within the adjacent portion of the Inner Enclosure ditch must also be accredited. As evident in Figure 33, this is especially true of the CBM as, relating to that structure's primary demolition/rebuilding, much tile was recovered from the nearby ditch length .

Of the other finds categories, for example, pottery, bone, metalwork and shell, most was recovered from the Inner Enclosure Ditch and its partition boundary. It is the latter ditch's very high values that are of particular interest. Occurring at a distance from any of the complex's buildings, the dark/near-black deposits within its middle-upper profile was midden-like. Its occurrence at such a remove from the building locations could suggest that there was organised middening and possibly fairly strict maintenance of the living space (in contrast to Vicar's Farm's Late-phase settlement). Dark earth-like, the deposits infilling Structure 3's bath-house hypocaust hollow - and the adjacent length of the Feeder Ditch - had comparable midden-like qualities.

No accompanying cemetery was recovered at Site VII. While there will always be the possibility that one – but it would then have to be small – went undetected in the evaluation trenching, equally this might reflect upon the nature of the villa's residents. Though likely controlling local agricultural production, there seems no direct evidence that the complex housed any substantial body of labourers. Yes, it might have had immediate households servants, but it seems likely that the estate's farm labourers resided elsewhere, perhaps Vicar's Farm. Equally, as has also been suggested for that settlement's sometimes 'overseer', it may well have been a role one retired from. Going on thereafter to live in Roman Cambridge or, even, *Londinium*, with the estate's labourers/serfs perhaps being buried in their 'home' settlement (i.e. Vicar's Farm). As a result, there may not have been a cemetery associated with the villa. That said, given practices elsewhere and contemporary mortality rates, the lack of any infant burials is notable. (The site's few bits of human bone are likely to have derived from the preceding 'casual' Iron Age usage.) By the same token, just as noteworthy is the complete lack of any 'placed' animal bone deposits, whose seemingly ritual nature was so prominent at Vicar's Farm. This could encourage speculation that Vicar's Farm continued to be 'pagan' during the fourth century, while Site VII's villa may have seen more 'official', then Christian, behaviours.

There is also an issue of ownership and whether the villa-estate's head actually owned the immediate land or just managed it. This same issue arose in relationship to Vicar's Farm's organisation and if what is argued to be a major 'missing' settlement up in the area of the Traveller's Rest Pit Quarry – where two Roman stones coffins were recovered in the 19th century (one with rich grave-goods) – actually represents *the* controlling interest in the western Cambridge hinterlands.

Only occurring in the decades of the mid 4th century, the 'hard' rectangular spatial-geometry of the site's Phase II double-ditch compound stands in

marked contrast to the more curvilinear/'organic' form of many of the region's Late Roman settlements. This, and the 'emptiness' of its interior – in contrast to the dense, often near-chaotic irregularity of many contemporary 'standard' domestic settlements – suggests that it amounted to 'controlled space'. Equally, if embanked and topped with a hedge, its boundary attests to a degree of exclusion and even, perhaps, a defensive capacity. This may have arisen from a sense of perceived threat in the countryside. It could, therefore, relate to the complex's two, earlier 4th century coin hoards. Indeed, this could then possibly be linked to the walling of Roman Cambridge and, further afield, the establishment of Saxon Shore forts.

Later Visitation

As noted in the site's introduction, the curse-like rolled thirteenth century king-figure seal (Fig. 46) must surely have been deposited in some knowledge of the earlier Roman settlement, with the spread of its building materials likely still then apparent on the ground surface. Against this, though, is also the thoroughness of Structure 3's robbing and how much stone must have been removed from the locale. While it is unlikely that the War Field Villa was its source – as opposed to stone buildings associated with Bunker Hill's/Site IV's structures – here Girton College's Anglo-Saxon cemetery is insightful. In reference to Jenkinson's notebook records, it is significant just how many of its graves were lined with Roman-derived building stone. This clearly attests to the scale of the area's Roman building robbing; though, as mentioned, this may have begun in Late Roman times.

Concerning matters of 'aftermath', there finally is the high number of musket /pistol balls that were recovered from the site and in numbers far higher than in any other of the West Cambridge lands' excavations. This surely relates to the attribution of the adjacent field as *War Field* (Fig. 47). Whether this relates to a Civil War skirmish (probably unlikely) or a militia's training ground remains uncertain.

Acknowledgements

Al Wright conducted the Site I investigations, with Andrew Chaplain responsible for Site X and Dan Sharman directing most of the work at Site VI. The latter was completed by Marcus Brittain, who then directed the Site VII excavations. With the programme managed by Evans, it was monitored by Andy Thomas of Cambs. County Council, and whose role was only positive. On behalf of the University's North West Cambridge (*aka* Eddington) development, the cooperation throughout of George Katsibokis, George Martin, Gavin Heaphy and Heather Topel is here heartedly acknowledged, with Simon Briggs organising the press and public side of things there. Cat Ranson greatly helped with Site VII's open-day, as did Justin Wiles and the CAU's finds-team, and who otherwise managed the project's artefacts and samples with admirable efficiency.

The sterling efforts and skills of the CAU's field staff – and even endurance at Site VII during very wet winter months – cannot be over-estimated. The sites were digitally surveyed by Jon Moller, and Bryan Crossan and Andy Hall have here rendered its graphics. The quality of all their work – and also Dave Webb's splendid photographs – speaks for itself. We are also grateful for Floor Huisman assistance of the report's final text and tables.

The work was enthusiastically supported by a number of local residents, particularly Simon Stoddart. Understanding of Site VII's complexity was aided by Martin Millett, with Martin Henig offering expert comment on the seated king rolled piece. Finally, Justin Wiles, together with Jen Marchant and Anastasia Christophilopoulou of Fitzwilliam Museum, organised a small exhibition of the site' finds at the museum and a well-attended lecture was given to its 'friends'.

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OASIS DATA COLLECTION FORM: England

Printable version

OASIS ID: cambridg3-369162

Project details

Project name	North West Cambridge Site I
Short description of the project	Excavation of 600 sqm. It revealed the extension of a road from Site II, represented by 25m of one of the flanking ditches. The ditches and a spread of material across the road contained residual worked flints and prehistoric pottery (mostly Iron Age, but a handful of Neolithic). There was a sign Iron Age pit containing pottery sherds and two worked flints.
Project dates	Start: 01-01-2018 End: 31-12-2018
Previous/future work	Yes / No
Type of project	Recording project
Site status	None
Current Land use	Vacant Land 2 - Vacant land not previously developed
Monument type	ROAD Roman
Monument type	DITCH Roman
Monument type	PIT Iron Age
Significant Finds	LITHIC IMPLEMENT Early Neolithic
Significant Finds	LITHIC IMPLEMENT Late Neolithic
Significant Finds	POT Iron Age
Investigation type	"Open-area excavation"
Prompt	Planning condition

Project location

Country	England
Site location	CAMBRIDGESHIRE CAMBRIDGE CAMBRIDGE North West Cambridge Site I
Postcode	CB3 0QZ
Study area	600 Square metres
Site coordinates	TL 543140 260000 51.910659976883 0.243710474454 51 54 38 N 000 14 37 E Point
Height OD / Depth	Min: 26m Max: 26m

OASIS FORM - Print view

Project creators

Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	Cambridge Archaeological Unit
Project director/manager	Christopher Evans
Project supervisor	Cambridge Archaeological Unit
Type of sponsor/funding body	Developer

Project archives

Physical Archive recipient	Cambridgeshire County Archaeology Store
Physical Contents	"Ceramics","Worked stone/lithics"
Digital Archive Exists?	No
Paper Archive recipient	Cambridge Archaeological Unit
Paper Contents	"Ceramics","Worked stone/lithics"
Paper Media available	"Context sheet","Drawing","Map","Plan","Report","Section"

Entered by	Rob Wiseman (rdw42@cam.ac.uk)
Entered on	4 October 2019

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OASIS ID: cambridg3-369178

Project details

Project name	North West Cambridge Site X
Short description of the project	Excavation of 1200 sqm by Huntingdon Road, Cambridge. The course of a stream 1.2-3.9m wide was uncovered, containing a total of nine Iron Age and Roman pottery sherds. Also found were three parallel ditches 4m and 6m apart, almost parallel to Huntingdon Road. They were related to Post-medieval agriculture. These features produced only a few finds, including abraded later Medieval pottery and post-medieval metalwork.
Project dates	Start: 30-08-2018 End: 19-10-2018
Previous/future work	Yes / No
Any associated project reference codes	cambridg3-715577 - OASIS form ID
Any associated project reference codes	921 - ALSF project no.
Type of project	Recording project
Site status	None
Monument type	DITCH Post Medieval
Significant Finds	POT Medieval
Investigation type	"Open-area excavation"
Prompt	Planning condition

Project location

Country	England
Site location	CAMBRIDGESHIRE CAMBRIDGE CAMBRIDGE North West Cambridge Site X
Postcode	CB3 0JH
Study area	1200 Square metres
Site coordinates	TL 542210 260945 51.911534888071 0.242401692304 51 54 41 N 000 14 32 E Point
Height OD / Depth	Min: 26m Max: 26m

OASIS FORM - Print view

Project creators

Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	Cambridge Archaeological Unit
Project director/manager	Cambridge Archaeological Unit
Project supervisor	Cambridge Archaeological Unit
Type of sponsor/funding body	Developer

Project archives

Physical Archive recipient	Cambridgeshire County Archaeology Store
Physical Contents	"Ceramics","Metal"
Digital Archive Exists?	No
Paper Contents	"Ceramics","Metal"
Paper Media available	"Context sheet","Drawing","Map","Photograph","Plan","Report","Section","Survey "

Entered by	Rob Wiseman (rdw42@cam.ac.uk)
Entered on	4 October 2019

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OASIS ID: cambridg3-369188

Project details

Project name	North West Cambridge Site VI (North)
Short description of the project	5000 sqm were excavated, revealing three rectangular enclosures dating to the Late Iron Age/Roman Conquest. These defined by ditches 1.5-4.6m wide, and up to 1.0, deep - although most were far shallower. The enclosures contain a number of pits, which produced pottery, animal bone, burnt stone and a quernstone fragment.
Project dates	Start: 27-08-2018 End: 22-09-2018
Previous/future work	Yes / No
Type of project	Recording project
Site status	None
Current Land use	Grassland Heathland 5 - Character undetermined
Monument type	DITCH Roman
Monument type	PIT Roman
Monument type	ENCLOSURE Roman
Significant Finds	POT Roman
Significant Finds	COIN Roman
Significant Finds	BRACELET Roman
Significant Finds	QUERN Roman
Significant Finds	ANIMAL REMAINS Roman
Significant Finds	PLANT REMAINS Roman
Investigation type	"Open-area excavation"
Prompt	Planning condition

Project location

Country	England
Site location	CAMBRIDGESHIRE CAMBRIDGE CAMBRIDGE North West Cambridge Site VI
Postcode	CB3 0JX

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Study area	5000 Square metres
Site coordinates	TL 541969 260607 51.911237888541 0.242036432104 51 54 40 N 000 14 31 E Point
Height OD / Depth	Min: 12.5m Max: 16m

Project creators

Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	Cambridge Archaeological Unit
Project director/manager	Cambridge Archaeological Unit
Project supervisor	Cambridge Archaeological Unit
Type of sponsor/funding body	Developer

Project archives

Physical Archive recipient	Cambridgeshire County Archaeology Store
Physical Contents	"Animal Bones","Ceramics","Environmental","Metal","Worked stone/lithics"
Digital Archive Exists?	No
Paper Archive recipient	Cambridgeshire County Archaeology Store
Paper Contents	"Animal Bones","Ceramics","Environmental","Metal","Stratigraphic","Survey","Worked stone/lithics"
Paper Media available	"Context sheet","Drawing","Map","Photograph","Plan","Report","Section","Survey "

Entered by	Rob Wiseman (rdw42@cam.ac.uk)
Entered on	4 October 2019

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OASIS ID: cambridg3-369200

Project details

Project name	North West Cambridge Site VII (The War Field Villa)
Short description of the project	The main features on the site began with a Roman masonry bath-house set within a rectilinear field system. These features date from the third to fourth centuries. The bath-house comprised a hot room, warm room and cold rood. It was fed by ditches carrying water from uphill - probably the springs at Traveller's Rest. Also belonging to this first phase of activity was an aisled building and a small gully-defined structure. The bath-house was subsequently entirely remodelled, becoming part of a fourth century villa. The resulting building was 18m long and 13m wide, comprising five main areas or rooms (some of which may have been subdivided). In the remodelling, a winged frontage was added to the building. Numerous tesserae were recovered indicating tessellated pavements. Coins recovered from the building suggests is had a lifespan of just 50 years, from AD 337 to not later than AD 388. After the building was demolished, the site reverted to agricultural use, with medieval plough furrows recorded across the site.
Project dates	Start: 13-08-2018 End: 09-11-2018
Previous/future work	Yes / No
Type of project	Recording project
Site status	None
Current Land use	Grassland Heathland 5 - Character undetermined
Monument type	VILLA Roman
Monument type	FIELD SYSTEM Roman
Monument type	DITCH Roman
Monument type	BATH HOUSE Roman
Monument type	HYPOCAUST Roman
Monument type	AISLED BUILDING Roman
Monument type	PIT ALIGNMENT Roman
Monument type	BUILDING Roman
Significant Finds	POT Roman
Significant Finds	GLASS Roman
Significant Finds	COIN Roman
Significant Finds	WORKED OBJECT Roman

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Significant Finds	CERAMIC Roman
Significant Finds	POLLEN Roman
Significant Finds	ECOFACTS Roman
Significant Finds	ANIMAL REMAINS Roman
Significant Finds	HUMAN REMAINS Roman
Significant Finds	MOLLUSCA REMAINS Roman
Investigation type	"Open-area excavation"
Prompt	Planning condition

Project location

Country	England
Site location	CAMBRIDGESHIRE CAMBRIDGE CAMBRIDGE North West Cambridge Site VII (The War Field Villa)
Postcode	CB3 0JX
Study area	1.9 Hectares
Site coordinates	TL 542350 259600 51.910322523818 0.242544861494 51 54 37 N 000 14 33 E Point
Height OD / Depth	Min: 15.5m Max: 17m

Project creators

Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	Cambridge Archaeological Unit
Project director/manager	Cambridge Archaeological Unit
Project supervisor	Cambridge Archaeological Unit
Type of sponsor/funding body	Developer

Project archives

Physical Archive recipient	Cambridgeshire County Archaeology Store
Physical Contents	"Animal Bones","Ceramics","Environmental","Glass","Human Bones","Metal","Worked bone","Worked stone/lithics","other"
Digital Archive recipient	Cambridgeshire County Archaeology Store
Digital Media available	"Images raster / digital photography","Spreadsheets","Survey","Text"

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Paper Archive recipient	Cambridgeshire County Archaeology Store
Paper Contents	"Animal Bones","Ceramics","Environmental","Glass","Human Bones","Metal","Stratigraphic","Survey","Worked bone","Worked stone/lithics","other"
Paper Media available	"Context sheet","Drawing","Map","Matrices","Photograph","Plan","Section","Survey "
Entered by	Rob Wiseman (rdw42@cam.ac.uk)
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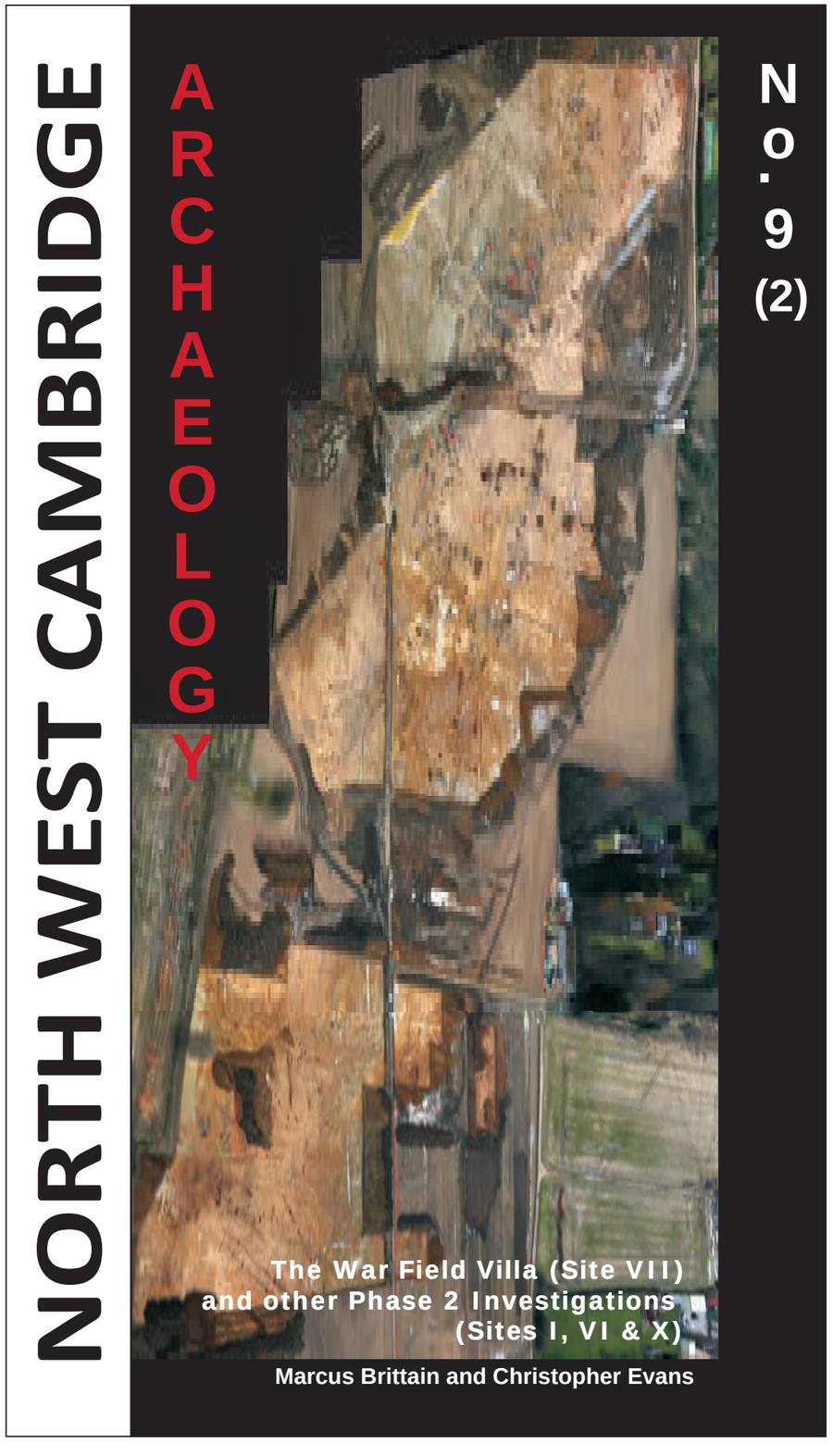

NORTH WEST CAMBRIDGE ARCHAEOLOGY

University of Cambridge
The War Field Villa (Site VII) and other Phase 2 Investigations (Sites I, VI & X)
– APPENDICES –

(2018–19; NWC Report No. 9, Pt. 2)

Marcus Brittain and Christopher Evans

With contributions by Emma Beadsmoore, Steve Boreham,
Chris Boulton, Val Fryer, Vicki Herring, Floor Huisman, Francesca Mazzilli,
Ben Neil, Sarah Percival, Simon Timberlake,
Vida Rajkovača and Justin Wiles

With illustrations by Bryan Crossan and Andrew Hall;
photography by Dave Webb

CAMBRIDGE ARCHAEOLOGICAL UNIT
University of Cambridge
September 2019/Report No. 1435
HER Event Number: 4113 & 4179

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APPENDIX 1: Site VI (2018), Feature and Context List

F. No.	Slot(s)	Cut(s)	Fill(s)	Feature type	Length (m)	Width (m)	Depth (m)
3220	2246, 2260	11012, 11052	11011, 11051	Ditch	5.00	1.00	0.20
3221	2247, 2249, 2250, 2263, 2265, 2266, 2272	11021, 11060, 11062, 11066, 11075, 11079, 11108	11020, 11061, 11064-65, 11068, 11074, 11076, 11078, 11106-07	Ditch	48.50	4.75	1.00
3222	2248	11015	11013-14	Pit	1.43	1.43	0.34
3223	2248	11017	11016	Pit	1.13	1.63	0.25
3224	2249	11019	11018	Ditch terminus	3.25	1.08	0.20
3225	2249, 2250, 2257, 2263, 2265, 2266, 2271, 2272, 2273	11024, 11046, 11081, 11082, 11099, 11100, 11105, 11110, 11112	11022-23, 11045, 11063, 11067, 11073, 11077, 11081, 11105, 11110, 11111, 11113, 11114	Ditch	50.75	4.60	1.01
3226	2251, 2267, 2270	11031, 11090, 11102	11029-31, 11087-89, 11101	Ditch	30.75	2.60	0.90
3227	2252, 2256, 2264	11034, 11044, 11072	11033, 11043, 11071	Ditch terminus	4.75	0.90	0.14
3228	2252, 2264	11036, 11070	11035, 11069	Pit	1.40	1.4	0.20
3229	2253	11038	11037	Pit	0.42	1.10	0.11
3230	2254	11040	11039	Pit	1.10	1.00	0.19
3231	2255	11042	11041	Pit or Ditch terminus	1.00	0.80	0.40
3232	2258	11048	11047	Pit	0.30	1.00	0.20
3233	2259	11050	11049	Pit	0.30	0.60	0.12
3234	2246, 2260	11055, 11096	11053-54, 11095	Ditch	7.50	1.90	0.37
3235	2261	11057	11056	Pit	1.00	1.60	0.30
3236	2262	11059	11058	Pit	0.27	0.60	0.12
3237	2251, 2267	11028, 11086	11025-27, 11091	Ditch	?	2.30	0.74
3238	2268	11092	11091-92	Pit	1.10	1.10	0.33
3239	2268	11094	11093-94	Pit	1.40	1.40	0.38
3240	2269, 2279, 2283, 2289, 2290	11097, 11130, 11132, 11140, 11152, 11154	11098, 11103, 11129, 11131, 11139, 11153, 11160	Ditch	?	2.25	0.59
3241	2270	.	.	Non-archaeological	.	.	.
3242	2274, 2275, 2278, 2282, 2288	11117, 11120, 11128, 11138, 11152	11115-16, 11118-19, 11126-27, 11136-37, 11151	Shallow linear/ditch	33.75	1.42	0.41
3243	2276	11122	11121	Linear/Pit	3.00	0.73	0.11
3244	2277	11125	11123-24	Pit	1.80	1.60	0.35
3245	2281	11135	11133-34	Pit	4.10	2.30	0.37
3246	2284	11143	11141-42	Pit	1.10	1.10	0.25
3247	2285	11146	11144-45	Pit	2.10	1.90	0.35
3248	2286, 2287, 2289, 2291, 2292, 2294, 2295	11148, 11150, 11156, 11163, 11165, 11169, 11171, 11174	11147, 11149, 11161, 11155, 11162, 11164, 11168, 11170, 11172-73	Ditch	34.70	2.00	0.62
3249	2293	11159	11158	Pit	1.00	1.60	0.20
3250	2293, 2296	11167, 11177	11166, 11175-76	Ditch	16.50	1.80	0.90
3251	2296	11180	11178-79	Pit	1.70	1.70	0.80

APPENDIX 2: Site VII Burnt Stone

Feat Cat	Context	Feature	Slot	Other no.	Qty	Wt (g)	Dimensions (mm)	Shape	Rock type	Source	Degree of burning	NOTES
Enclosure Inner Ditch	16210	4513			1	281		sub-round	sandstone	glacial erratic local	mod	
Enclosure Inner Ditch	16221	4563	3976		7	1647	65-120	sub-round	sandstone	glacial erratic local	mod	assoc. with burnt stone prev used as a hammerstone (>WS)
Enclosure Outer Ditch	16057	4506			3	805	30+53+100	sub-round	limestone(x2) + sandstone	glacial erratic local	mod	
Enclosure Outer Ditch	16057	4506			2	175	40-50	sub-round	limestone + sandstone	glacial erratic local	mod	
Enclosure Outer Ditch	16446	4506			2	365	65+75	sub-round	microdiorite + quartz micac sandstone	glacial erratic local	mod	
Enclosure Outer Ditch	16446	4506			3	181	20-60	sub-round	sandstone	glacial erratic local	mod	
Enclosure Outer Ditch	16566	4511	4066		1	34	50	angular	flint	local	high	calcined flint
Enclosure Partition	16181	4500			1	9	20		sandstone	glacial erratic local	mod	
Enclosure Partition	16548	4510	4062		2	1155		sub-round	sstn	glacial erratic local	mod	
Feeder Ditch	16049	4509	3929		6	3000	60-140	sub-round	sandstone(x4) + metaquartzite(x2)	glacial erratic local	mod	
Feeder Ditch	16137	4509	3952		3	755	55-120	sub-round	sandstone	glacial erratic local	mod-high	
Feeder Ditch	16068	4522	3931		10	258	20-60	sub-angular	calcined flint(x4) + sandstone(x4) + limestone(x2)	glacial erratic local	high	
Feeder Ditch	16068	4522	3931		1	111	65	sub-angular	limestone		mod	
Furrow	16163	4526	3958		1	1099	150	split round cobble	micaceous sandstome	glacial erratic local	mod	
Furrow	16388	4543	4020		1	156	75	sub-angular	limestone		mod	
Furrow	16110	4549	3941		1	36	55	sub-round	sandstone	glacial erratic local	high	
Isolated pit	16036	4507	3926		2	176	60	sub-round	sandstone	glacial erratic local	mod-high	
Isolated pit	16036	4507			4	76	25-40	sub-angular	vein quartz	glacial erratic local	high	
Isolated pit	16446	4605	4034		3	96	30-40		microdiorite	glacial erratic local	mod	
Isolated pit	16446	4605	4034	2615	1	211	60	angular	lithic sandstone	glacial erratic local	mod	
Isolated pit	16446	4605	4034		2	47	40-50	angular	flint	glacial erratic local	mod	
Isolated pit	16446	4605	4034	2616	2	267	92	sub-round	sandstone	glacial erratic local	mod-high	
Isolated pit	16446	4605	4034	2613	1	6000	220x150x100	sub-round	sandstone	glacial erratic local	mod-high	slab quern
Isolated pit	16446	4605	4034	2612	1	2293	130x150x70	sub-round	sandstone	glacial erratic local	mod-high	slab quern
Pit Alignment 1	16288	4573	3992		1	2000	200x160x30	sub-round	quartzitic sandstone	glacial erratic local	low	assoc with 11 other un-burnt but otherwise not obviously used cobbles
Pit Alignment 1	16288	4573	3992		3	3000	(1) 110x70x55 (2) 140x80x80	sub-round	sandstone(x2) + quartzitic	glacial erratic local	low	assoc with 11 other un-burnt but otherwise

Feat Cat	Context	Feature	Slot	Other no.	Qty	Wt (g)	Dimensions (mm)	Shape	Rock type	Source	Degree of burning	NOTES
							(3) 130		sandstone(x1)			not obviously used cobbles
Pit Alignment 1	16288	4573	3992		1	1800	130x100x60	sub-round	sandstone	glacial erratic local	low	assoc with 11 other un-burnt but otherwise not obviously used cobbles
Pit Alignment 1	16436	4601	4027		30	28000	95-170	sub-round to round	flint(x10 unburnt) +sandstone(x18) + quartzite(x1) + dolerite(x2)	glacial erratic local	mod	
Pit Group 2	16330	4544	4005	2448	3	600	100+50	sub-angular	sandstone	glacial erratic local	mod	
Pit Group 2	16276	4577	3989		35	8500	20-150	round-sub round	sandstone (x33); carstone(x1); dolerite(x1)	glacial erratic local	mod	
Pit Group 2	16276	4577	3989		86	30000	35-150	sub-round to round	sandstone(x83) + metaquartzite(x2) + dolerite(x1) + granodiorite(x1)	glacial erratic local	mod	
Pit Group 2	16277	4577	3989		2	624	60+90	round	granite + sandstone	glacial erratic local	mod	
Pit Group 2	16294	4578	3993		89	18000	35-130	sub-round - sub-angular	sandstone(x80) + quartz sandstone(x5) + vein quartz(x2) + volc basic tuff(x2)	glacial erratic local	high	some re-fitting pieces
Pit Group 2	16894	4578	3793		122	25000	20-150	sub-round to sub-angular	dolerite(x4) + quartz porphyry(x2) + quartz vein(x1) + calcined BF(x4) + Deltaic Ser Ooolite plant fossil sstn(x5) + remainder sandstone	glacial erratic local	high	cracked small cobbles
Pit Group 2	16307	4582	3998		33	4116	30-90	sub-round	sstn (x30) + quartz vein(x2) + flint	glacial erratic local	high	90% cracked fragments
Pit Group 2	16307	4582	3998		85	11000	20-160	sub-round to round	sandstone(x67) + metanorphic sghist and marble(x9) + dolerite(x5) + quartz porphyry(x2) + quartz-veined metaquartzite(x3)	glacial erratic local	mod-high	incl. re-used burnt hammertstone + saddlequern > WS
Pit Group 2	16308	4582	3998		16	1565	30-80	sub-round	sandstone	glacial erratic local	high	fractured cobble pieces
Pit Group 4	16925	4685	4127		1	422	115	angular	dolerite	glacial erratic local	mod	

Feat Cat	Context	Feature	Slot	Other no.	Qty	Wt (g)	Dimensions (mm)	Shape	Rock type	Source	Degree of burning	NOTES
Pit Group 4	17286	4771	4172		1	9	20		sandstone	glacial erratic local	mod	
Rubble Spread 1	16059	4641	4086		4	100	30-50	sub-round	sandstone(x3) + ferrug sstn(x1)	glacial erratic local	mod	
Structure 3	17302	4776	4173		1	205	60	sub-round	andesitic basalt	glacial erratic local	mod	
Structure 3	17336	4800	4166		1	1725	120	sub-round	dolerite/ gabbro	glacial erratic local	mod	
Structure 3	17131		4152		1	734	150	sub-angular	sandstone	glacial erratic local	mod	
Structure 3	17364				1	598	80	sub-round	dolerite	glacial erratic local	mod	
Structure 4	16867	4675	4115		13	1256	30-80	sub-round - angular	micac quartz sandstone(x5) + Deltaic Ser fossil plant sandstone(x2) + sandstone	glacial erratic local	mod	
Structure 4.1	16687	4660	4087		1	150	60	round	sandstone	glacial erratic local	mod	
Structure 4.1	16951	4698	4138		1	39	45	sub-round	sandstone	glacial erratic local	mod	
Structure 4.1	16968	4703	4139		1	137	50	round	sandstone	glacial erratic local	mod	
Structure 4.1	16968	4704	4139		2	92	50	angular	quartz mica schist	glacial erratic local	mod	
Structure 4.2	16831	4663			2	1074	100+120	sub-round	white quartz sandstone	glacial erratic local	mod	
Structure 4.2	16938	4668	4136		1	2246	140x140x50	sub-round slab	dolerite	glacial erratic local	mod	

APPENDIX 3: Site VII Worked Stone

Feature Cat	Cat no.	Feature	Context	Slot	SF	Qty	Wt (g)	Dimensions	Rock type	Geology	Source	Est. % of stone	Wear (0-4; 4=well worn)	Period/ Use/ re-use
Enclosure Inner Ditch	1835	4513	16207	3974		2	488	(x2) 40mm thick	gritstone	Millstone Grit, Carboniferous	S. Pennines	<10 each		Roman. Rotary quern (burnt)
Enclosure Inner Ditch	1838	4563	16221	3976		1	2353	155x130x110	sandstone		Glac erratic	100	2	Prehist. Hammerstone/ anvil or rubberstone (burnt)
Enclosure Inner Ditch	1839	4508	16282	3990		1	1000	100x70x30	sandstone		Glac erratic	100	2	Prehist. Hammerstone?
Enclosure Inner Ditch	1847	4508	16582	4021		2	268	50 + 85	gritstone	Millstone Grit, Carboniferous	S. Pennines	<10		Roman. Rotary quern (burnt)

Feature Cat	Cat no.	Feature	Context	Slot	SF	Qty	Wt (g)	Dimensions	Rock type	Geology	Source	Est. % of stone	Wear (0-4; 4=well worn)	Period/ Use/ re-use
Enclosure Partition	1842	4500	16344	4009		1	582	100x50x75	gritstone	Millstone Grit, Carboniferous	S. Pennines	<10		Roman. Rotary quern
Enclosure Partition	1853	4500	17245	4175		1	34	60x22x10 Est. Diam. 65	sandstone	Wealden Clay Sandstone?	Surrey / W.Sussex	90	4	Roman. Pocket bar whetstone
Feeder Ditch	1833	4509	16049	3929		1	101	60x45x22	gritstone	Millstone Grit, Carboniferous	S. Pennines	<25	1	Roman. Rotary quern
Feeder Ditch	1834	4509	16050	3929		1	150	50x30x40	gritstone	Millstone Grit, Carboniferous	S. Pennines	<10		Roman. Rotary quern (upper?) (burnt)
Feeder Ditch	10892	4754	17262	4152		1	25000	525-535 x 30-65	gritstone	Millstone Grit, Carboniferous	S. Pennines	100	2-3	Roman. Small millstone (lower)
Isolated Pit	10701	4605	16446	4034	2611	1	1200	160x120x15-16	micaceous sandstone		Glac erratic	90	4	Prehist. Saddlequern
Isolated Pit	10702	4605	16446	4034	2612	1	2293	130x150x70 Diam. 130x80	sandstone		Glac erratic	50	4	IA. Saddlequern (burnt)
Isolated Pit	10703	4605	16446	4034	2613	1	6000	220x150x100 Diam. 180x140	sandstone		Glac erratic	>75	3	IA. Saddlequern (burnt)
Pit Group 1	1840	4579	16301	3997		1	60	40x40x30	gritstone	Millstone Grit, Carboniferous	S. Pennines	<10		Roman. Rotary quern (lower)
Pit Group 2	1841	4582	16307	3998		1	401	90x60x45	dolerite		Glac erratic	100	2	Prehist. Hammerstone (burnt)
Pit Group 2	1841	4582	16307	3998		1	137	50x60x40	laminated sandstone		Glac erratic	>50	3	IA. Saddlequern (burnt)
Pit Group 2		4544	16330	4005		1	14	25mm	gritstone	Millstone Grit, Carboniferous	S. Pennines	<5		Roman. Rotary quern
Pit Group 3		4544	16330	4005		3	256	30mm thick	gritstone	Millstone Grit, Carboniferous	S. Pennines	<10		Roman. Rotary quern (burnt)
Pit Group 4	10538.03	4544		4005	2448	1	160	50x30x60	sandstone		Glac erratic	<10	4	IA. Saddlequern (burnt)
Rubble Spread 1	10889.02	4640	16060	4086	2799	1	410	65x90x35-30	dolerite		Glac erratic	90?	2-3	IA. Rubber stone (burnt)
Rubble Spread 1	10890	4640	16060	4086	2800	1	604	90x115x60	gritstone	Millstone Grit, Carboniferous	S. Pennines	<25	4	Roman. Rotary quern
Structure 1	1846	4540	16577	4071		3	1143	60+75+150 Diam. 320-350	gritstone	Millstone Grit, Carboniferous	S. Pennines	<50	4	Roman. Rotary quern (upper)
Structure 3	1848		16704	4154		1	112	90x70x20	conglom-erate	Hertfordshire Puddingstone	S. Herts?	<5		Roman. Rotary beehive quern

Feature Cat	Cat no.	Feature	Context	Slot	SF	Qty	Wt (g)	Dimensions	Rock type	Geology	Source	Est. % of stone	Wear (0-4; 4=well worn)	Period/ Use/ re-use
Structure 3	1849		16745	4154		1	580	90x85x60	conglom-erate	Hertfordshire Puddingstone	S. Herts?	<10		Roman. Rotary beehive quern
Structure 3	1854		17374	4167		1	3280	150x195x70 Diam. 300	conglom-erate	Hertfordshire Puddingstone	S. Herts?	*c*.50	3	Roman. Rotary beehive quern (lower)
Structure 3	10896		17381	4166	2806	1	1760	140x160x50 Diam. 350-400	pebbly sandstone	Old Red Sandstone	SW England?	<50	4	Roman. Rotary quern (upper) (burnt)
Structure 4.2	1851	4663	16831	4103		1	110	80x50x26	coarse gritstone	Millstone Grit, Carboniferous	S. Pennines	<25	3	Roman. Rotary quern (upper)
Unstratified						1	5500	240x150x110 Diam. 240	conglom-erate (not silcrete)	unknown Tertiary	SE England?	45	2	Roman. Rotary beehive quern (upper)

APPENDIX 4: Site VII Building Stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Enclosure inner ditch	16282	4508	3990		5	623	50-110	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16282	4508	3990		1	26	50	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16282	4508	3990		31	3350	20-110 (ave 50)	white chalk(x27) + sandstone(x4)		local		foundation rubble fill
Enclosure inner ditch	16419	4508	4016		12	2970	70-130 (ave 90)	chalk		local	Y?	foundation rubble fill
Enclosure inner ditch	16419	4508	4016		30	7500	ave 110	white chalk	Middle Chalk	local		foundation rubble fill
Enclosure inner ditch	16423	4508	4016		25	8000	*c*.100mm diam	sandstone + quartzite	glacial erratic	local		foundation rubble fill
Enclosure inner ditch	16423	4508	4016		6	*c*.1000		patinated flint	Middle Chalk-Upper Chalk	local		foundation rubble fill
Enclosure inner ditch	16423	4508	4016		5	1000		chalk		local		foundation rubble fill
Enclosure inner ditch	16423	4508	4016		2	500		bioclastic oosparite	Barnack Stone (Lower Lincs	Barnack, Cambs.		foundation rubble fill

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
									Limestone)			
Enclosure inner ditch	16546	4508	4061		25	656	frags	micritic-oolitic limestone	Lincolnshire Limestone?	Northants?	Y	rough wall stone
Enclosure inner ditch	16546	4508	4061		1	26	frag	oolitic limestone	Ketton Stone	Ketton, Rutland	Y	stone chip from working
Enclosure inner ditch	16546	4508	4061		5	275	frags	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Enclosure inner ditch	16546	4508	4061		1	303		sandstone	glacial erratic	Cambridge?		wall infill/ rubble
Enclosure inner ditch	16546	4508	4061		5	106		chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Enclosure inner ditch	16546	4508	4061		2	6	25	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16547	4508	4061		1	250		oolitic lmstn				rough wall stone?
Enclosure inner ditch	16547	4508	4061		1	130		chalk	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Enclosure inner ditch	16547	4508	4061		1	250		septarian nodule (cementstone)	Kimmeridge Clay?	Cambs.		wall infill/ rubble
Enclosure inner ditch	16547	4508	4061		42	1317	25x25x20	mica lmstn + lmstn	Collyweston Slate + Lincolnshire Limestone	Collweston, Northants. + Northants.?		tesseraee
Enclosure inner ditch	16547	4508	4061		16	1026	40-120	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16547	4508	4061		1	100	60	bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Enclosure inner ditch	16547	4508	4061		3	65	<50	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16547	4508	4061		7	300	30x25x20 approx	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Enclosure inner ditch	16547	4508	4061		1	40	30x25x20	oolitic lmstn	Ketton Stone	Ketton, Rutland	Y	tesserae
Enclosure inner ditch	16547	4508	4061		66	2500	25-120 (ave 40)	white chalk	Middle Chalk	local		crushed chalk floor
Enclosure inner ditch	16547	4508	4061		1	250	50x45x30	grey chalk	Lower Chalk	local	Y	rough wall stone
Enclosure inner ditch	16547	4508	4061		1	800	100x85x50	sandstone		local		rough wall stone
Enclosure inner ditch	16547	4508	4061		17	2922	40-110	sandstone(x9) + yellow flint(x8)		local		foundation rubble fill
Enclosure inner ditch	16547	4508	4061		1	478	140x100x24	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Enclosure inner ditch	16547	4508	4061		2	28	50x35x12	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16547	4508	4061		1	26	55	shelly greensand	Lower Greensand?	Cambridgeshire?		rough wall stone
Enclosure inner ditch	16547	4508	4061		14	3800	70-190	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16547	4508	4061		1	11	small frag	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16547	4508	4061		25	7189	50-150 (ave 70)	white chalk(x21) + sandstone(x3) + flint(x2)		local		foundation rubble fill
Enclosure inner ditch	16580	4508	4061	4061	4	76	small frags	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16580	4508	4061		8	1128	50-120	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16580	4508	4061		1	36	small frag	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16580	4508	4061		1	150		bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Enclosure inner ditch	16580	4508	4061		1	27	30x25x10	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Enclosure inner ditch	16580	4508	4061		26	2500	30-160 (ave 55)	white chalk	Middle Chalk	local	Y	crushed chalk floor
Enclosure inner ditch	16580	4508	4061		6	3500	100-200	grey chalk(x1) + flint(x3) + sandstone(x3)		local		foundation rubble fill
Enclosure inner ditch	16583	4508	4021		2	1021	165 + 210	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16583	4508	4021		1	258	frag	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16630	4508	4061		2	200		bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Enclosure inner ditch	16630	4508	4061		3	332		micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16069	4512	3932		8	1102	(1) 170x110x20 + 50-120	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16070	4512	3932		1	750	95x95x45	ferrug sstn	carstone, Lower Greensand	Cambridgeshire?	Y	rough wall stone
Enclosure inner ditch	16312	4512	4000		1	287	80x70x24	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	stone floor tile?
Enclosure inner ditch	16553	4512	4063		4	1000	<140	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	wall stone
Enclosure inner ditch	16553	4512	4063		4	600		oolitic lmstn	Ketton Stone	Ketton, Rutland	Y	wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Enclosure inner ditch	16553	4512	4063		1	400		bio-oosparite		Weldon, Northants?	Y	wall stone
Enclosure inner ditch	16553	4512	4063		1	500		micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16553	4512	4063		1	39	25x26x25	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Enclosure inner ditch	16553	4512	4063		13	4461	30-140	chalk (x7) + ssstn (x6)	Middle Chalk	local		foundation rubble fill
Enclosure inner ditch	16670	4512	4090		6	2365	200x110x20 + 170x110x20 + 130x100x20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	17406	4512	3988		1	640	140x90x60	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	wall stone
Enclosure inner ditch	17406	4512	3988		1	92	95	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch		4512		2564	2	3	15	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16189	4513	3967		2	508	80 + 110	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16189	4513	3967		3	3100	70-160	white chalk(x1) + sandstone(x2)		local		foundation rubble fill
Enclosure inner ditch	16207	4513	3974		3	500	(1) 100x90x15	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16207	4513	3974		2	400		micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16207	4513	3974		1	200		bio-oosparite	Lincolnshire Limestone	Northants	Y	rough wall stone
Enclosure inner ditch	16207	4513	3974		2	50	20x10x10; 30x17x10	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Enclosure inner ditch	16207	4513	3974		8	1450	22-125	cementstone (x1) + chalk (x4) + sstn (x3)	Corallian	local		foundation rubble fill
Enclosure inner ditch	16465	4513	4040		1	500	frag	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Enclosure inner ditch	16465	4513	4040		2	1000	frag	ferrug sstn	Northants Ironstone	Northants?	Y	rough wall stone
Enclosure inner ditch	16465	4513	4040		1	256		sandstone		local		foundation rubble fill
Enclosure inner ditch	16468	4513	4040		2	316	frags	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16468	4513	4040		1	1000	frag 200x60	shelly limestone	Marlstone Rock?	Northants?	Y	rough wall stone
Enclosure inner ditch	16468	4513	4040		1	600	frag	limestone	Upper Inferior oolite		Y	rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Enclosure inner ditch	16468	4513	4040		1	380		sandstone		local		foundation rubble fill
Enclosure inner ditch	16475	4513	4042		1	2324	325x195x15-20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16475	4513	4042		1	1	4	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16476	4513	4042		3	553	70-100	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure inner ditch	16476	4513	4042		1	68	40	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure inner ditch	16476	4513	4042		1	303	70x70x40	ferrug sstn	Northants Ironstone	Northants?	Y	rough wall stone
Enclosure inner ditch	16476	4513	4042		3	1000		bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Enclosure inner ditch	16476	4513	4042		24	4576	<100	white chalk(x10) + sandstone(x5) + patina flint(x5) + black flint(x4)		local		foundation rubble fill
Enclosure outer ditch	16715	4506	4095		10	24000	150-180	hard grey chalk (clunch)	Lower Chalk (Burwell Rock?)	Reach/ Burwell, Cambs.?		foundation rubble fill
Enclosure outer ditch	16715	4506	4095		1	2000		fissile yellow oolitic lmst	Ketton Ragstone (Upper Lincolnshire Limestone)	Ketton, Rutland		rough wall stone
Enclosure outer ditch	16715	4506	4095		1	4000		yellow bioclastic oolitic lmstn	Lincolnshire Limestone (not Barnack)	unknown		rough wall stone
Enclosure outer ditch	16715	4506	4095		1	4000	230x120x100	hard nodular white chalk	Melbourn Rock	local?		rough wall stone
Enclosure outer ditch	16715	4506	4095		2	3000		grey chalk (clunch)	Lower Chalk (Burwell Rock?)	Reach/ Burwell, Cambs.?		rough wall stone
Enclosure outer ditch	16715	4506	4095		1	1500		slate	Swithland Slate	Swithland, Leicestershire		roof slate
Enclosure outer ditch	16715	4506	4095		4	2000		sandstone	glacial erratics	local		wall infill/ rubble?
Enclosure outer ditch	16715	4506	4095		1	100		*Inoceramus labiatus* in chalk	Lower Chalk	local		wall infill/ rubble?
Enclosure outer ditch	16715	4509	4095		1	243	100	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure outer ditch	16056	4515	3925		3	898	70+80+150	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure outer ditch	16056	4515	3925		1	352	100	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Enclosure outer ditch	16056	4515	3925		1	763	150	sandstone		local		rough wall stone
Enclosure outer ditch	16056	4515	3925		9	1400	40-90	white chalk	Middle Chalk	local	Y	rough wall stone
Enclosure outer ditch	16056	4515	3925		5	1000	(1) 140x100x13; (2) 135x95x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure outer ditch	16056	4515	3925		5	663	30-75	white chalk + grey chalk	Lower + Middle Chalk	local		foundation rubble fill
Enclosure outer ditch	16056	4515	3925		8	1254	50-130	white chalk	Melbourn Rock	local		foundation rubble fill
Enclosure outer ditch	16056	4515	3925		1	501	160	grey chalk	Lower Chalk	local	Y	rough wall rock?
Enclosure outer ditch	16056	4515	3925		5	506	35-120	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure outer ditch	16056	4515	3925		1	30	30x30x6	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Enclosure outer ditch	16056	4515	3925		3	179	25-77 (5mm+22mm thick)	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure outer ditch	16056	4515	3925		5	685	60-110	white chalk	Collyweston Slate	Collyweston, Northants.		foundation rubble fill
Enclosure outer ditch	16056	4515	3925		1	127		cementstone	Corallian	local	Y	rough wall stone
Enclosure outer ditch	16056	4515	3925		1	646	200x110x10-23	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure outer ditch	16056	4515	3925		3	1112	(1) 150x110x18; (2) 100 (17mm thick); (3) 60 (30mm thick)	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure outer ditch	16056	4515	3925		4	154	25-40	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Enclosure outer ditch	16056	4515	3925		1	129	65	sandstone		local		foundation rubble fill
Enclosure outer ditch	16056	4515	3925		4	134	134	white chalk	Middle Chalk	local	Y	rough wall stone
Enclosure outer ditch	16270	4515	3987		3	431	60-80	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure outer ditch	16270	4515	3987		2	149	30-90	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure outer ditch	16270	4515	3987		1	242	110	sandstone		local		rough wall stone
Enclosure outer ditch	16364	4515	4013		1	199	80	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure outer ditch	16364	4515	4013		1	600		ferrug sstn	Northants Ironstone	Northants?	Y	rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Enclosure outer ditch	16364	4515	4013		18	1400	30-130 (ave 55)	white chalk(x14) + flint(x2) + sandstone(x2)		local		foundation rubble fill
Enclosure outer ditch	16394	4515	4022		43	5000	20-90 (ave 65)	chalk (x40) + sstn (x3)		local		foundation rubble fill
Enclosure outer ditch	16404	4576	4023		1	3	20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure outer ditch	16730	4576	4094		1	115	75	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure outer ditch	16397	4596	4022		1	145	90x60x12	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure outer ditch	16722		4095		1	592	180x90x10-20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition	16024	4500	3921		3	1000	40-140	white nodular chalk	Melbourn Rock	local	Y	rough wall rock
Enclosure partition	16024	4500	3921		1	800		hard sparry limestone	Corallian?	local	Y	rough wall rock
Enclosure partition	16024	4500	3921		2	202	60	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16027	4500	3922		1	872	120x140x20-30	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16027	4500	3922		11	890	25-130	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16027	4500	3922		3	71	(1) 30x25x15; (2) 30x30x22; (3) 30x23x13	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Enclosure partition	16027	4500	3922		2	20	45+60	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition	16032	4500	3924		7	2700	(1) 220x150x20 + 70-100	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16032	4500	3924		6	1783	(1) 155x105x17 + 60-155	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16032	4500	3924		1	20	60	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16181	4500	3965		8	1500	80-120	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16181	4500	3965		2	600		slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition	16181	4500	3965		1	150		oolitic lmstn	Ketton Stone	Ketton, Rutland	Y	wall stone
Enclosure partition	16181	4500	3965		1	20	25x22x16	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Enclosure partition	16181	4500	3965		37	2230	25-130 (ave 70)	sstn (x4) + flint(x3) + chalk (x30)		local		foundation rubble fill
Enclosure partition	16181	4500	3965		2	64	40	limestone		local		foundation rubble fill
Enclosure partition	16181	4500	3965		2	20	30-60	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition	16184	4500	3965		1	50	25x30x35	sandstone		local	Y	tesserae
Enclosure partition	16242	4500	3981		3	250	45-80 (12mm thick)	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16243	4500	3981		95	26000	40-180	white chalk	Middle Chalk	local		foundation rubble fill
Enclosure partition	16245	4500	3982		6	635	55-110 (10-20mm thick)	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16344	4500	4009		3	239	small frags	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition	16344	4500	4009		16	1233	frags	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16344	4500	4009		11	3000		chalk		local		foundation rubble fill
Enclosure partition	16344	4500	4009		1	146		sandstone		local		foundation rubble fill
Enclosure partition	16460	4500	4039		11	3725	(1) 210x170x10 + 80-210	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16460	4500	4039		3	756	120	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition	16460	4500	4039		1	228	120x35x45	bio-oosparite	Barnack Stone	Barnack, Cambs.		small fragment of quoin?)
Enclosure partition	16472	4500	4055		1	1300	280x160x25-30	slate	Swithland Slate	Swithland, Leicestershire		roof slate
Enclosure partition	16472	4500	4055		1	380	110x170x15-20	slate	Swithland Slate	Swithland, Leicestershire		roof slate
Enclosure partition	16472	4500	4055		1	820	160x210x20	slate	Swithland Slate	Swithland, Leicestershire		roof slate
Enclosure partition	16472	4500	4055		1	2970	290x280x25-30	slate	Swithland Slate	Swithland, Leicestershire		roof slate
Enclosure partition	16472	4500	4055		1	500	120x90x22	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16472	4500	4055		1	860	120x130x22	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16472	4500	4055		1	2031	105x120x75	sandstone		local	Y	rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Enclosure partition	16472	4500	4055		1	3130	170x180x70	chalk	Melbourn Rock	local	Y	rough wall stone
Enclosure partition	16472	4500	4055		4	5300	(1) 270x270x20; (2) 210x165x15; (3) 110x160x12; (4) 270x150x22	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition		4500		2307	1	56	55	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition		4500		2531.04	1	6	25	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition		4500		2339.01	6	150	30-100 (10-15mm thick)	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition		4500		2312	1	47	85x45x10	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition		4500		2312	1	115	95x70x7	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition		4500		2310.06	3	145	40-90	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition		4500		2310.06	1	13		micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition		4500		2399.05	1	50	55 (17mm thick)	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition		4500		2312	1	24	30x25x20	white chalk	Middle Chalk	local	Y	tesserae
Enclosure partition		4500		2401	4	440	40+60+60+70	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition		4500		2401	1	183	100x70x15	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition		4500		2345.06	1	158	105x50x13	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition		4500		2322	2	78	30+100 (8mm thick)	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition		4500		2322	4	105	20-90	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition		4500		2336.01	1	22	40	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16038	4510	3927		1	398	120x60x30	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Enclosure partition	16038	4510	3927		3	403	50-70	white chalk(x2) + patinated flint(x1)		local		wall course fill
Enclosure partition	16367	4521	4014		1	211	95x90x10	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Enclosure partition	16367	4521	4014	4014	1	1680	120x130x80	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Enclosure partition	16367	4521	4014	4014	1	2000	100x105x100	cementstone	Corallian	local	Y	rough wall stone
Enclosure partition	16367	4521	4014	4014	1	150	80	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16367	4521	4014	4014	3	1100	(1) 220x175-115x20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition	16367	4521	4014	4014	2	1000	120+130	white chalk	Middle Chalk	local		foundation rubble fill
Enclosure partition	16406	4521	4024		7	245	120	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Enclosure partition	16406	4521	4024		1	79	60	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16406	4521	4024		1	39	50	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16607	4521	4075		1	312	130x75x17	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16020	5400	3920		5	710	70-110 (15 mm thick)	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16020	5400	3920		1	40	32x31x18	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Enclosure partition	16020	5400	3920		6	600	25-100	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Enclosure partition	16020	5400	3920		2	78	(1) 25x30x15 (2) 30x30x14	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Feeder ditch	16213	4508	3976		5	125		micac lmstn	Collyweston Slate	Collyweston, Northants.		tesserae
Feeder ditch	16213	4508	3976		1	300		bioclastic oolite	Barnack Stone, Lower Lincolnshire limestone	Barnack, Cambs.	Y	rough wall stone
Feeder ditch	16213	4508	3976		1	1500		quartzitic sandstone	glacial erratic	local		rough wall stone
Feeder ditch	16213	4508	3976		3	2000		micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	16213	4508	3976		5	1000		hard grey chalk (clunch)	Lower Chalk (Burwell Rock?)	Reach/ Burwell, Cambs.?		wall infill/ rubble?
Feeder ditch	16213	4508	3976		1	1500		slate	Swithland Slate	Swithland, Leicestershire		roof slate
Feeder ditch	16215	4508	3976		1	342	90x70x60	bioclastic oolite	Weldon Stone?, Upper Lincolnshire limestone	Weldon, Northants?		faced building stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Feeder ditch	16215	4508	3976		2	351	105x120x14	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16215	4508	3976		1	347	90x60x55	oolitic lmstn	Lincolnshire Limestone	Northants?	Y	dressed wall stone
Feeder ditch	16049	4509	3929		1	111	80 (20mm thick)	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16049	4509	3929		2	25	(1) 20x25x12 (2) 32x25x7	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Feeder ditch	16049	4509	3929		2	1059	(1) 260x80x20; (2) 100x80x15	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Feeder ditch	16049	4509	3929		4	1521	(1) 140x120x12; (2) 185x100x22 + 70-130	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16049	4509	3929		6	2500	40-120	grey chalk(x1) + white chalk(x5)	Lower Chalk + Middle Chalk	local	Y	foundation rubble fill
Feeder ditch	16049	4509	3929		1	195	120	bio-oosparite	Weldon Stone, Lincolnshire Limestone?	Northants?	Y	rough wall stone
Feeder ditch	16049	4509	3929		5	2500	60-170	patinated flint		local		rough wall stone
Feeder ditch	16049	4509	3929		9	1000	65-100	black flint		local	Y	flint knapped wall stone
Feeder ditch	16050	4509	3930		1	18	20x23x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Feeder ditch	16050	4509	3931		1	74	70x50	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16050	4509	3932		2	238	90+110	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Feeder ditch	16050	4509	3933		2	300	60+70	white chalk	Middle Chalk	local		foundation rubble fill
Feeder ditch	16050	4509	3934		2	365	(1) 110x60x50	black flint		local	Y	flint knapped wall stone
Feeder ditch	16050	4509	3935		3	1611	(1) 60x50x50; (2) 120x80x40	sandstone		local		rough wall stone
Feeder ditch	16137	4509	3952		6	976	70-100	black flint		local	Y	knapped flint wall stone
Feeder ditch	16137	4509	3952		2	163	65+70	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16137	4509	3952		1	306	130x85x20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Feeder ditch	16143	4509	3954		1	527	120x120x10	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Feeder ditch	16143	4509	3954		1	247	100x90x15	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	16143	4509	3954		4	339		micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	16143	4509	3954		9	252	25x25 - 35x30	micac lmstn	Collyweston Slate	Collyweston, Northants.		tesserae
Feeder ditch	16143	4509	3954		12	46	30-40	chalk	Lower Chalk	Burwell, Cambs.?		clunch rubble
Feeder ditch	16143	4509	3954		3	875	(1) 120x120x15; (2) 90x90x15; (3) 80x50x15	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16145	4509	3955		1	10000	230x140x140	yellowish bio-oosparite	Lincolnshire Limestone (similar but not Barnack)	Northants?	Y	faced wall stone
Feeder ditch	16145	4509	3955		1	15000		quartzitic sandstone	not an erratic?	unknown		rough wall stone
Feeder ditch	16145	4509	3955		1	8000	250mm diam	sandstone	glacial erratic	local		rough wall stone
Feeder ditch	16145	4509	3955		2	5000		hard grey chalk (clunch)	Lower Chalk (Burwell Rock?)	Reach / Burwell, Cambs.?		rough wall stone
Feeder ditch	16145	4509	3955		2	5000	>150 diam	sandstone + quartzite	galcial erratic	local		rough wall stone
Feeder ditch	16145	4509	3955		1	3000	230x135x140	bio-oosparite	Barnack Stone	Barnack, Cambs.		finely dressed quoin stone?
Feeder ditch	16146	4509	3955		20	10000		black + patinated flint	Middle Chalk-Upper Chalk	local		wall infill / rubble?
Feeder ditch	16146	4509	3955		6	5000		chalk		local?		wall infill / rubble?
Feeder ditch	16146	4509	3955		6	4000		micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	16146	4509	3955		1	3000		slate	Swithland Slate	Swithland, Leicestershire		roof slate
Feeder ditch	16146	4509	3955		1	1000		bio-oosparite	Weldon Stone ?	Weldon, Corby?		rough wall stone
Feeder ditch	16146	4509	3955		1	3000		calcareous sstn/lmstn	Northants 'Pendle'	Northants.		rough wall stone
Feeder ditch	16146	4509	3955		2	1000		quartzitic sandstone	glacial erratic	local		rough wall stone
Feeder ditch	16146	4509	3955		1	3407	150x140x100	sandstone		local	Y	rough wall stone
Feeder ditch	16158	4509	3949		9	1537	<200	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16158	4509	3949		1	1433	230x130x20-40	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Feeder ditch	16158	4509	3949		1	93	65	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16500	4509	4050		4	1535	(1) 190x135x25	oolitic lmstn	Ketton Stone	Ketton, Rutland	Y	finely dressed wall stone
Feeder ditch	16529	4509	4050		1	223	100x50x45	white chalk	Middle Chalk	local	Y	rough wall stone
Feeder ditch	16536	4509	4059		8	1265	40-220	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16538	4509	4509		6	1148	<200 (15-5 thick)	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16538	4509	4509		2	1000		chalk	Middle Chalk	local	Y?	foundation rubble fill
Feeder ditch	17194	4509	4178		1	1213	180x210x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	17194	4509	4178		1	3028	150x40-100x45 (thick)	quartzitic sandstone		local	Y	moulded stone?
Feeder ditch	17194	4509	4178		1	3222	120x105x100	grey chalk	Lower Chalk	local		faced clunch block
Feeder ditch	17194	4509	4178		1	912	140x120x40	grey chalk	Lower Chalk	local		faced clunch block
Feeder ditch	17194	4509	4178		1	8500	230x160x110	bio-oosparite	Lincolnshire Limestone	Weldon?		moulded quoin or other architectural stone
Feeder ditch	17194	4509	4178		1	6000	300x120x105	yellow sandstone		local	Y	rough wall stone
Feeder ditch	17194	4509	4178		1	29000	420x250x120	bio-oosparite	Barnack Stone	Barnack, Cambs.		finely dressed wall block or quoin
Feeder ditch		4509	4154	2811	1	115000	470x440x330	bioclastic oolite (lmstn)	Barnack Stone (Lower Lincs Limestone)	Barnack, Cambs.		quarried stone?
Feeder ditch	16068	4522	3931		1	456	120x100x20	shelly sparry limestone	Alwalton Marble, Cornbrash	Alwalton, R.Nene, Peterborogh	Y	roof slate?
Feeder ditch	16068	4522	3931		1	171	75	micritic shelly limestone	Corallian?	Cambridgeshire?	Y	rough wall stone
Feeder ditch	16068	4522	3931		1	211	80	micritic shelly limestone	Corallian?	Cambridgeshire?	Y	rough wall stone
Feeder ditch	16068	4522	3931		1	244	80	micritic shelly limestone	Corallian?	Cambridgeshire?	Y	rough wall stone
Feeder ditch	16068	4522	3931		2	162	75-100	sandstone		local		foundation

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
												rubble fill
Feeder ditch	16217	4562	3976		7	600		micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16217	4562	3976		2	400		bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Feeder ditch	16217	4562	3976		15	1050		chalk (x2) + flint (x3) + sstn (x2)		local		foundation rubble fill
Feeder ditch	16218	4562	3976		1	1220	130x120x70	bio-oosparite		Weldon, Northants?	Y	rough wall stone
Feeder ditch	16218	4562	3976		1	150		bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Feeder ditch	16218	4562	3976		1	200	40 thick	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16218	4562	3976		2	474		chalk		local		foundation rubble fill
Feeder ditch	16221	4563	3976		1	329	120x70x55	oolitic lmstn	Ketton Stone	Ketton, Rutland		stone moulding - probably a column lower
Feeder ditch	16221	4563	3976		1	459	90x55x50	bio-oosparite	Barnack Stone	Barnack, Cambs.		stone moulding - probably a column lower
Feeder ditch	16221	4563	3976		2	250	fragments	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16221	4563	3976		1	300	140x80x8	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Feeder ditch	16221	4563	3976		2	1200	(1) 190x90x60 + 65	chalk (1) + sandstone		local	Y	foundation rubble fill
Feeder ditch	16536	4630	4059		2	870	210x200x15	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16536	4630	4059		5	302	frags	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	16536	4630	4059		1	125	120x80x10	micac lmstn	Collyweston slate	Collyweston, Northants.		roof slate
Feeder ditch	16536	4630	4059		1	85	fragment	ferruginous (limonitic) sandstone	Northampton Sand (Ironstone)	Northants.	Y?	rough wall stone
Feeder ditch	16540	4631	4059		1	187		shelly limestone with fossil oyster	Upper Jurassic, Oxfordian-Kimmeridgian?	Cambs.?	Y	rough wall stone
Feeder ditch	16540	4631	4059		1	388		lamellar limestone	Lower Lincolnshire Limestone?	Northants?	Y	rough wall stone
Feeder ditch	16540	4631	4059		2	1250	260x200x20	micac lmstn	Collyweston Slate	Collyweston,	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
										Northants.		
Feeder ditch	16540	4631	4059		1	675	200x110x15	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Feeder ditch	16540	4631	4059		5	325	frags	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	16540	4631	4059	4059	1	15	small frag	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	17097	4754	4152		1	400	150x110x50	hard white chalk	Melbourn Rock OR Chalk Rock (U.Chalk)	local	Y	rough wall stone
Feeder ditch	17097	4754	4152		1	6500	240x150x130	ferruginous sandstone	Northants Sand (Northants Ironstone)	Northants.	Y	wall stone
Feeder ditch	17097	4754	4152		1	1000	260x160x15-20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	17097	4754	4152		1	200	110x90x20	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4152		1	250	150x100x45	ferrug sandstone	Northants Sand (Northants Ironstone)	Northants.	Y	rough wall stone
Feeder ditch	17097	4754	4152		1	500	180x150x30	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4152		1	750	190x80x70	brown quartzitic sstn	glacial erratic	local		rough wall stone?
Feeder ditch	17097	4754	4152		1	500	190x140x35	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4152		1	750	180x140x30	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4152		1	1000	150x100x80	patinated flint	Middle-Upper Chalk	local	Y?	wall infill/ rubble
Feeder ditch	17097	4754	4152		1	1250	130x100x90	coarse quartzitic sstn	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4152		1	250	150x140x10	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4152		1	1000	180x130x45	biosparite 'slaty' lmstn	Inferior Oolite 'Northants' Pendle	Northants.	Y	roof slate OR thin wall divider
Feeder ditch	17097	4754	4152		1	1000	180x170x45	hard white chalk	Melbourn Rork OR Chalk Rock (U.Chalk)	local		rough wall stone
Feeder ditch	17097	4754	4152		1	250	150x90x80	black flint nodule	Middle-Upper Chalk	local	Y	cobbed flint wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer -shaped/ split	Building use
Feeder ditch	17097	4754	4152		1	400	120x100x30	grey chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?	Y	cobbed wall stone
Feeder ditch	17097	4754	4152		1	400	100x90x45	black flint	Middle-Upper Chalk	local	Y	cobbed flint wall stone
Feeder ditch	17097	4754	4152		1	1000	240x160x30	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4152		1	1500	200x100x85	pale brown quartzit sstn	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4152		1	8000	240x240x130	Carboniferous Limestone	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4152		1	250	110x100x50	patinated yellow flint	glacial erratic	local	Y	cobbed flint wall stone
Feeder ditch	17097	4754	4152		1	400	130x140x35	flint nodule	Middle-Upper Chalk?	local	Y	cobbed flint wall stone
Feeder ditch	17097	4754	4152		1	700	150x110x40	laminated yellow oolitic limestone	Upper Lincolnshire Limestone?	Northants.?	Y	roof slate OR thin wall divider
Feeder ditch	17097	4754	4152		1	3500	160x150x130	quartzitic sandstone	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4152		1	500	120x70x50	fissile sandy limestone	Northants 'pendle (Lower Inf Oolite)	Northants.		rough wall stone
Feeder ditch	17097	4754	4152		1	750	130x60x60	grey-brwn chalk(clunch)	Lower Chalk	local?	Y	cobbed wall stone
Feeder ditch	17097	4754	4152		1	750	160x110x40	quartzitic sandstone	Lower Inf Oolite (unknown)	Northants?	Y	rough wall stone
Feeder ditch	17097	4754	4152		1	1500	160x130x75	quartzitic sandstone	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4152		1	1000	170x160x30	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4152		1	4000	180x130x110	quartzitic sandstone	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4152		1	800	150x100x40	sstn/ siltstone			Y	rough wall stone
Feeder ditch	17097	4754	4152		1	1000	150x140x30-40	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate OR thin wall divider
Feeder ditch	17097	4754	4152		1	3000	200x130x100	ferruginous sandstone	Northants Sand (Northants Ironstone)	Northants.	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	1000	110x100x50	micac lmstn	Collyweston Slate	Collyweston, Northants.		rough wall stone
Feeder ditch	17097	4754	4154		1	800	130x80x60	ferruginous sandstone/ siltstone	Northants Sand (Northants Ironstone)	Northants.	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	3000	190x160x80	fosiliferous bio-	Upper Lincolnshire	Northants.?	Y	rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
								oosparite	Limestone?			
Feeder ditch	17097	4754	4154		1	750	140x90x60	de-calcified quartz sst (Calcareous Grit (Corallian)?)	glacial erratic	local?	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	750	150x120x40-50	black flint nodule	Middle Chalk-Upper Chalk	local	Y	cobbed flint wall stone
Feeder ditch	17097	4754	4154		1	1000	190x100x20	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	750	120x70x70	quartzitic sstn	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	700	180x120x40-50	quartzitic grit	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4154		1	250	90x70x70	quartzitic sstn	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	3500	180x150x100	yellow oolitic freestone	Ketton Stone? (Upper Lincolnshire Lmstn)	Rutland/ Lincs.	Y	wall stone
Feeder ditch	17097	4754	4154		1	1000	120x90x55	yellow oolitic freestone	Ketton Stone? (Upper Lincolnshire Lmstn)	Rutland/ Lincs.	Y	wall stone
Feeder ditch	17097	4754	4154		1	500	130x90x60	black flint nodule	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	250	140x100x40	black flint nodule	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	700	150x80x70	pale white med-coarse sandstone	glacial erratic?	local	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	500	140x120x30-40	sandy shelly grey lmstn with bivalves	Marlstone Rock (Middle Lias)?	Northants.	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	500	150x80x50	quartzitic sandstone	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	1000		quartz rich siltstone	Lower Inf Oolite 'pendle?	Northants	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	700	130x110x60	sandy shelly lmstn with bivalves and ammonite	lower of Marlstone Rock (Lower-Middle Lias Transition)?	Northants or Leics.	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	6000	200x180x100	bioclastic limestone	Barnack Stone (Lower Lincs Limestone)	Barnack, Cambs.	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	3500	170x140x100	quartzite	glacial erratic	local		rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Feeder ditch	17097	4754	4154		3	800	(1)80x100x15; (2)100x100x15; (3)110x100x15	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	400	180x120x20	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	250	110x80x50	soft white sandstone	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	2000	160x150x80	ferruginous sandstone	Northants Sand (Northants Ironstone) OR Carstone (LGS)	Northants or Cambs	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	4000	180x140x100	laminated quartzitic sandstone	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4154		1	3500	180x120x100	laminated quartzitic sandstone	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4154		1	5250	250x200x80	fine g sstn	glacial erratic	local	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	200	150x120x20	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	500	220x160x20	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	1000	200x160x20	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	500	120x100x60	yellow oolitic lmstn	Ketton Stone? (Upper Lincolnshire Lmstn)	Rutland/ Lincs.	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	250	160x100x15-20	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	750	180x70x60	patinated white flint	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	250	130x70x60	hard white chalk	Melbourn Rock	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	500	130x120x60	quartz siltstone	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	250	120x70x80	sandstone	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	200	100x70x20	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	250	110x100x30	sparry-micritic bivalve-rich lmstn (rubblestone)	lower of Grantham Formation (Lower Inf Oolite)?	Northants?	Y	moulded stone?

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Feeder ditch	17097	4754	4154		1	2200	180x120x70	fine-med quartzitic sstn	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4154		1	300	150x90x50	black flint nodule	Middle Chalk-Upper Chalk	local	Y	cobbed flint wall stone
Feeder ditch	17097	4754	4154		1	500	180x100x45	fine lamin quartz sstn	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4154		3	500	(1)160; (2)160; (3)140	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	500	150x70x60	lamin quartz sstn	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	250	110x60x60	grey chalk (clunch)	Lower Chalk		Y	rough wall stone?
Feeder ditch	17097	4754	4154		1	500	140x80x60	quartzitic sandstone	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	500	120x110x70	yellow patinated flint	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	250	70x80x70	grey chalk (clunch)	Lower Chalk	local?		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	500	90x90x40	black flint nodule	Middle Chalk-Upper Chalk	local?	Y	cobbed flint wall stone
Feeder ditch	17097	4754	4154		1	1000	130x110x70	soft white sandstone	glacial erratic	local	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	250	120x90x15	slate	Swithland Slate	Swithland, Leics.	Y	roof slate
Feeder ditch	17097	4754	4154		1	200	70x70x50	sandstone	glacial erratic?	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	1500	160x120x60	quartzitic sandstone	glacial erratic	local		rough wall stone?
Feeder ditch	17097	4754	4154		1	300	120x140x25	slate	Swithland Slate	Swithland, Leics.	Y	roof slate
Feeder ditch	17097	4754	4154		1	250	145x100x15	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	250	95x75x60	quartzite	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	500	180x70x40	patinated white flint	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	500	130x80x50	black flint nodule	Middle Chalk-Upper Chalk	local	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	1500	130x90x70	a burrowed calcareous sandstone with bivalves	Marlstone Rock ?	Northants?	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	2000	190x110x90	soft orthoquartzitic sstn	glacial erratic	local	Y	rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Feeder ditch	17097	4754	4154		1	2000	140x120x80	quartzitic sandstone	glacial erratic	local		rough wall stone
Feeder ditch	17097	4754	4154		2	300	(1)120x110 (2)150x70x15	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		2	300	(1)120x110 (2)150x70x15	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	17097	4754	4154		2	300	(1)130x70 (2)140x80	slate	Swithland Slate	Swithland, Leics.		roof slate
Feeder ditch	17097	4754	4154		2	300	(1)110x80x10 (2)130x70x15	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4154		1	500	110x95x90	white chalk	Middle Chalk-Upper Chalk	local?	Y	rough wall stone
Feeder ditch	17097	4754	4154		1	500	140x110x50	patinated flint	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	250	75x60x60	quartzitic sstn	glacial erratic	local	Y	rough wall stone?
Feeder ditch	17097	4754	4154		2	250	60x80x40	white chalk	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		2	400	100x80x20-50	black flint nodules	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		1	400	130x70x50	black flint nodule	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Feeder ditch	17097	4754	4154		2	200	(1)120x110x10 (2)120x40x10	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17097	4754	4152		5	311	40 + 60 + 70(x2) + 80	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	17097	4754	4152		3	7191	(1)170x110x17; (2)335x415x17; (3)325x200x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	17097	4754	4152		1	250	120x110x20	laminated sandstone	glacial erratic	local		rough wall stone?
Feeder ditch	17097	4754	4152		2	200	(1)50x40x40 (2)90x70x50	quartzitic sandstone	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4152		1	150	90x50x30	sandstone	glacial erratic	local		wall infill/ rubble
Feeder ditch	17097	4754	4152		1	200	90x50x30	grey chalk (clunch)	Lower Chalk	local		wall infill/ rubble
Feeder ditch	17097	4754	4152		1	200	70x75x50	ferruginous sandstone	Northants Sand (Northants Ironstone)	Northants	Y	rough wall stone
Feeder ditch	17097	4754	4152		1	15000	300x260x100	shelly bituminous lmstn with	Marlstone Rock (Upper	Northants?	Y	major wall course stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
								brachiopods	Pleinsbachian)?			
Feeder ditch	17097	4754	4152		1	15000	300x260x100	bioclastic limestone	Barnack Stone (Lower Lincs Limestone)	Barnack, Cambs.	Y	major wall course stone
Feeder ditch	17097	4754	4152		1	30000	460x370x100	bioclastic limestone	Barnack Stone (Lower Lincs Limestone)	Barnack, Cambs.	Y	major wall course stone
Feeder ditch	17360	4754	4167		1	680	170x130x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Feeder ditch	17188	4768	4152		7	4000	80-110 x 70-100 x 20-25	micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17188	4768	4152			3000		sandstone	glacial erratic	local		foundation course rubble
Feeder ditch	17188	4768	4152		20	15000	110x100x60 ave	grey chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		foundation course rubble
Feeder ditch	17188	4768	4152		5	10000		hard white chalk	Melbourn Rock (Middle Chalk)	local		foundation course rubble
Feeder ditch	17188	4768	4152		2	4000	180x110x60	shelly limestone	Marlstone Rock ?	Northants.		foundation course rubble
Feeder ditch	17188	4768	4152		3	4000		ferruginous sandstone	Northants Ironstone	Northants		foundation course rubble
Feeder ditch	17188	4768	4152		1	500		white chalk	Middle Chalk-Upper Chalk	local		foundation course rubble
Feeder ditch	17188	4768	4152		10	2000		micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Feeder ditch	17188	4768	4152		6	2300	100-170	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Fieldsystem	16944	4648	4127		1	100	85x70x13	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Fieldsystem	16944	4648	4127		4	91	30-55	white chalk	Middle Chalk	local		foundation rubble fill
Furrow	16090	4525	3935		1	150	60	limestone		local		foundation rubble fill
Furrow	16092	4526	3936	3936	2	228	frags	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Furrow	16092	4526	3936	3936	10	262	small frags	chalk		local		foundation rubble fill
Furrow	16112	4526	3942		5	1600	30-140	sandstone(x2) + chalk(x3)		local	Y?	rough wall stone
Furrow	16123	4526	4153		4	182	25-60	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Furrow	16123	4526	4153		10	460	30-80	white chalk	Middle Chalk	local		foundation rubble fill
Furrow	16123	4526	4153		2	134	50-70	ferrug sstn	carstone, Lower Greensand	Cambridgeshire?	Y	rough wall stone
Furrow	16123	4526	4153		2	52	30x30x20	ferrug sstn	carstone, Lower Greensand	Cambridgeshire?	Y	tesserae
Furrow	16123	4526	4153		9	42	10 to 35	white chalk	Middle Chalk	local		foundation rubble fill
Furrow	16123	4526	4153		2	37	30 + 45	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Furrow	16123	4526	4153		1	50	45	shelly micrite		local		rough wall stone
Furrow	16123	4526	4153		1	134	100	bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Furrow	16123	4526	4153		1	14	25	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Furrow	16123	4526	4153		1	29	60x30x13	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Furrow	16160	4541	3957		1	400		limestone	Upper Inferior Oolite		Y?	rough wall stone
Furrow	16160	4541	3957		1	1119	220x120x12-20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Furrow	16160	4541	3957		3	1000		micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Furrow	16160	4541	3957		1	1000		cemented oosparite	Lincolnshire Limestone	Nothants?	Y	rough wall stone
Furrow	16160	4541	3957		8	1781		grey chalk (x2) + white chalk (x5) + sstn	Lower + Middle Chalk	local		foundation rubble fill
Furrow	16160	4541	3957		1	235	90	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Furrow	16110	4549	3941		2	155	60 + 80	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Furrow	16256	4567	3985		9	1083	(1) 160x120x17 + 40-80	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Furrow	16256	4567	3985		1	126	100	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Furrow	16256	4567	3985		4	13	20-40	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Furrow	16258	4569	3985		5	120	small frags	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Furrow	16258	4569	3985		10	80	small frags	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer -shaped/ split	Building use
Furrow	16258	4569	3985		1	31		quartzite		local		foundation rubble fill
Furrow	16388	4595	4020		1	44	15	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Furrow	17251	4767	4170		1	15	50x30x5	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Pit Alignment 1	16290	4545	3993		1	2460	130x110x100	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Pit Alignment 1	16290	4545	3993		1	1940	160x150x55	cementstone	Corallian	Earith, Cambs?	Y	rough wall stone
Pit Alignment 1	16288	4573	3992		1	3378	190x120x120	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	dressed wall stone
Pit Alignment 1	16288	4573	3992		2	1510	120 +140	cementstone	Corallian	local	Y	rough wall stone
Pit Alignment 1	16288	4573	3992		2	131		bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Pit Alignment 1	16288	4573	3992		1	872	85x100x80	patinated flint		local	Y	for flint knapped wall
Pit Alignment 1	16340	4587	4007		8	9500	(1)240x150x90; (2)240x120x130; (3)120x85x70; (4)90-160 x5	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone (but well shaped and fitted)
Pit Alignment 1	16334	4588	4008		1	2482	130x110x110	bio-oosparite	Lincolnshire Limestone	Northants?		rough wall stone
Pit Alignment 1	16436	4601	4030		29	32000	100-190	sandstone(x21) + dolerite(x1) +yellow flint(x7)		local		foundation rubble fill
Pit alignment 2	16638	4638	4082		1	104	80	cementstone	Corallian	local	Y	rough wall stone
Pit alignment 2	16893	4683	4125		4	117	50-70	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Pit Group 1	16301	4579	3997		3	155	55	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Pit Group 1	16301	4579	3997		1	53	small frag	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Pit Group 1	16301	4579	3997		1	31	28x25x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Pit Group 1	16301	4579	3997		1	300		sandstone		local		foundation rubble fill
Pit Group 1	16303	4580	3997		1	50	60	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Pit Group 1	16303	4580	3997		5	885	60-110	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Pit Group 2	16384	4593	4019		2	500	<110	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Pit Group 2	16384	4593	4019		2	504	30-110	sandstone		local		foundation rubble fill
Pit Group 3	16457	4508	4037		1	500		quartzitic sandstone	glacial erratic	Cambridge		rough wall stone
Pit Group 3	16440	4603	4032		2	24	40-50	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Pit Group 4	17286	4741	4172		1	24	55	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Pit Group 4	17332	4741	4172		4	62	35-55	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Pit Group 4	17332	4741	4172		1	20	40	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Rubble Spread 1	16059	4641	4086		40	1129	30-120	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Rubble Spread 1	16059	4641	4086		1	62	70	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Rubble Spread 1	16059	4641	4086		1	1420	240x140x5-20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Rubble Spread 1	16059	4641	4086		6	763	30-115	grey chalk(x1) + shelly limestone(x4) + sandstone(x1)		local	Y	foundation rubble fill
Rubble Spread 1	16059	4641	4086		1	36	40x35x12-15	micac sandstone		local	Y	tesserae
Rubble Spread 1	16059	4641	4086		1	22	35	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Rubble Spread 1	16059	4641	4086		7	76	20-50	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Rubble Spread 1	16193	4641	4085	2798	1	1874	150	quartz mica schist		local		rough wall stone
Rubble Spread 2	16899		4127		4	4000	(1)340x250x15	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Rubble Spread 2	16899		4127		2	500	90-150	limestone	Collyweston Slate	Collyweston, Northants.		roof slate
Rubble Spread 2	16899		4127		4	500		flint + septaria		local	Y	rubble fill
Small Ditches and Gullies	16134	4520	3950		3	82	20+40+45	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Small Ditches and Gullies	16134	4520	3950		1	27	40	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Small Ditches and Gullies	16115	4534	3950		1	50	75	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer -shaped/ split	Building use
Small Ditches and Gullies	16115	4534	3950		1	30	55	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Small Ditches and Gullies	16115	4534	3950		4	266	65-105	grey chert(x1) + patinated flint(x1) + white chalk(x2)		local		foundation rubble fill
Small Ditches and Gullies	17242	4534	4168		1	10	30x20x7	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Small Ditches and Gullies	16520	4624	4056		127	1500	*c*.30x30x20	micac lmstn + cementstone/ septarian	*Collyweston Slate (90%) + U.Jurassic (Corallian/ Kimmeridge) Limestone(10%)	Collyweston, Northants. + Ely-Earith, Cambs.		tesserae
Small Ditches and Gullies	16520	4624	4056		1	30	30x30x20	quartzitic sandstone	glacial erratic	Cambridge		tesserae
Small Ditches and Gullies	16520	4624	4056		1	20	30x30x20	chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		tesserae
Small Ditches and Gullies	16520	4624	4056		1	25	25x25x25	flint	glacial gravels	Cambs.		tesserae
Small Ditches and Gullies	16520	4624	4056		1	450		flint	Upper Chalk	Cambs?	Y	cobbed flint wall stone
Small Ditches and Gullies	16520	4624	4056		3	16	20x15	limestone				tesserae
Small Ditches and Gullies	16520	4624	4056		1	530		shelly limesone	Upper Jurassic?	Cambs	Y	rough wall stone
Small Ditches and Gullies	16520	4624	4056		10	512		oolitic lmstn	Ketton Stone?	Ketton, Lincs.	Y	building stone chips
Small Ditches and Gullies	16520	4624	4056		1	56		bioclastic oolite	Weldon Stone, Lincolnshire Limestone?	Weldon, Northants?	Y	building stone chip?
Small Ditches and Gullies	16520	4624	4056		50	880		chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Small Ditches and Gullies	16520	4624	4056		2	100	10+30	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough walling stone
Small Ditches and Gullies	16520	4624	4056		1	53	40x40x10-20	flint		local	Y	tesserae
Small Ditches and Gullies	16520	4624	4056		1	896	120x80x60	yellow flint		local	Y	rough wall stone
Small Ditches and Gullies	16520	4624	4056		45	874	10-65 (ave 30)	chalk		local	Y?	foundation rubble fill
Small Ditches and Gullies	16520	4624	4056		9	1003	(1)75x70-90x10 + other small	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
							frags					
Small Ditches and Gullies	16520	4624	4056		2	471	60+120	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Small Ditches and Gullies	16520	4624	4056		13	1000	40-60	oolitic lmstn	Ketton Stone	Ketton, Rutland	Y	rough wall stone
Small Ditches and Gullies	16520	4624	4056		18	1500	30-100	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Small Ditches and Gullies	16520	4624	4056		8	500	20-50	ferrug sstn	Northants Ironstone	Northants?	Y	rough wall stone
Small Ditches and Gullies	16520	4624	4056		2	50	25x20x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Small Ditches and Gullies	16520	4624	4056		1	20	22x15x15	silicified wood?		glac erratic	Y	tesserae
Small Ditches and Gullies	16520	4624	4056		130	1500	10-40	white chalk	Middle Chalk	local		crushed chalk floor
Small Ditches and Gullies	16520	4624	4056		15	2000		sandstone(x5) + flint(x10)		local		foundation rubble fill
Small Ditches and Gullies	16520	4624	4056		2	15	25x30x13	white chalk	Middle Chalk	local	Y	tesserae
Small Ditches and Gullies	16520	4624	4056		1	39	30x32x17	tabular flint		local	Y	tesserae
Small Ditches and Gullies	17156	4626	4160		2	355	65+110	micaceous sandstone		local		rough wall stone
Small Ditches and Gullies	17315	4626	4174		5	610	100x100x30	bio-oosparite	Barnack Stone	Barnack, Cambs.		dressed wall stone
Small Ditches and Gullies	17316	4626	4174		3	1754	210x200x10-20 + 200+65	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Small Ditches and Gullies	17444	4628		2038	6	1214	50-130	sandstone(1) + black flint(x2) + grey chalk(x3)	Lower Chalk	local	Y	rough wall stone?
Structure 1	16569	4539	4068		1	400	140	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 1	16569	4539	4068		1	807		sandstone		local		foundation rubble fill
Structure 1	16577	4540	4071		5	1905	(1)210x160 + pieces 55-210	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 1	16578	4540	4071		2	163	55+60	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 1	16330	4544	4005		2	158	30-80	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Structure 1	16330	4544	4005		1	200	<80	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Structure 1	16292	4575	3994		1	382	180x90x15	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 1	16292	4575	3994		1	200	130	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 1	16292	4575	3994		2	600		bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Structure 1	16292	4575	3994		2	58	30x25x20; 20x25x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Structure 1	16610	4575	4075		1	202	90x50x45	white chalk	Middle Chalk	local	Y	rough wall stone
Structure 1	16610	4575	4075		2	8	15-25	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 1	16310	4583	3999		1	365	110x90x22	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 2	16523	4633	4057		3	777	(1)170x100x17; (2)85x130x17 + 70	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 2	16574	4633	4070		1	68	70	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 3	17227	4522	4152		3	2500		micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Structure 3	17227	4522	4152		1	2000		slate	Swithland Slate	Swithland, Leicestershire		roof slate
Structure 3	17227	4522	4152		1	3000		tholeitic basalt	glacial erratic	local		rough wall stone?
Structure 3	17227	4522	4152		1	2000		quartzitic sandstone	glacial erratic	local		rough wall stone
Structure 3	17227	4522	4152		2	7000	(1)190x110x90	bio-oosparite	Lincolnshire Limestone	Weldon?	Y	rough walling
Structure 3	17227	4522	4152		14	11000	85-150	chalk (x9); sstn + flint		local	Y?	foundation rubble fill
Structure 3	17227	4522	4152		1	1000	100	ferrug sstn	Northants Ironstone	Northants	Y?	foundation rubble fill
Structure 3	16751	4555	4154		1	2000	150	bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Structure 3	16751	4555	4154		4	5000	100-160	bituminous cementstone + chalk + flint (x2)	Corallian + Lower Chalk	local	Y?	foundation rubble fill
Structure 3	17096	4754	4152		1	200	85x90x50	flint	glacial erratic?	local		wall infill / rubble

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Structure 3	17096	4754	4152		1	500	120x110x60	ferrug sandstone	Northants Sand (Northants Ironstone)	Northants?	Y	rough wall stone
Structure 3	17096	4754	4152		1	1500	160x100x70	black flint	Upper Chalk	Cambs.	Y?	cobbed flint wall stone
Structure 3	17096	4754	4152		1	200	125x70x40	brown quartzitic sstn	glacial erratic	Cambridge?		wall infill/ rubble
Structure 3	17096	4754	4152		1	1500	150x120x110	brown sandstone	glacial erratic	local		rough wall stone
Structure 3	17096	4754	4152		1	250	110x65x70	brown calcareous siltstone	glacial erratic	local		wall infill/ rubble
Structure 3	17096	4754	4152		1	1000	140x100x60	patinated flint	glacial erratic	local		rough wall stone
Structure 3	17096	4754	4152		1	400	150x120x70	hard white chalk	Melbourn Rock	local	Y	wall infill/ rubble
Structure 3	17096	4754	4152		1	400	130x80x70	black flint nodule	Middle-Upper Chalk	local	Y?	wall infill/ rubble
Structure 3	17096	4754	4154		1	700	130x90x80	black flint nodule	Middle-Upper Chalk	local	Y	cobbed flint wall stone
Structure 3	17096	4754	4154		1	500	120x100x70	black flint nodule	Middle-Upper Chalk	local	Y	cobbed flint wall stone
Structure 3	17096	4754	4154		1	250	120x100x70	sandy white limestone	Northants 'Pendle'	Northants	Y	rough wall stone
Structure 3	17096	4754	4154		1	250	90x50x60	white micritic limestone	Jurassic - unknown	Eastern England?	Y	wall infill/ rubble
Structure 3	17096	4754	4154		1	1000	160x120x80	reddish fossiliferous quartzitic sandstone	glacial erratic	local	Y	rough wall stone?
Structure 3	17096	4754	4154		1	250	150x90x30	laminated quartz siltstone/ sstn	glacial erratic	local	Y?	rough wall stone?
Structure 3	17096	4754	4154		1	250	120x100x40	hard grey chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Structure 3	17096	4754	4154		1	250	110x90x40	white micritic limestone	Upper Jurassic (Corallian - Kimmeridg?)	local Cambs.	Y?	wall infill/ rubble
Structure 3	17096	4754	4154		1	200		grey chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Structure 3	17096	4754	4154		1	1000	140x130x90	black flint nodule	Middle-Upper Chalk	local	Y?	rough wall stone
Structure 3	17096	4754	4154		1	2000	210x160x60	quartzitic sandstone	glacial erratic	local	Y	rough wall stone
Structure 3	17096	4754	4154		1	1000	170x100x80	black flint nodule	Middle-Upper Chalk	local	Y	rough wall stone?
Structure 3	17096	4754	4154		1	1750	150x110x90	pale white sandstone	glacial erratic	local	Y	cobbed wall

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
												stone
Structure 3	17096	4754	4154		1	2000	170x140x90	hard sandstone	glacial erratic	local		rough wall stone
Structure 3	17096	4754	4154		1	500	120x80x60	hard white chalk	Melbourn Rock	local	Y	rough wall stone
Structure 3	17096	4754	4154		1	400	150x110x50	quartzitic sandstone	glacial erratic	local	Y	rough wall stone
Structure 3	17204	4756	4153		1	1700	180x160x20-30	bio-oosparite shelly (fossil oyster) limstn	Alwalton Marble, Cornbrash	Alwalton, R.Nene, Peterborogh	Y	roof slate?
Structure 3	17204	4756	4153		3	6200		chalk(x1) + cementstone(x1) + sstn	Lower Grey Chalk + Corallian	local	Y?	foundation rubble fill
Structure 3	17204	4756	4153		1	300		limestone	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17206	4757	4153		7	15000	160-230	chalk (x2) + sstn + flint	Lower Grey Chalk	local		foundation rubble fill
Structure 3	17222	4759	4221		2	4000	90+220	ferrug sstn	Northants Ironstone	Northants?	Y	rough wall stone
Structure 3	17222	4759	4221		1	1000	120	bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Structure 3	17222	4759	4221		11	14000	120-220	sandstone(x3) + chalk(x8)		local	Y	foundation rubble fill
Structure 3	17222	4759	4221		1	750	100	ferrug sstn	Northants Ironstone	Northants?	Y	rough wall stone
Structure 3	17222	4759	4221		1	600	130	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17222	4759	4221		1	700	130x95x25	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Structure 3	17222	4759	4221		1	600	130	shelly sparry limestone	Alwalton Marble, Cornbrash	Alwalton, R.Nene, Peterborogh	Y	roof slate?
Structure 3	17222	4759	4221		1	1891	160x110x80	white chalk	Middle Chalk	local	Y	rough wall stone
Structure 3	17222	4759	4221		9	10000	80-170	grey chalk(x2) + sandstone(x7)		local		foundation rubble fill
Structure 3	17223	4759	4221		5	658	40-110	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17239	4764	4166		2	227	frags	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17239	4764	4166		1	455	170x90x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17240	4764	4166		1	260	90x60x40	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17246	4764	4166		1	1430	160x110x30	micac lmstn	Collyweston Slate	Collyweston,	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer -shaped/ split	Building use
										Northants.		
Structure 3	17246	4764	4166		1	1000	150	sandstone		local		foundation rubble fill
Structure 3	17303	4776	4173		30	23000	30-240	chalk(x29) + flint(x1)		local	Y?	foundation rubble fill
Structure 3	17303	4776	4173		3	1000	70-105	oolitic lmstn	Ketton Stone	Ketton, Rutland	Y	rough wall stone
Structure 3	17303	4776	4173		1	500	70	ferrug sstn	Northants Ironstone	Northants?	Y	rough wall stone
Structure 3	17303	4776	4173		3	9032	(1)210x110x75; (2)210x130x85; (3)200x90x90	white chalk		local	Y	rough wall stone
Structure 3	17303	4776	4173		5	1500	65-140	black flint		local	Y	rough wall stone
Structure 3	17303	4776	4173		37	17000	40-150	white chalk(x27) + grey chalk(x1) + yellow flint(x2) + sandstone(x8)		local	Y?	foundation rubble fill
Structure 3	17324	4781	4152		1	10000	200x190x140	dolerite	glacial erratic	Cambridge?		rough wall stone
Structure 3	17324	4781	4152		1	14000	150x120x130	quartzitic sandstone	glacial erratic	Cambridge?	Y	rough wall stone
Structure 3	17324	4781	4152		1	14000	290x210x120	bioclastic limestone	Barnack Stone, Lower Lincolnshire limestone	Barnack, Cambs.	Y	rough wall stone
Structure 3	17324	4781	4152		1	7000	190x180x100	quartzitic sandstone	glacial erratic	Cambridge?		rough wall stone
Structure 3	17324	4781	4152		1	4000	150x140x120	ferrug quartzitic sandstone	glacial erratic	Cambridge?		rough wall stone
Structure 3	17324	4781	4152		1	4000	140x130x90	quartzitic sandstone	glacial erratic	Cambridge?		rough wall stone
Structure 3	17324	4781	4152		1	12000	220x200x160	fossilif calcareous sstn/ biosparite lmstn '	Marlstone Rock?	Northants?	Y	rough wall stone
Structure 3	17324	4781	4152		1	10500	250x240x130	yellow flint	glacial erratic	Cambs.		rough wall stone
Structure 3	17324	4781	4152		1	4500	220x200x160	quartzite	glacial erratic	Cambridge?		rough wall stone
Structure 3	17324	4781	4152		1	5000	170x180x100	ferrug sstn (carstone)	Lower Greensand	Cambs.	Y	rough wall stone
Structure 3	17324	4781	4152		1	5000	210x160x130	quartzitic sandstone	glacial erratic	Cambridge?	Y	rough wall stone
Structure 3	17324	4781	4152		1	8500	210x200x100	orthoquartzitic sandstone	glacial erratic	Cambs.		rough wall stone
Structure 3	17324	4781	4152		1	9000	290x190x130	fossilif calcareous sstn/ biosparite lmstn '	Marlstone Rock?	Northants?	Y	rough wall stone
Structure 3	17324	4781	4152		1	5000	210x170x130	yellow quartzite	glacial erratic	Cambridge?		rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer -shaped/ split	Building use
Structure 3	17324	4781	4152		1	2000	110x120x80	chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?	Y	rough wall stone
Structure 3	17324	4781	4152		1	3000	180x120x110	quartzitic sandstone	glacial erratic	Cambs.		wall stone
Structure 3	17324	4781	4152		1	9500	270x270x80	fossilif calcareous sstn/ biosparite lmstn '	Marlstone Rock?	Northants?	Y	rough wall stone
Structure 3	17324	4781	4152		1	3500	160x110x110	white quartzitic sstn	glacial erratic	Cambs.	Y	rough wall stone
Structure 3	17324	4781	4152		1	3000	200x110x80	white quartzitic sstn	glacial erratic	Cambs.	Y	rough wall stone
Structure 3	17324	4781	4152		1	5500	180x180x130	quartz sandstone	glacial erratic	Cambridge?		rough wall stone
Structure 3	17324	4781	4152		1	6000	240x180x130	med-coarse quartz sstn	glacial erratic	Cambridge?		rough wall stone
Structure 3	17324	4781	4152		1	4500	170x130x120	yellow quartzitic sstn	glacial erratic	Cambridge?		rough wall stone
Structure 3	17324	4781	4152		1	1500	130x100x70	ferrug sandstone	Northampton Sand (Ironstone)	Northants?	Y	wall stone
Structure 3	17324	4781	4152		1	750	110x90x70	de-calcified quartz sandstone	glacial erratic	Cambridge?		rough wall stone
Structure 3	17324	4781	4152		1	3250	180x190x80	brown quartzitic sstn	glacial erratic	Cambridge?		rough wall stone
Structure 3	17324	4781	4152		1	3000	150x120x120	black flint	Upper Chalk?	Cambs.	Y	cobbed flint wall stone
Structure 3	17324	4781	4152		1	4000	240x130x100	brown fine g sstn	glacial erratic	Cambridge		rough wall stone
Structure 3	17324	4781	4152		1	3500	190x160x90	calcareous sandstone/ limestone	Marlstone Rock?	Northants?	Y	rough wall stone
Structure 3	17324	4781	4152		1	750	160x80x80	chalk (yellow-grey clunch)	Lower Chalk Marl	Cambs.		wall infill/ rubble
Structure 3	17324	4781	4152		1	2000	170x110x100	brown quartzitic sandstone	glacial erratic	Cambridge		rough wall stone
Structure 3	17324	4781	4152		1	9000	220x130x140	dolerite	glacial erratic	Cambridge		rough wall stone
Structure 3	17324	4781	4152		1	2000	110x110x120	brown quartzitic sandstone	glacial erratic	Cambridge		rough wall stone
Structure 3	17324	4781	4152		1	2000	170x160x70	flint	Upper Chalk	Cambs.	Y	cobbed flint wall stone
Structure 3	17324	4781	4152		1	2000	170x150x70	ferrug sandstone	Northants Ironstone OR LGS Carstone	Cambs./ Northants?	Y	wall stone
Structure 3	17324	4781	4152		1	1000	180x100x160	chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Structure 3	17324	4781	4152		1	2180	110x110x110	cementstone	Corallian	local	Y	rough wall stone
Structure 3	17354	4788	4159		2	203	70 + 90	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Structure 3	17393	4796	4153		3	818	(1)170x160x12	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 3	17393	4796	4153		1	296	frag	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17393	4796	4153		6	2966	50-120	cementstone	Corallian	local	Y	rough wall stone
Structure 3	17338	4799	4166		2	600		bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Structure 3	17338	4799	4166		1	400		micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17338	4799	4166		3	1400	60-140	chalk (1) + sandy lmstn (x1) + sst		local		foundation rubble fill
Structure 3	17339	4799	4166		1	31	65	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 3	16061		4153		1	102	75	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	16249		4154		2	1122	80+130	black flint		local	Y	knapped flint wall stone
Structure 3	16249		4154		1	377	130x90x35	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Structure 3	16250		4154		1	86	70x65x12	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	16691		4152		1	563	100x140x30	oolitic lmstn	Ketton Stone	Ketton, Rutland		finely dressed architectural stone (fragment)
Structure 3	16697		4153		1	150		bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	rough wall stone
Structure 3	16697		4153		2	80		sandstone		local		foundation rubble fill
Structure 3	16697		4153		9	1620	55-120	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 3	16697		4153		18	2600	40-130	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	16697		4153		1	900		grey flint		local	Y	flint knapped wall stone
Structure 3	16697		4153		3	2000	90-140	sandstone		local		rough wall stone
Structure 3	16697		4153		1	174	75x50x40	ferrug sstn	Northants Ironstone	Northants?	Y	rough wall stone
Structure 3	16697		4153		4	2500	130x70x60	grey chalk	Lower Chalk	local	Y	rough wall stone OR rubble course infill
Structure 3	16697		4153		1	3300	260x130x70	shelly oolitic limestine	Bathonian (Gt.Oolite Estuarine	Northants?	Y	rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
									Series OR Cornbrash?			
Structure 3	16698		4153		45	1200		micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Structure 3	16698		4153		5	125		quartzitic sandstone	glacial erratic	local?	Y	tesserae
Structure 3	16698		4153		4	100		micritic limestone (cementstone/septaria) Upper Jurassic Corallian/ Kimmeridgian	glacial erratic?	local?	Y	tesserae
Structure 3	16698		4153		1	1000		fissile yellow sstn			Y	flag stone (floor)?
Structure 3	16698		4153		3	4000		quartzitic sandstone	galcial erratic	local		wall infill/ rubble?
Structure 3	16698		4153		6	4000		micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Structure 3	16698		4153		3	1500		slate	Swithland Slate	Swithland, Leicestershire		roof slate
Structure 3	16698		4153		1	600		bioclastic oolite	Weldon Stone (Upper Lincolnshire Limestone)?	Weldon, Corby	Y	rough wall stone
Structure 3	16698		4153		1	1000		bio-oosparite	Ketton Ragstone (Upper Lincolnshire Limestone)	Ketton, Rutland	Y	rough wall stone
Structure 3	16698		4153		1	2000		bioclastic lmstn	Barnack Stone (Lower Lincs Limestone)	Barnack, Cambs.	Y	rough wall stone
Structure 3	16698		4153		7	3000		hard grey chalk (clunch)	Lower Chalk (Burwell Rock?)	Reach/ Burwell, Cambs.?		wall infill/ rubble?
Structure 3	16698		4153		4	5000		slate	Swithland Slate	Swithland, Leicestershire		roof slate
Structure 3	16698		4153		1	2000		grey shelly sparry lmstn		unknown	Y	mortared wall
Structure 3	16698		4153		1	500	100x110x40	quartzitic sandstone	glacial erratic	local?	Y	cobbed wall stone
Structure 3	16698		4153		1	2500		light yellow oosparite flagstone	Ketton Ragstone (Upper Lincolnshire Limestone)	Ketton, Rutland	Y	rough wall stone
Structure 3	16698		4153		1	800		quartzitic sandstone	glacial erratic	local	Y	faced wall stone?
Structure 3	16698		4153		1	1000		yellow oolitic lmstn	Ketton Stone?	Ketton, Rutland	Y	rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Structure 3	16698		4153		1	5000	200x175x65	bio-oosparite	Barnack Stone	Barnack, Cambs.	Y	walling
Structure 3	16698		4153		8	19000	160x120x80; 150x180x50; 110x90x65; 190x140x100	quartzitic sandstone (x4) + flint		local		rough walling
Structure 3	16698		4153		1	778	180x90x33	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	16698		4153		1	40	30x25x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Structure 3	16698		4153		1	375	110	quartz sandstone		local		foundation rubble fill
Structure 3	16698		4153		1	2411	220x190x50	grey chalk	Lower Chalk	local		rough walling stone
Structure 3	16698		4153		1	1412	150x110x65	white chalk	Melbourn Rock	local		rough walling stone
Structure 3	16698		4153		2	884	(1)140+(2)160	sandstone		local		rough walling stone
Structure 3	16698		4153		8	2000	80-160	black flint		local	Y	for flint knapped wall
Structure 3	16698		4153		1	600	120	patinated flint		local	Y	rough wall stone
Structure 3	16698		4153		1	737	85x60x70	grey flint		local	Y	flint floor cobble
Structure 3	16698		4153		1	1163	110x120x75	grey flint		local	Y	rough wall stone
Structure 3	16698		4153		2	1000	110-120	shelly sparry limestone	Alwalton Marble, Cornbrash	Alwalton, R.Nene, Peterborogh	Y	rough wall stone OR roof slate
Structure 3	16698		4153		1	700	120	shelly limestone	Marlstone Rock, Upper Lias?	Northants?	Y	rough wall stone
Structure 3	16698		4153		1	160	110	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 3	16698		4153		5	1145	90-110	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	16698		4153		3	2000	80-130	sandstone		local		rough wall stone
Structure 3	16698		4153		1	2283	195x120x60	sandstone		local	Y	rough wall stone
Structure 3	16698		4153		3	1000	(1)150x90x80 (2)165x100x90	grey chalk(x1) + white chalk(x2)	Lower Chalk + Middle Chalk	local		rough wall stone
Structure 3	16704		4154		1	5000	200x190x90	sandstone		local	Y	rough wall stone
Structure 3	16704		4154		1	1331	140x105x55	sandstone		local		rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Structure 3	16704		4154		1	538	90x80x50	cementstone	Corallian/ Kimmeridgian	local	Y	rough wall stone
Structure 3	16704		4154		1	150	75	sandstone		local	Y	rough wall stone?
Structure 3	16705		4152		1	2500	200x140x80	ferrug sstn	Northants Ironstone	Northants	Y	rough wall stone
Structure 3	16705		4152		1	1000	140x100x50	bio-oosparite	Lincolnshire Limestone	Northants	Y	rough wall stone
Structure 3	16705		4152		1	300	frag	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	16705		4152		2	6000	(1)170x120x90; (2)150x140x50	sstn + quartz sstn		local		rough wall stone
Structure 3	16705		4152		4	3200	(1)195x120x80	chalk(x3) + flint		local	Y	rough wall stone
Structure 3	16743		4098		20	17500	(1)220x190x120; (2)170x120x65; (3)110x70x75; (4)120x110x60; (5)120x90x60	grey chalk(x8) + white chal(x12)	Lower Chalk + Middle Chalk	local	Y	rough wall stone
Structure 3	16745		4154		11	2073	50-100	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	16745		4154		2	157	50 +	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 3	16745		4154		11	4420	ave 100	sandstone		local		foundation rubble fill
Structure 3	16745		4154		20	2450	50-120 (ave 75)	black flint		local	Y	rough wall stone?
Structure 3	16745		4154		1	504	125x90x35	white chalk	Middle Chalk	local	Y	wall rubble infill
Structure 3	16746		4154		1	3000		yellow bioclastic oolite (shelly lmstn)	Upper Lincolnshire Limestone?	unknown		rough wall stone
Structure 3	16746		4154			3000		micac lmstn	Collyweston Slate	Collyweston, Northants.		roof slate
Structure 3	16746		4154			4000		hard white nodular/ shelly chalk	Melbourn Rock	local		rough wall stone
Structure 3	16746		4154			1000		black + patinated flint	Middle Chalk-Upper Chalk	local		rough wall stone?
Structure 3	16746		4154		1	2000	180x140x30	bioclastic oolite	Barnack Stone, Lower Lincolnshire limestone	Barnack, Cambs.	Y	mortared wall OR mortared floor stone
Structure 3	16746		4154		5	3000		grey chalk (clunch)	Lower Chalk (Burwell Rock?)	Reach/ Burwell, Cambs.?		wall infill/ rubble?

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Structure 3	16746		4154		1	1000	80x80x25	yellow bio-oosparite lmstn	Ketton Ragstone (Upper Lincolnshire Limestone)	Ketton, South Lincs.	Y	floor stone?
Structure 3	16746		4154		3	1500		quartz sstn + siltstone	glacial erratic	local		rough wall stone?
Structure 3	16746		4154		6	6000		black flint nodule	Middle Chalk-Upper Chalk	local	Y	rough wall stone?
Structure 3	16746		4154		1	3000	150x160x15	micac lmstn	Collyweston slate	Collyweston, Northants.		roof slate
Structure 3	16746		4154		1	3000		light yellow bio-oosparite	Ketton Ragstone (Upper Lincolnshire Limestone)	Ketton ?		rough wall stone
Structure 3	16746		4154		5	10000		quartzitic sandstone	glacial erratic	local		rough wall stone?
Structure 3	16746		4154		3	2000		patinated flint nodule	Middle Chalk-Upper Chalk	local		rough wall stone?
Structure 3	16746		4154		5	5000		hard grey chalk (clunch)	Lower Chalk (Burwell Rock?)	Reach/ Burwell, Cambs.?		rough wall stone?
Structure 3	16746		4154		1	3000		hard white nodular chalk	Melbourn Rock	local		rough wall stone
Structure 3	16746		4154		1	196		quartzitic sstn		local		foundation rubble fill
Structure 3	16746		4154		1	48	50	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17095		4152	2797.02	3	848	(1)170x70x10-25 +140+90	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17096		4154		2	922	(1)130x100x15; (2)190x90x25	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 3	17096		4154		16	11000	(1)280x190x20; (2)250x200x20 + 100-200	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17096		4154		1	1000	90x80x25	oolitic lmstn	Ketton Stone	Ketton, Rutland	Y	rough wall stone
Structure 3	17098		4152	2792.01	2	720	(1)135x75x60	white chalk	Middle Chalk	local	Y	rough wall stone
Structure 3	17130		4152			2000	20mm thick	yellow oolitic limestone with calcite-filled joints	Ketton Ragstone (Upper Lincolnshire Limestone)	S.Lincs	Y	rough wall stone OR floor tiles
Structure 3	17130		4152		4	4000	100-160+	grey chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Structure 3	17130		4152		5	4000		hard white chalk	Melbourn Rock	local		wall infill/ rubble

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Structure 3	17130		4152		3	3000		black flint nodule	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Structure 3	17130		4152		6	7000		sandstone	glacial erratic	local		wall infill/ rubble
Structure 3	17130		4152		15	5000		grey chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Structure 3	17130		4152		15	5000		hard white chalk	Melbourn Rock	local		wall infill/ rubble
Structure 3	17130		4152		6	10000	170x120x20+	yellow oolitic limestone with calcite-filled joints	Ketton Ragstone (Upper Lincolnshire Limestone)	Ketton, South Lincs.	Y	rough wall stone OR floor tiles
Structure 3	17130		4152		4	5000		shelly limestone	Marlstone Rock ?	Northants?	Y	rough wall stone
Structure 3	17130		4152		28	20000		grey chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Structure 3	17130		4152		1	4000		fine-grained white oolite	Weldon Stone ?	Corby, Northants.	Y	rough wall stone
Structure 3	17130		4152		2	2500		yellow bio-oosparite	Ketton Ragstone (Upper Lincolnshire Limestone)	Ketton, South Lincs.	Y	rough wall stone
Structure 3	17130		4152		1	2500		quartzitic sandstone	glacial erratic (sarsen)	local		rough wall stone
Structure 3	17130		4152		30	25000	140-150	grey chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Structure 3	17130		4152		2	750	140	black flint	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Structure 3	17130		4152		2	5000		pale oolitic limestone	Weldon Stone ?	Corby, Northants.	Y	rough wall stone
Structure 3	17130		4152		2	2000		yellow bio-oosparite	Ketton Ragstone (Upper Lincolnshire Limestone)	Ketton, South Lincs.	Y	rough wall stone
Structure 3	17130		4152		20	10000	140-150	grey chalk (clunch)	Lower Chalk	Reach/ Burwell, Cambs.?		wall infill/ rubble
Structure 3	17130		4152		20	5000		hard white chalk	Melbourn Rock	local		wall infill/ rubble
Structure 3	17130		4152		3	3000		black flint nodule	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Structure 3	17130		4152		3	5000		quartzitic sandstone	glacial erratic	local		rough wall stone?
Structure 3	17130		4152		14	28000	280x170x120	grey chalk (clunch)	Lower Chalk (Burwell Rock?)	Reach/ Burwell, Cambs.?		rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Structure 3	17130		4152		1	250	70x70x10	yellow oolitic limestone	Ketton Stone	Ketton, South Lincs.	Y	wall infill / rubble
Structure 3	17130		4152		1	1750	160x110x60	ferruginous sandstone	Carstone (Lower Greensand)	Cambs.	Y	rough wall stone
Structure 3	17130		4152		3	365	60-120	bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Structure 3	17189		4166		41	24000	40-190 (ave 110)	chalk (x20); sstn (x8); flint(x5)		local glacial erratic	Y?	foundation rubble fill
Structure 3	17189		4166		1	30	25x30	limestone	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Structure 3	17193		4178		2	2480	(1)350x210 (2) 175	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17210		4153		1	2560	200x160x75	sandstone		local		rough wall stone
Structure 3	17212		4153		2	5270	(1)190x110x70; (2)180x110x120	serpulid cementstone limestone	Ellsworth Rock, Upper Jurassic, Oxfordain	Ellsworth, St.Ives	Y(1)	rough wall rock
Structure 3	17212		4153		6	9500	120-160	flint nodule(x2) + sandstone(x4)		local		foundation rubble fill
Structure 3	17244		4166		1	500	80	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17244		4166		1	718	175	sparry micritic limestone	Great Oolite?		Y?	rough wall stone
Structure 3	17322		4166		2	1611	(1)190x150x25; (2)130x80x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17323		4166		1	1150	250x 90-200 wide	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17361		4167		2	1241	same but non re-fitting pieces: 120-150 x260	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 3	17362		4167		1	2373	240x175x15-20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3	17392		4153		1	23	30	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Structure 3	17392		4153		2	189	70	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 3				2726	1	9000	260x175x100	bioclastic oolite	Lincolnshire Limestone	Northants?	Y	finely dressed wall stone
Structure 4	16082	4524	3934		7	48	10-25	ferrug sstn	Northants Ironstone	Northants?		foundation rubble fill

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Structure 4	16082	4524	3934		1	5	25	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	16788	4655	4102		1	43	50	shelly limestone	Alwalton Marble, Cornbrash	Alwalton, R.Nene, Peterborogh	Y	rough wall stone
Structure 4	16803	4656	4102			13000	150 diam	hard white chalk	Melbourn Rock ?	local		foundation rubble fill
Structure 4	16803	4656	4102		9	10000	(1)180x130x80; (2)170x90x60; (3)130x90x55; (4)140x120x90	white chalk	Melbourn Rock	local	Y	rough wall stone
Structure 4	16810	4657	4103		1	49	35	shelly limestone		local		foundation rubble fill
Structure 4	16811	4657	4103		2	177	(1)105x80x18 + 50	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	16818	4658	4103		1	37	70	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	16830	4663	4103		9	3000	(1)110x90x50; (2)160x90x40; (3)120x90x40; (4)90x60x50 + 8 others	white chalk	Middle Chalk	local	Y?	rough wall stone
Structure 4	16830	4663	4103		1	256	120	sandstone		local		rough wall stone?
Structure 4	16830	4663	4103		1	1194	235x135x10-25	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	16842	4664	4109		2	113	45 + 60	white chalk	Melbourn Rock	local	Y	rough wall stone
Structure 4	16846	4665	4110		4	60	30-50	white chalk	Middle Chalk	local		foundation rubble fill
Structure 4	16846	4665	4110		1	28		micritic limestone		local		foundation rubble fill
Structure 4	16860	4667	4111		1	25000	400x320x80	bioclastic oolite	Barnack Stone (Lower Lincs Limestone)	Barnack, Cambs.	Y	dressed wall stone
Structure 4	16860	4667	4111		6	1000	100 diam	patinated flint	Middle Chalk-Upper Chalk	local		wall infill/ rubble
Structure 4	16860	4667	4111		3	3000		quartzitic sandstone	glacial erratic	local		wall infill/ rubble
Structure 4	16860	4667	4111		2	2000		bioclastic oolite	Barnack Stone (Lower Lincs Limestone)	Barnack, Cambs.		wall infill/ rubble

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Structure 4	16873	4676	4117		1	56	45x30x35	oolitic lmstn	Ketton Stone	Ketton, Rutland	Y	rough wall stone
Structure 4	16874	4676	4117		1	34	50	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 4	16878	4677	4118		3	83	40-50	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Structure 4	16905	4687	4130		2	21	40+50	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	16907	4687	4130		4	228		white chalk	Middle Chalk	local		foundation rubble fill
Structure 4	16907	4687	4130		2	150	35+70	oolitic lmstn	Ketton Stone	Ketton, Rutland	Y	rough wall stone
Structure 4	16907	4687	4130		1	214	120x70x20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	16911	4687	4130		1	101	105x75x8	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	16911	4687	4130		1	53	70x40x8	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	16912	4687	4130		1	65	60	grey chalk	Lower Chalk	local		foundation rubble fill
Structure 4	16921	4687	4130		1	88	65	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	17038	4695	4137		14	18000	(1)230x150x120; (2)200x155x100; (3)140x150x100; (4)170x130x100; (5)140x140x90; (6)130x120x95; (7)140x95x90; (8)130x70x50	white nodular chalk	Melbourn Rock	local	Y	rough wall stone
Structure 4	17038	4695	4137		1	1000	90x90x50	sandstone		local	Y	rough wall stone
Structure 4	17038	4695	4137	4137	1	55	55x60x10	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 4	17039	4695	4137		3	1550	310x140x110; 130x120x115; 210x150x110	chalk	Lower-Middle Chalk	local	Y	rough walling
Structure 4	17046	4696	4137		1	305	140x90x8-20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	17046	4696	4137		8	54	(1)25x20x7	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Structure 4	16947	4698	4138		6	244	45-70	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer -shaped/ split	Building use
Structure 4	16968	4703	4139		1	24	40	white chalk	Middle Chalk	local		foundation rubble fill
Structure 4	16988	4711	4142		1	194	80	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 4	17017	4713	4143		3	1203	215x150x10	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	17064	4728	4149		30	15000		quartzitic sandstone	glacial erratic	local		foundation rubble fill
Structure 4	17064	4728	4149		5	2000		black flint nodule	Middle Chalk-Upper Chalk	local		foundation rubble fill
Structure 4	17064	4728	4149		1	800	<150	dolerite	glacial erratic	local		foundation rubble fill
Structure 4	17080	4731	4151		1	65	90	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	17124	4740	4157		1	54	40 (20 thick)	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 4	17183	4753	4162		1	2239	120x150x90	grey chalk	Lower Chalk	local		faced clunch block
Structure 4	17183	4753	4162		4	3000	120	grey chalk	Lower Chalk	local	Y	rough wall stone
Structure 4	17183	4753	4162		7	4000	100-210	white chalk	Middle Chalk	local	Y	rough wall stone
Structure 4	17183	4753	4162		7	4000	100-160	sandstone		local		rough wall stone
Structure 4	17183	4753	4162		1	1940	160x90x70	black flint		local	Y	rough wall stone
Structure 4	17183	4753	4162		2	901	130x90x20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	17183	4753	4162		1	727	150x120x20	shelly limestone	Alwalton Marble, Cornbrash, Bathonian	Alwalton, R.Nene, Peterborogh	Y	roof slate?
Structure 4	17017		4143		7	1071	60-140	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Structure 4	17017		4143		1	50	60	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Structure 4	17061		4148		6	770	60-130	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Surface				2030	4	186	55-75	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Surface				2001	1	260	170x150x20	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Surface				1994	1	165	100	ferrug sstn	carstone, Lower Greensand	Cambridgeshire?		rough wall stone

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer-shaped/ split	Building use
Surface				2434.04	2	285	105 + 80	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Surface				1985	1	192	125x100x7	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Surface				2002	1	173	105x60x19	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Surface				1993	2	319	65x40x10 + 110x80x17	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Surface				1986	4	1256	(1)70x50x25; (2)40x55x25; (3)60x75x15; (4)170x115x25	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Surface				2003	1	1232	230x140x20-25	slate	Swithland Slate	Swithland, Leicestershire	Y	roof slate
Surface				1989	3	869	(1)110x40x20 + 120+130	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Surface				1982	1	280	100x95x20	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	roof slate
Unstrat					1	1500	170x110x60	shelly sideritic ironstone	Marlstone Rock?	Northants?	Y	rough wall stone
Unstrat					1	4043	210x200x85	white chalk	Middle Chalk	local	Y	rough wall stone
Unstrat					1	800	100	bio-oosparite	Lincolnshire Limestone	Northants?	Y	rough wall stone
Unstrat					1	100	65x50x40	siltstone flag			Y	roof slate?
Unstrat					4	180	(1)35x30x15; (2)30x30x22; (3)22x21x17; (4)20x20x10	micac lmstn	Collyweston Slate	Collyweston, Northants.	Y	tesserae
Unstrat					3	1790	60-110	chalk		local		foundation rubble fill
Unstrat					1	2570	110x160x80	sandstone		local	Y	rough wall stone
Unstrat					1	1707	140x120x70	white chalk	Middle Chalk	local	Y	rough wall stone
Unstrat					2	1500	70	ferrug sstn	Northants Ironstone	Northants?	Y	rough wall stone
Unstrat					2	835	(1)100x120x55	patinated flint		local	Y	knapped flint wall stone
Unstrat					13	4000	70-120	black flint		local	Y	knapped flint wall stone
Unstrat					13	2365	70-100	grey chalk(x5) + white chalk(x3) +		local		foundation rubble fill

Feature Group	Context	Feature	Slot	SF	Qty	Wt (g)	Dimensions (mm)	Rock type	Geology	Source	Hammer -shaped/ split	Building use
								sandstone(x5)				

APPENDIX 5: Site VII (2018), Feature summary

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 1	4539	16567	F	4067	Gully				
Structure 1	4539	16568	C	4067	Gully				
Structure 1	4539	16569	F	4068	Gully				
Structure 1	4539	16570	C	4068	Gully		1	0.55	0.23
Structure 1	4539	16571	F	4069	Gully				
Structure 1	4539	16572	C	4069	Gully				
Structure 1	4540	16577	F	4071	Pit				
Structure 1	4540	16578	F	4071	Pit				
Structure 1	4540	16579	C	4071	Pit		1.1	1	0.35
Structure 1	4575	16292	F	3994	Gully				
Structure 1	4575	16293	C	3994	Gully		2	0.65	0.17
Structure 1	4575	16610	F	4075	Gully				
Structure 1	4575	16611	F	4075	Gully				
Structure 1	4575	16612	C	4075	Gully		1	0.75	0.27
Structure 1	4583	16310	F	3999	Gully				
Structure 1	4583	16311	C	3999	Gully		2	0.68	0.14
Structure 1	4583	16587	F	4073	Gully				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 1	4583	16588	C	4073	Gully				
Structure 1	4590	16370	F	4014	Gully				
Structure 1	4590	16371	C	4014	Gully			0.55	0.31
Structure 2	4558	16198	F	3970	Hearth				
Structure 2	4558	16236	C	3970	Hearth				
Structure 2	4559	16199	F	3971	Post hole				
Structure 2	4559	16237	C	3971	Post hole				
Structure 2	4559	16238	F	3971	Post hole				
Structure 2	4560	16200	F	3972	Post hole				
Structure 2	4560	16239	C	3972	Post hole		0.85	0.75	0.16
Structure 2	4561	16205	F	3973	Post hole		0.74	0.7	0.2
Structure 2	4561	16240	F	3973	Post hole				
Structure 2	4561	16241	C	3973	Post hole		0.74	0.7	0.2
Structure 2	4613	16482	F	4044	Pit				
Structure 2	4613	16483	F	4044	Pit				
Structure 2	4613	16484	C	4044	Post hole		0.45	1.05	0.63
Structure 2	4614	16510	F	4053	Post hole				
Structure 2	4614	16511	F	4053	Post hole				
Structure 2	4614	16512	F	4053	Post hole				
Structure 2	4614	16513	C	4053	Post hole		0.7	0.91	0.73
Structure 2	4614	16514	F	4053	Post hole				
Structure 2	4619	16501	F	4051	Post hole				
Structure 2	4619	16502	C	4051	Post hole		0.28	0.28	0.3
Structure 2	4620	16503	F	4051	Post hole				
Structure 2	4620	16504	C	4051	Post hole		1.05	0.85	0.23
Structure 2	4625	16523	F	4057	Post hole				
Structure 2	4625	16524	F	4057	Post hole				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 2	4625	16525	C	4057	Post hole		0.8	0.8	0.29
Structure 2	4625	16526	F	4057	Post hole				
Structure 2	4632	16543	F	4060	Post hole				
Structure 2	4632	16544	F	4060	Post hole				
Structure 2	4632	16545	C	4060	Post hole		0.31	0.76	0.48
Structure 2	4633	16573	F	4070	Post hole				
Structure 2	4633	16574	F	4070	Post hole				
Structure 2	4633	16575	F	4070	Post hole				
Structure 2	4633	16576	C	4070	Post hole		0.56	0.54	0.84
Structure 2	4636	16621	F	4078	Post hole				
Structure 2	4636	16622	F	4078	Post hole				
Structure 2	4636	16623	C	4078	Post hole		0.6	0.6	0.48
Structure 3	4509	17095	F	4152	Bone cluster		0.8	0.63	0.08-0.10
Structure 3	4554	16151	F	4178	Pit				
Structure 3	4554	16152	F	4178	Pit				
Structure 3	4554	16153	F	4178	Pit				
Structure 3	4554	16154		4178	Pit				
Structure 3	4554	16155		4178	Pit				
Structure 3	4555	16131	F	4154	Robber cut		1.5		0.15
Structure 3	4555	16156	F	4154	Robber cut		0	0.68	0.2
Structure 3	4555	16157	F	4154	Robber cut		1+	1+	0.1
Structure 3	4555	16751	L	4154	Robber cut				
Structure 3	4555	16760	L	4154	Robber cut				0.1
Structure 3	4555	17415	C	4154	Robber cut			0.6-1.1-1.2	0.25-0.48
Structure 3	4555	17292	L	4178	Layer		?	?	0.5
Structure 3	4645	17161	F	4154	Robber cut				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 3	4645	17162	F	4154	Robber cut				
Structure 3	4645	17163	C	4154	Robber cut		1.1	0.54	0.39
Structure 3	4645	16731	F	4159	Robber cut				
Structure 3	4645	16732	C	4159	Robber cut		0.2	0.8	0.15
Structure 3	4645	17149	F	4159	Robber cut				
Structure 3	4645	17150	F	4159	Robber cut				
Structure 3	4645	17151	C	4159	Robber cut			0.55	0.35
Structure 3	4646	16740	F	4098	Pad/Column foundation				
Structure 3	4646	16741	C	4098	Pad/Column foundation		0.65	0.28	
Structure 3	4734	17113	F	4153	Robber cut				
Structure 3	4734	17114	C	4153	Robber cut			0.72	0.3
Structure 3	4734	17098	F	4154	Robber cut				
Structure 3	4734	17099	C	4154	Robber cut		3.84	0.95	0.25
Structure 3	4734	17100	F	4154	Robber cut				
Structure 3	4734	17159	F	4154	Robber cut		3.84	0.95	0.25
Structure 3	4734	17160	F	4154	Robber cut		3.84	0.95	0.25
Structure 3	4735	17108	F	4153	Robber cut				
Structure 3	4735	17109	C	4153	Robber cut			0.7	0.3
Structure 3	4736	17103	F	4153	Robber cut				
Structure 3	4736	17104	F	4153	Robber cut				
Structure 3	4736	17105	C	4153	Robber cut			0.9	0.28
Structure 3	4736	17112	O	4153	Robber cut				
Structure 3	4737	17110	C	4153	Robber cut			0.7	0.35
Structure 3	4737	17116	F	4153	Robber cut				
Structure 3	4738	17106	F	4153	Robber cut				
Structure 3	4738	17107	C	4153	Robber cut			0.7	0.3
Structure 3	4738	17111	F	4153	Robber cut				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 3	4739	17101	F	4153	Robber cut				
Structure 3	4739	17102	C	4153	Robber cut			0.55	0.3
Structure 3	4743	16250	F	4154	Gully				
Structure 3	4743	17134	F	4154	Robber cut				
Structure 3	4743	17135	F	4154	Robber cut				
Structure 3	4743	17136	C	4154	Robber cut		2.94	0.47	0.2
Structure 3	4743	17140	F	4154	Layer		1.5	0.07-0.2	0.18
Structure 3	4744	17137	F	4154	Gully or drain				
Structure 3	4744	17138	F	4154	Gully or drain				
Structure 3	4744	17139	C	4154	Gully or drain		0.6	0.27	0.14
Structure 3	4744	17144	F	4154	Gully or drain				
Structure 3	4744	17145	F	4154	Gully or drain				
Structure 3	4744	17172	F	4154	Gully				
Structure 3	4744	17173	C	4154	Gully		3.15	0.4	0.2
Structure 3	4745	17133	F	4154	Robber cut				
Structure 3	4745	17143	C	4154	Robber cut		2.94	0.75-0.80	0.14
Structure 3	4745	17299	F	4154	Robber cut		1	0.5	
Structure 3	4745	17300	F	4154	Robber cut		2.94	0.75	0.05-0.1
Structure 3	4747	17152	F	3948	Robber cut				
Structure 3	4747	17153	F	3948	Robber cut				
Structure 3	4747	17154	C	3948	Robber cut				0.4
Structure 3	4747	17148	C	4159	Robber cut			0.8	0.57
Structure 3	4747	17411	F	4159	Robber cut				
Structure 3	4747	17412	C	4159	Robber cut				1.2
Structure 3	4755	17270	F	4152	Pit				
Structure 3	4755	17271	C	4152	Pit			1.1	0.65
Structure 3	4755	17427	F	4152	Pit				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 3	4755	17197	F	4178	Pit				
Structure 3	4755	17198	F	4178	Pit				
Structure 3	4755	17199	C	4178	Pit			1	0.75
Structure 3	4756	17203	C	4153	Robber cut				
Structure 3	4756	17204	F	4153	Robber cut				
Structure 3	4757	17205	C	4153	Robber cut				
Structure 3	4757	17206	F	4153	Robber cut				
Structure 3	4757	17207	F	4153	Robber cut				
Structure 3	4757	17208	F	4153	Robber cut				
Structure 3	4757	17390	F	4153	Collapsed floor over hypocaust				
Structure 3	4757	17391	C	4153	Robber cut			0.32	0.25
Structure 3	4758	17220	F	4221	Robber cut				
Structure 3	4758	17221	C	4221	Robber cut				
Structure 3	4759	17222	F	4221	Robber cut				
Structure 3	4759	17223	C	4221	Robber cut				
Structure 3	4760	17224	F	4221	Robber cut				
Structure 3	4760	17225	C	4221	Robber cut				
Structure 3	4762	16698	F	4153	Layer				
Structure 3	4762	17231	C	4154	Robber cut				
Structure 3	4763	17237	F	4154	Pit				
Structure 3	4763	17238	C	4154	Pit		0.9	0.7	
Structure 3	4764	17385	F	4153	Robber cut				
Structure 3	4764	17386	C	4153	Robber cut		iex	0.23	0.45
Structure 3	4764	17239	F	4166	Robber cut				
Structure 3	4764	17240	F	4166	Robber cut				
Structure 3	4764	17241	C	4166	Robber cut		1.36	1.25	0.48
Structure 3	4764	17246	F	4166	Robber cut				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 3	4764	17338	F	4166	Robber cut				
Structure 3	4764	17339	F	4166	Robber cut				
Structure 3	4764	17397	C	4166	Robber cut		1ex	1.25	0.46
Structure 3	4765	17296	F	4152	Robber cut				0.09
Structure 3	4765	17248	F	4166	Robber cut				
Structure 3	4765	17249	C	4166	Robber cut		0.75	0.6	0.3
Structure 3	4774	17297	F	4154	Pit				
Structure 3	4774	17298	C	4154	Pit		0.4	0.38	
Structure 3	4775	17301	C	4166	Robber cut		0.9	0.6	0.15
Structure 3	4776	17302	F	4173	Robber cut				
Structure 3	4776	17303	F	4173	Robber cut				
Structure 3	4776	17304	C	4173	Robber cut		1.23	1.00	0.32
Structure 3	4777	17305	F	4173	Robber cut				
Structure 3	4777	17306	C	4173	Robber cut		1ex	1.10	0.35
Structure 3	4778	17307	F	4173	Ditch				
Structure 3	4778	17308	F	4173	Ditch				
Structure 3	4778	17309	C	4173	Ditch		1ex	0.95	0.30
Structure 3	4779	17312	F	4173	Post hole				
Structure 3	4779	17313	C	4173	Post hole				
Structure 3	4781	17324	F	4152	Pit				
Structure 3	4781	17325	C	4152	Pit		1	0.65	0.35
Structure 3	4784	17355	F	4159	Robber cut				
Structure 3	4784	17356	F	4159	Robber cut				
Structure 3	4784	17357	C	4159	Robber cut			0.35	0.68
Structure 3	4784	17341	F	4179	Robber cut				
Structure 3	4784	17342	F	4179	Robber cut				
Structure 3	4784	17343	C	4179	Robber cut			0.75	0.3

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 3	4785	17344	F	4179	Robber cut				
Structure 3	4785	17345	C	4179	Robber cut			0.6	0.2
Structure 3	4786	17346	F	4179	Robber cut				
Structure 3	4786	17347	F	4179	Demolition layer				
Structure 3	4786	17348	C	4179	Robber cut			0.55	0.55
Structure 3	4787	17349	F	4159	Post pit				
Structure 3	4787	17350	F	4159	Post pit				
Structure 3	4787	17351	C	4159	Post pit			0.7	0.41
Structure 3	4788	17352	F	4159	Post hole				
Structure 3	4788	17353	F	4159	Post hole				
Structure 3	4788	17354	C	4159	Post hole			0.6	0.1
Structure 3	4789	17358	F	4159	Dump			4	1.2
Structure 3	4789	17359	C	4159	Dump				
Structure 3	4790	17366	F	4166	Pit				
Structure 3	4790	17367	F	4166	Pit				
Structure 3	4790	17368	C	4166	Pit		0.8	0.52	0.84
Structure 3	4790	17382	F	4166	Pit				
Structure 3	4791	17369	F	4166	Robber cut				
Structure 3	4791	17370	C	4166	Robber cut		0.8	0.22	0.2
Structure 3	4793	17375	F	4181	Foundation pad				
Structure 3	4793	17376	C	4181	Foundation pad			0.5	0.12
Structure 3	4794	17377	F	4178	Robber cut				
Structure 3	4794	17380	C	4178	Robber cut				0.6
Structure 3	4794	17431	F	4178	Robber cut				
Structure 3	4795	17293	L	4178	Layer		?	?	0.2
Structure 3	4795	17384	F	4178	Drain				
Structure 3	4796	17393	F	4153	Hypocaust flue				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 3	4796	17394	C	4153	Hypocaust flue		1ex	0.5	0.16
Structure 3	4796	17396	F	4153	Hypocaust flue				
Structure 3	4800	17335	F	4166	Hypocaust furnace pit				
Structure 3	4800	17336	F	4166	Hypocaust furnace pit				
Structure 3	4800	17337	F	4166	Hypocaust furnace pit		1	0.7	0.14
Structure 3	4800	17340	C	4166	Hypocaust furnace pit		1.5	1.3	0.65
Structure 3	4800	17363	F	4166	Hypocaust furnace pit				
Structure 3	4802	17147	F	4159	Robber cut				
Structure 3	4803	17408	F	4159	Post hole				
Structure 3	4803	17409	F	4159	Post hole				
Structure 3	4803	17410	C	4159	Post hole			0.55	0.5
Structure 3	4804	17420	F	4154	Robber cut				
Structure 3	4804	17421	F	4154	Robber cut				
Structure 3	4804	17422	C	4154	Robber cut			0.65	0.68
Structure 3	4806	17432	F	4152	Robber cut				
Structure 3	4806	17433	C	4152	Robber cut			0.4+	0.4
Structure 3	4807	17131	F	4152	Robber cut				
Structure 3	4807	17233	C	4152	Robber cut			0.7+	0.4
Structure 3	4808	17434	F	4166	Post hole				
Structure 3	4808	17435	C	4166	Post hole			0.32	0.32
Structure 3	4810	17441	F	4166	Post hole				
Structure 3	4810	17442	C	4166	Post hole		0.24	0.24	0.2
Structure 3		16691	L	4152	Demolition layer		2.4	0.6	
Structure 3		16699	L	4152	Layer		1.45	0.5	
Structure 3		16700	L	4152	Demolition layer				
Structure 3		16705	L	4152	Demolition layer				
Structure 3		17130	F	4152	Demolition layer				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 3		17267	L	4152	Cobble layer		?	?	0.09
Structure 3		17365	L	4152	Layer				
Structure 3		17439	L	4152	Mortar layer				
Structure 3		17440	L	4152	Mortar layer				
Structure 3		16061	L	4153	surface				
Structure 3		16697	L	4153	Demolition layer		6.4	5.2	
Structure 3		16698	L	4153	Layer				0.3
Structure 3		16703	L	4153	Demolition layer				
Structure 3		16747	L	4153	Layer				
Structure 3		16748	L	4153	Layer				
Structure 3		16749	L	4153	Layer				
Structure 3		16780	L	4153	Layer				
Structure 3		16783	L	4153	Layer				
Structure 3		16937		4153	Robber cut				
Structure 3		17115	L	4153	Layer				
Structure 3		17209	F	4153	Robber cut				
Structure 3		17210	F	4153	Robber cut				
Structure 3		17211	F	4153	Robber cut				
Structure 3		17212	F	4153	Robber cut				
Structure 3		17213	L	4153	Collapsed floor layers				
Structure 3		17214	L	4153	Collapsed floor layers				
Structure 3		17215	L	4153	Collapsed floor layers				
Structure 3		17216	L	4153	Collapsed floor layers				
Structure 3		17218	L	4153	Collapsed floor layers				
Structure 3		17219	L	4153	Collapsed floor layers				
Structure 3		17387	L	4153	Collapsed floor over hypocaust				
Structure 3		17392	L	4153	Collapsed floor over hypocaust				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 3		17395	L	4153	Collapsed floor over hypocaust				
Structure 3		16102	L	4154	Demolition layer				
Structure 3		16212	L	4154	Layer		1.9	1.2	0.12
Structure 3		16249	L	4154	Demolition layer				
Structure 3		16698	L	4154	Layer				
Structure 3		16704	L	4154	Layer		1.1	0.75	0.1
Structure 3		16708	L	4154	Demolition layer				
Structure 3		16745	L	4154	Demolition layer				
Structure 3		16746	L	4154	Layer				
Structure 3		16761	L	4154	Layer				
Structure 3		16762	L	4154	Layer				
Structure 3		16763	L	4154	Layer				
Structure 3		16764	L	4154	Layer				
Structure 3		16765	L	4154	Layer				
Structure 3		16766	L	4154	Layer				
Structure 3		16767	L	4154	Layer				
Structure 3		16769	L	4154	Layer				
Structure 3		17132	L	4154	Layer			0.75	0.10-0.25
Structure 3		17141	L	4154	Layer			0.45	0.15
Structure 3		17142	L	4154	Layer			0.7	0.2
Structure 3		17174	L	4154	Cobble surface		0.5	0.25	0.04
Structure 3		17175	L	4154	Cobble surface			0.56	0.06-0.08
Structure 3		17217	L	4154	Collapsed floor layers				
Structure 3		17291	L	4154	Layer		?	?	?
Structure 3		17189	F	4166	Layer				
Structure 3		17190	F	4166	Layer				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 3		17191	F	4166	Layer				
Structure 3		17192	L?	4166	Cobble surface		2.40	2.00	0.2?
Structure 3		17201	F/L	4166	Fill/layer				
Structure 3		17244	L	4166	Demolition layer		1.8	1.3	0.2
Structure 3		17247	L	4166	Layer				
Structure 3		17250	L	4166	Layer		1.8	0.75	0.15
Structure 3		17282	L	4166	Fill/layer		0.90	0.55	0.13
Structure 3		17322	L	4166	Layer		?	?	?
Structure 3		17323	F	4166	Ditch		?	?	?
Structure 3		17333	L	4166	Layer				
Structure 3		17334	L	4166	Layer				
Structure 3		17361	L	4166	Layer				
Structure 3		17362	L	4166	Layer				
Structure 3		17371	L	4166	Layer				
Structure 3		17372	C	4166	Demolition layer				0.47
Structure 3		17373	L	4166	Layer		1.5	0.8	0.22
Structure 3		17374	L	4166	Demolition layer				
Structure 3		17381	L	4166	Layer		0.7	0.5	0.1
Structure 3		17388	L	4166	Collapsed floor over hypocaust				
Structure 3		17389	L	4166	Collapsed floor over hypocaust				
Structure 3		17398	L	4166	Layer		1	0.7	0.14
Structure 3		17436	C	4166	Foundation cut				0.25+
Structure 3		17193	L	4178	Layer				0.25
Structure 3		17364	L	4221	Layer				
Structure 4	4697	16946	L		Rubble layer - clunch				
Structure 4	4729	17065	F	4149	Robber cut				
Structure 4	4729	17066	C	4149	Robber cut				0.25

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4	4729	17094	F	4149	Robber cut				
Structure 4	4748	17164	F	4164	Post hole				
Structure 4	4748	17165	C	4164	Post hole				
Structure 4		16904	L	4129	Layer		4	2.9	0.13
Structure 4		17016	L	4143	Layer				
Structure 4		17017	L	4143	Layer		4.5	2.25	0.25
Structure 4		17061	L	4148	Layer			1ex	1ex
Structure 4		16785	L	4153	Layer		0.8	0.75	0.05
Structure 4 courtyard	4673	16861	F	4112	Gully				
Structure 4 courtyard	4673	16862	C	4112	Gully / wall slot		1.1	1.1	0.22
Structure 4 courtyard	4673	16863	F	4113	Gully				
Structure 4 courtyard	4673	16864	C	4113	Gully / wall slot		1.1	0.8	0.18
Structure 4 courtyard	4674	16865	F	4114	Post hole				
Structure 4 courtyard	4674	16866	C	4114	Post hole		0.7	0.4	0.18
Structure 4 courtyard	4675	16867	F	4115	Hollow				
Structure 4 courtyard	4675	16868	F	4115	Hollow				
Structure 4 courtyard	4675	16869	C	4115	Hollow		1.2	0.7	0.14
Structure 4 courtyard	4677	16876	F	4118	Hollow				
Structure 4 courtyard	4677	16877	F	4118	Hollow				
Structure 4 courtyard	4677	16878	C	4118	Hollow		1	0.7	0.3
Structure 4 courtyard	4679	16884	F	4121	Post hole				
Structure 4 courtyard	4679	16885	F	4121	Post hole				
Structure 4 courtyard	4679	16886	C	4121	Post hole		0.4	0.34	0.19
Structure 4 courtyard	4680	16887	F	4122	Hollow				
Structure 4 courtyard	4680	16888	C	4122	Hollow		0.35	0.35	0.1
Structure 4 courtyard	4714	17004	F	4144	Ditch				
Structure 4 courtyard	4714	17005	C	4144	Gully / wall slot		1ex	1.25	0.23

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4 courtyard	4715	17006	F	4145	Gully / wall slot				
Structure 4 courtyard	4715	17007	C	4145	Gully / wall slot		1ex	0.4	0.1
Structure 4 courtyard	4782	17326	F	4176	Post hole				
Structure 4 courtyard	4782	17327	F	4176	Post hole				
Structure 4 courtyard	4782	17328	C	4176	Post hole		0.42	0.57	0.3
Structure 4 courtyard	4783	17329	F	4127	Post hole				
Structure 4 courtyard	4783	17330	C	4127	Post hole		0.56	0.7	0.1
Structure 4.1	4524	16076	F	3934	Post pit				
Structure 4.1	4524	16077	F	3934	Post pit				
Structure 4.1	4524	16078	F	3934	Post pit				
Structure 4.1	4524	16079	F	3934	Post pit				
Structure 4.1	4524	16080	F	3934	Post pit				
Structure 4.1	4524	16081	F	3934	Post pit				
Structure 4.1	4524	16082	F	3934	Post pit				
Structure 4.1	4524	16083	F	3934	Post pit				
Structure 4.1	4524	16084	F	3934	Post pit				
Structure 4.1	4524	16085	F	3934	Post pit				
Structure 4.1	4524	16086	F	3934	Post pit				
Structure 4.1	4524	16087	F	3934	Post pit				
Structure 4.1	4524	16088	C	3934	Post pit		1.7	1.6	1.15
Structure 4.1	4533	16093	F	3937	Post pit				
Structure 4.1	4533	16094	F	3937	Post pit				
Structure 4.1	4533	16095	F	3937	Post pit				
Structure 4.1	4533	16096	F	3937	Post pit				
Structure 4.1	4533	16097	C	3937	Post pit			1.2	1.1
Structure 4.1	4533	16098	F	3937	Post pit				
Structure 4.1	4654	16779	F	4079	Post pit				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.1	4654	16784	C	4079	Post pit		1.1	1.35	1.08
Structure 4.1	4655	16788	F	4102	Post pit				
Structure 4.1	4655	16789	F	4102	Post pit				
Structure 4.1	4655	16790	F	4102	Post pit				
Structure 4.1	4655	16791	F	4102	Post pit				
Structure 4.1	4655	16792	F	4102	Post pit				
Structure 4.1	4655	16793	F	4102	Post pit				
Structure 4.1	4655	16794	F	4102	Post pit				
Structure 4.1	4655	16795	F	4102	Post pit				
Structure 4.1	4655	16796	F	4102	Post pit				
Structure 4.1	4655	16797	F	4102	Post pit				
Structure 4.1	4655	16798	F	4102	Post pit				
Structure 4.1	4655	16799	F	4102	Post pit				
Structure 4.1	4655	16800	F	4102	Post pit				
Structure 4.1	4655	16801	C	4102	Post pit		1.4	1.45	1.1
Structure 4.1	4658	16818	F	4103	Post pit				
Structure 4.1	4658	16819	F	4103	Post pit				
Structure 4.1	4658	16820	F	4103	Post pit				
Structure 4.1	4658	16821	C	4103	Post pit		1.34	1.5	0.85
Structure 4.1	4660	16679	F	4087	Post pit				
Structure 4.1	4660	16680	F	4087	Post pit				
Structure 4.1	4660	16681	F	4087	Post pit				
Structure 4.1	4660	16682	F	4087	Post pit				
Structure 4.1	4660	16683	F	4087	Post pit				
Structure 4.1	4660	16684	F	4087	Post pit				
Structure 4.1	4660	16685	F	4087	Post pit				
Structure 4.1	4660	16686	F	4087	Post pit				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.1	4660	16687	F	4087	Post pit				
Structure 4.1	4660	16688	F	4087	Post pit				
Structure 4.1	4660	16689	F	4087	Post pit				
Structure 4.1	4660	16690	C	4087	Post pit		1.5	1.4	1.04
Structure 4.1	4662	16826	F	4106	Robber cut				
Structure 4.1	4662	16828	C	4106	Robber cut		3	1.8	0.16
Structure 4.1	4665	16846	F	4110	Robber cut				
Structure 4.1	4665	16847	C	4110	Robber cut			0.5	0.07
Structure 4.1	4669	16852	F	4128	Robber cut				
Structure 4.1	4669	16853	F	4128	Robber cut				
Structure 4.1	4669	16854	C	4128	Robber cut		1.35	0.5	0.34
Structure 4.1	4678	16879	F	4119	Robber cut				
Structure 4.1	4678	16880	C	4119	Robber cut		0.9	0.5	0.18
Structure 4.1	4686	16900	F	4128	Robber cut				
Structure 4.1	4686	16901	F	4128	Robber cut				
Structure 4.1	4686	16902	F	4128	Robber cut				
Structure 4.1	4686	16903	C	4128	Robber cut		2.2	0.69	0.32
Structure 4.1	4686	16941	F	4136	Robber cut				
Structure 4.1	4686	16942	F	4136	Robber cut				
Structure 4.1	4686	16943	C	4136	Robber cut		1.3	1.34	0.3
Structure 4.1	4687	16905	F	4130	Post pit				
Structure 4.1	4687	16906	F	4130	Post pit				
Structure 4.1	4687	16907	F	4130	Post pit				
Structure 4.1	4687	16908	F	4130	Post pit				
Structure 4.1	4687	16909	F	4130	Post Pit				
Structure 4.1	4687	16910	F	4130	Post pit				
Structure 4.1	4687	16911	F	4130	Post pit				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.1	4687	16912	F	4130	Post pit				
Structure 4.1	4687	16913	F	4130	Post pit				
Structure 4.1	4687	16914	F	4130	Post pit				
Structure 4.1	4687	16915	F	4130	Post pit				
Structure 4.1	4687	16916	C	4130	Post pit			1.82	1.21
Structure 4.1	4687	16921	F	4130	Post pit				
Structure 4.1	4687	17037	F	4130	Post pit				
Structure 4.1	4694	16934	C	4134	Post pit		2.15	1.39	0.98
Structure 4.1	4694	16935	F	4134	Post pit				
Structure 4.1	4694	16936	F	4134	Post pit				
Structure 4.1	4696	17044	F	4137	Post pit				
Structure 4.1	4696	17045	F	4137	Post pit				
Structure 4.1	4696	17046	F	4137	Post pit				
Structure 4.1	4696	17047	F	4137	Post pit				
Structure 4.1	4696	17048	F	4137	Post pit				
Structure 4.1	4696	17049	F	4137	Post pit				
Structure 4.1	4696	17050	F	4137	Post pit				
Structure 4.1	4696	17051	C	4137	Post pit			1.41	1.14
Structure 4.1	4698	16947	F	4138	Post pit				
Structure 4.1	4698	16948	F	4138	Post pit				
Structure 4.1	4698	16949	F	4138	Post pit				
Structure 4.1	4698	16950	F	4138	Post pit				
Structure 4.1	4698	16951	F	4138	Post pit				
Structure 4.1	4698	16952	C	4138	Post pit		1.15	1.15	1.15
Structure 4.1	4709	17008	F	4141	Post pit				
Structure 4.1	4709	17009	F	4141	Post pit				
Structure 4.1	4709	17010	F	4141	Post pit				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.1	4709	17011	C	4141	Post pit		2.47	0.75	1.15
Structure 4.1	4712	16987	C	4142	Post pit			0.85	0.98
Structure 4.1	4712	16993	F	4142	Post pit			0.85	0.98
Structure 4.1	4712	16994	F	4142	Post pit			0.85	0.98
Structure 4.1	4712	16995	F	4142	Post pit			0.85	0.98
Structure 4.1	4712	16996	F	4142	Post pit			0.85	0.98
Structure 4.1	4712	16997	F	4142	Post pit			0.85	0.98
Structure 4.1	4712	16998	F	4142	Post pit			0.85	0.98
Structure 4.1	4712	16999	F	4142	Post pit			0.85	0.98
Structure 4.1	4712	17000	F	4142	Post pit			0.85	0.98
Structure 4.1	4712	17001	F	4142	Post pit			0.85	0.98
Structure 4.1	4712	17002	F	4142	Post pit			0.85	0.98
Structure 4.1	4712	17003	F	4142	Post pit			0.85	0.98
Structure 4.1	4713	17018	F	4143	Post pit				
Structure 4.1	4713	17019	F	4143	Post pit				
Structure 4.1	4713	17020	F	4143	Post pit				
Structure 4.1	4713	17021	F	4143	Post pit				
Structure 4.1	4713	17022	C	4143	Post pit		1.55	1.55	0.98
Structure 4.1	4717	17026	F	4140	Post pit				
Structure 4.1	4717	17073	F	4143	Post pit				
Structure 4.1	4731	17080	F	4151	Post pit				
Structure 4.1	4731	17081	F	4151	Post pit				
Structure 4.1	4731	17082	F	4151	Post pit				
Structure 4.1	4731	17083	F	4151	Post pit				
Structure 4.1	4731	17084	C	4151	Post pit		0.9	0.9	1.14
Structure 4.1	4733	17091	F	4149	Robber cut				
Structure 4.1	4733	17092	C	4149	Robber cut		1ex	0.5	0.2

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.1	4740	17124	F	4157	Post pit				
Structure 4.1	4740	17125	F	4157	Post pit				
Structure 4.1	4740	17126	F	4157	Post pit				
Structure 4.1	4740	17127	F	4157	Post pit				
Structure 4.1	4740	17128	F	4157	Post pit				
Structure 4.1	4740	17129	C	4157	Post pit		1.8	0.78	1.11
Structure 4.1	4753	17179	F	4162	Post hole				
Structure 4.1	4753	17180	F	4162	Post hole				
Structure 4.1	4753	17181	F	4162	Post hole				
Structure 4.1	4753	17182	F	4162	Post hole				
Structure 4.1	4753	17183	C	4162	Post hole		1.78	0.85	1
Structure 4.1	4701-4704	16968	F	4139	Robber cut			1-1.16	0.4-0.43
Structure 4.1	4701-4704	16969	F	4139	Robber cut			1-1.17	0.4-0.44
Structure 4.1	4701-4704	16970	F	4139	Robber cut			1-1.18	0.4-0.45
Structure 4.1	4701-4704	16971	F	4139	Robber cut			1-1.19	0.4-0.46
Structure 4.1	4701-4704	16972	F	4139	Robber cut			1-1.20	0.4-0.47
Structure 4.1	4701-4704	16973	C	4139	Robber cut				
Structure 4.1	4701-4704	16974	C	4139	Robber cut				
Structure 4.1	4701-4704	16975	C	4139	Robber cut				
Structure 4.1	4701-4704	16976	C	4139	Robber cut			1.4	0.42
Structure 4.2	4642	16651	F	4087	Post pit				
Structure 4.2	4642	16652	F	4087	Post pit				
Structure 4.2	4642	16653	F	4087	Post pit				
Structure 4.2	4642	16654	F	4087	Post pit				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.2	4642	16655	F	4087	Post pit				
Structure 4.2	4642	16656	F	4087	Post pit				
Structure 4.2	4642	16657	F	4087	Post pit				
Structure 4.2	4642	16658	F	4087	Post pit				
Structure 4.2	4642	16659	F	4087	Post pit				
Structure 4.2	4642	16660	C	4087	Post pit		1.4	1.25	0.64
Structure 4.2	4652	16781	F	4079	Post hole				
Structure 4.2	4652	16782	C	4079	Post hole		0.37	0.3	0.28
Structure 4.2	4653	16770	F	4079	Post pit				
Structure 4.2	4653	16771	F	4079	Post pit				
Structure 4.2	4653	16772	F	4079	Post pit				
Structure 4.2	4653	16773	F	4079	Post pit				
Structure 4.2	4653	16774	F	4079	Post pit				
Structure 4.2	4653	16775	F	4079	Post pit				
Structure 4.2	4653	16776	F	4079	Post pit				
Structure 4.2	4653	16777	F	4079	Post pit				
Structure 4.2	4653	16778	C	4079	Post pit		1.7	1.6	0.8
Structure 4.2	4656	16802	F	4102	Post pit				
Structure 4.2	4656	16803	F	4102	Post pit				
Structure 4.2	4656	16804	F	4102	Post pit				
Structure 4.2	4656	16805	F	4102	Post pit				
Structure 4.2	4656	16806	F	4102	Post pit				
Structure 4.2	4656	16807	F	4102	Post pit				
Structure 4.2	4656	16808	F	4102	Post pit				
Structure 4.2	4656	16809	C	4102	Post pit		1.8	1.55	0.83
Structure 4.2	4656	16822	F	4102	Post pit				
Structure 4.2	4657	16810	F	4103	Post pit				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.2	4657	16811	F	4103	Post pit				
Structure 4.2	4657	16812	F	4103	Post pit				
Structure 4.2	4657	16813	F	4103	Post pit				
Structure 4.2	4657	16814	F	4103	Post pit				
Structure 4.2	4657	16815	F	4103	Post pit				
Structure 4.2	4657	16816	F	4103	Post pit				
Structure 4.2	4657	16817	C	4103	Post pit		1.41	1.25	0.87
Structure 4.2	4659	16786	F	4104	Robber cut				
Structure 4.2	4659	16787	C	4104	Robber cut		1	0.54	0.05
Structure 4.2	4663	16829	F	4103	Post pit				
Structure 4.2	4663	16830	F	4103	Post pit				
Structure 4.2	4663	16831	F	4103	Post pit				
Structure 4.2	4663	16832	F	4103	Post pit				
Structure 4.2	4663	16833	F	4103	Post pit				
Structure 4.2	4663	16834	C	4103	Post pit			1.2	0.6
Structure 4.2	4664	16842	F	4109	Post pit				
Structure 4.2	4664	16843	F	4109	Post pit				
Structure 4.2	4664	16844	F	4109	Post pit				
Structure 4.2	4664	16845	C	4109	Post pit		1.4	1.4	0.6
Structure 4.2	4666	16840	F	4109	Robber cut				
Structure 4.2	4666	16841	C	4109	Robber cut			0.5	0.05
Structure 4.2	4667	16857	F	4111	Robber cut				
Structure 4.2	4667	16858	F	4111	Robber cut				
Structure 4.2	4667	16859	F	4111	Robber cut				
Structure 4.2	4667	16860	C	4111	Robber cut		1.3	0.7	0.26
Structure 4.2	4667	16881	F	4120	Robber cut				
Structure 4.2	4667	16882	F	4120	Robber cut				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.2	4667	16883	C	4120	Robber cut		0.7	0.64	0.14
Structure 4.2	4668	16849	F	4128	Robber cut				
Structure 4.2	4668	16850	F	4128	Robber cut				
Structure 4.2	4668	16851	C	4128	Robber cut		1.2	0.63	0.17
Structure 4.2	4668	16938	F	4136	Robber cut				
Structure 4.2	4668	16939	F	4136	Robber cut				
Structure 4.2	4668	16940	C	4136	Robber cut		1	0.56	0.13
Structure 4.2	4670	16855	F	4107	Post hole				
Structure 4.2	4670	16856	C	4107	Post hole		0.1		0.18
Structure 4.2	4671	16848	F	4107	Robber cut				
Structure 4.2	4671	16937	C	4107	Robber cut		0.8	0.75	0.25
Structure 4.2	4672	16835	F	4107	Robber cut				
Structure 4.2	4672	16836	F	4107	Robber cut				
Structure 4.2	4672	16837	F	4107	Robber cut				
Structure 4.2	4672	16838	F	4107	Robber cut				
Structure 4.2	4672	16839	C	4107	Robber cut		1.4		
Structure 4.2	4676	16870	F	4116	Robber cut				
Structure 4.2	4676	16871	F	4116	Robber cut				
Structure 4.2	4676	16872	C	4116	Robber cut		0.86	0.48	0.08
Structure 4.2	4676	16873	F	4117	Robber cut				
Structure 4.2	4676	16874	F	4117	Robber cut				
Structure 4.2	4676	16875	C	4117	Robber cut		1	0.65	0.18
Structure 4.2	4690	16922	F	4132	Post pit				
Structure 4.2	4690	16923	F	4132	Post pit				
Structure 4.2	4690	16924	F	4132	Post pit				
Structure 4.2	4690	16929	C	4132	Post pit		1.3	1.3	0.76
Structure 4.2	4693	16930	C	4134	Post pit		1.45	1.25	0.96

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.2	4693	16931	F	4134	Post pit				
Structure 4.2	4693	16932	F	4134	Post pit				
Structure 4.2	4693	16933	F	4134	Post pit				
Structure 4.2	4695	17038	F	4137	Post pit				
Structure 4.2	4695	17039	F	4137	Post pit				
Structure 4.2	4695	17040	F	4137	Post pit				
Structure 4.2	4695	17041	F	4137	Post pit				
Structure 4.2	4695	17042	F	4137	Post pit				
Structure 4.2	4695	17043	C	4137	Post pit			2.28	0.76
Structure 4.2	4699	16953	F	4138	Post pit				
Structure 4.2	4699	16954	F	4138	Post pit				
Structure 4.2	4699	16955	F	4138	Post pit				
Structure 4.2	4699	16956	C	4138	Post pit		0.9	0.9	0.9
Structure 4.2	4700	16957	F	4139	Post pit				
Structure 4.2	4700	16958	F	4139	Post pit				
Structure 4.2	4700	16959	F	4139	Post pit				
Structure 4.2	4700	16960	F	4139	Post pit				
Structure 4.2	4700	16961	F	4139	Post pit				
Structure 4.2	4700	16962	F	4139	Post pit				
Structure 4.2	4700	16963	C	4139	Post pit			1.65	0.9
Structure 4.2	4707	16977	F	4130	Post pit				
Structure 4.2	4707	16978	F	4130	Post pit				
Structure 4.2	4707	16979	F	4130	Post pit				
Structure 4.2	4707	16980	F	4130	Post pit				
Structure 4.2	4707	16981	C	4130	Post pit		2.06	1.2	0.84
Structure 4.2	4707	17034	F	4130	Post pit		2.06	1.2	0.84
Structure 4.2	4707	17035	F	4130	Post pit		2.06	1.2	0.84

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.2	4707	17036	F	4130	Post pit		2.06	1.2	0.84
Structure 4.2	4708	16982	F	4140	Pit/hollow				
Structure 4.2	4708	16983	F	4140	Pit/hollow				
Structure 4.2	4708	16984	F	4140	Pit/hollow				
Structure 4.2	4708	16985	C	4140	Pit/hollow		1.25	1.2	0.48
Structure 4.2	4710	17012	F	4141	Post pit				
Structure 4.2	4710	17013	F	4141	Post pit				
Structure 4.2	4710	17014	F	4141	Post pit				
Structure 4.2	4710	17015	C	4141	Post pit		1.75	1.1	1.04
Structure 4.2	4711	16986	C	4142	Post pit			1.35	0.88
Structure 4.2	4711	16988	F	4142	Post pit				
Structure 4.2	4711	16989	F	4142	Post pit				
Structure 4.2	4711	16990	F	4142	Post pit				
Structure 4.2	4711	16991	F	4142	Post pit				
Structure 4.2	4711	16992	F	4142	Post pit				
Structure 4.2	4716	16823	F	4105	Robber cut				
Structure 4.2	4716	16824	F	4105	Robber cut				
Structure 4.2	4716	16825	C	4105	Robber cut		0.65	0.35	0.4
Structure 4.2	4716	17023	C	4140	Robber cut				
Structure 4.2	4716	17025	C	4140	Robber cut		1ex	0.5	0.2
Structure 4.2	4716	17068	F	4143	Robber cut				
Structure 4.2	4716	17069	C	4143	Robber cut		1ex	0.5	0.15
Structure 4.2	4716	17052	F	4147	Robber cut				
Structure 4.2	4716	17053	C	4147	Robber cut			0.55	0.15
Structure 4.2	4716	17075	F	4151	Robber cut				
Structure 4.2	4716	17076	F	4151	Robber cut				
Structure 4.2	4716	17077	C	4151	Robber cut		1	0.5	0.21

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.2	4717	17027	C	4140	Robber cut		1ex	0.6	0.07
Structure 4.2	4717	17074	C	4143	Robber cut		1ex	0.3	0.2
Structure 4.2	4719	17030	F	4146	Post pit				
Structure 4.2	4719	17031	F	4146	Post pit				
Structure 4.2	4719	17032	F	4146	Post pit				
Structure 4.2	4719	17033	C	4146	Post pit		1.27	0.6	0.75
Structure 4.2	4720	17437	F	4139	Robber cut				
Structure 4.2	4720	17438	C	4139	Robber cut				
Structure 4.2	4721	17054	F	4147	Post pit				
Structure 4.2	4721	17055	F	4147	Post pit				
Structure 4.2	4721	17056	F	4147	Post pit				
Structure 4.2	4721	17057	C	4147	Post pit		1.8	0.9	0.8
Structure 4.2	4722	17170	F	4105	Robber cut				
Structure 4.2	4722	17171	C	4105	Robber cut		0.65	0.47	0.15
Structure 4.2	4722	17024	F	4140	Robber cut				
Structure 4.2	4722	17443	C	4140	Robber cut			0.75	0.36
Structure 4.2	4722	17071	F	4143	Robber cut				
Structure 4.2	4722	17072	C	4143	Robber cut		1ex	0.65	0.35
Structure 4.2	4722	17058	F	4147	Robber cut				
Structure 4.2	4722	17059	F	4147	Robber cut				
Structure 4.2	4722	17060	C	4147	Robber cut			0.85	0.35
Structure 4.2	4722	17078	F	4151	Robber cut				
Structure 4.2	4722	17079	C	4151	Robber cut		1	0.63	0.4
Structure 4.2	4728	17062	F	4149	Robber cut				
Structure 4.2	4728	17063	F	4149	Robber cut				
Structure 4.2	4728	17064	C	4149	Robber cut			0.45	0.22
Structure 4.2	4728	17093	F	4149	Robber cut				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Structure 4.2	4732	17085	F	4151	Pit				
Structure 4.2	4732	17086	F	4151	Pit				
Structure 4.2	4732	17087	F	4151	Pit				
Structure 4.2	4732	17088	F	4151	Pit				
Structure 4.2	4732	17089	F	4151	Pit				
Structure 4.2	4732	17090	C	4151	Pit		2.1	0.85	0.65
Structure 4.2	4749	17166	F	4163	Robber cut				
Structure 4.2	4749	17167	C	4163	Robber cut		3.25	0.45	0.03
Structure 4.2	4750	17168	F	4106	Robber cut				
Structure 4.2	4750	17169	C	4106	Robber cut		0.45	0.35	0.23
Structure 4.2	4752	17176	F	4161	Pit/hollow				
Structure 4.2	4752	17177	F	4161	Pit/hollow				
Structure 4.2	4752	17178	C	4161	Pit/hollow		2.38	1.16	0.14
Fieldsystem	4643	16617	F	4077	Ditch				
Fieldsystem	4643	16619	F	4077	Ditch				
Fieldsystem	4643	16620	C	4077	Ditch				
Fieldsystem	4643	16675	F	4091	Ditch				
Fieldsystem	4643	16676	F	4091	Ditch				
Fieldsystem	4643	16677	C	4091	Ditch		1	1.5	0.5
Fieldsystem	4643	17404	F	4187	Ditch				
Fieldsystem	4643	17405	C	4188	Ditch				0.5
Fieldsystem	4644	16589	F	4072	Ditch				
Fieldsystem	4644	16590	C	4072	Ditch		1	2	0.47
Fieldsystem	4644	16706	F	4095	Ditch				
Fieldsystem	4644	16714	C	4095	Ditch		1	2	0.7
Fieldsystem	4648	17401	F	4039	Ditch				
Fieldsystem	4648	17402	C	4039	Ditch			0.8	0.18

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Fieldsystem	4648	16752	F	4100	Ditch				
Fieldsystem	4648	16753	C	4100	Ditch		0.75	1.5	0.4
Fieldsystem	4648	16944	F	4127	Ditch				
Fieldsystem	4648	16945	C	4127	Ditch		1	0.46	0.43
Fieldsystem	4648	17310	F	4173	Ditch				
Fieldsystem	4648	17311	C	4173	Ditch		1ex	1.14	0.32
Fieldsystem	4648	17399	F	4186	Ditch				
Fieldsystem	4648	17400	C	4186	Ditch			0.8	0.25
Fieldsystem	4692	16591	F	4072	Ditch				
Fieldsystem	4692	16592	C	4072	Ditch		1	0.45	0.33
Fieldsystem		16733	L	4095	Plough Scarring				
Trackway	4622	16508	F	4052	Ditch				
Trackway	4622	16509	C	4052	Ditch		1	2.1	0.31
Trackway	4622	16614	F	4076	Ditch				
Trackway	4622	16615	F	4076	Ditch				
Trackway	4622	16616	C	4076	Ditch		1	2.2	0.45
Enclosure Inner Ditch	4508	16213	F	3976	Ditch	Ditch Upper			
Enclosure Inner Ditch	4508	16214	F	3976	Ditch	Ditch Middle			
Enclosure Inner Ditch	4508	16215	F	3976	Ditch	Ditch re-deposited natural			
Enclosure Inner Ditch	4508	16216	C	3976	Ditch		1.5	1.8	0.9
Enclosure Inner Ditch	4508	16224	F	3977	Ditch	Ditch Upper			
Enclosure Inner Ditch	4508	16225	F	3977	Ditch	Ditch Middle			
Enclosure Inner Ditch	4508	16226	F	3977	Ditch	Ditch Middle			
Enclosure Inner Ditch	4508	16227	F	3977	Ditch	Ditch Lower			
Enclosure Inner Ditch	4508	16228	C	3977	Ditch		1	1.63	0.82
Enclosure Inner Ditch	4508	16235	F	3977	Ditch	Ditch Lower			
Enclosure Inner Ditch	4508	16282	F	3990	Ditch	Ditch Upper			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Inner Ditch	4508	16283	F	3990	Ditch	Ditch Middle			
Enclosure Inner Ditch	4508	16284	F	3990	Ditch	Ditch re-deposited natural			
Enclosure Inner Ditch	4508	16285	C	3990	Ditch		1.5	1.7	0.95
Enclosure Inner Ditch	4508	16320	F	4003	Ditch	Ditch Upper			
Enclosure Inner Ditch	4508	16321	F	4003	Ditch	Ditch Middle			
Enclosure Inner Ditch	4508	16322	F	4003	Ditch	Ditch re-deposited natural			
Enclosure Inner Ditch	4508	16323	C	4003	Ditch		1	2	0.93
Enclosure Inner Ditch	4508	16372	F	4015	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16374	F	4015	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Inner Ditch	4508	16375	C	4015	Ditch	West side of Aisled Hall	1.1	4.82	1.1
Enclosure Inner Ditch	4508	16376	C	4016	Ditch	West side of Aisled Hall	1	1.3	1.11
Enclosure Inner Ditch	4508	16419	F	4016	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Inner Ditch	4508	16423	F	4016	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16377	F	4017	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16378	F	4017	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Inner Ditch	4508	16379	F	4017	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Inner Ditch	4508	16380	C	4017	Ditch	West side of Aisled Hall	1.05	2.25	0.96
Enclosure Inner Ditch	4508	16421	F	4017	Ditch	West side of Aisled Hall, Ditch re-dep nat			
Enclosure Inner Ditch	4508	16581	F	4021	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16582	F	4021	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16583	F	4021	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Inner Ditch	4508	16584	F	4021	Ditch	West side of Aisled Hall, Ditch re-dep nat			
Enclosure Inner Ditch	4508	16585	F	4021	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Inner Ditch	4508	16586	C	4021	Ditch	West side of Aisled Hall	1.25	2.06	1.03
Enclosure Inner Ditch	4508	16546	F	4061	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16547	F	4061	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16580	F	4061	Ditch	West side of Aisled Hall, Ditch Upper			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Inner Ditch	4508	16600	F	4061	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16601	F	4061	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16602	F	4061	Ditch	West side of Aisled Hall, Ditch re-dep nat			
Enclosure Inner Ditch	4508	16603	F	4061	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Inner Ditch	4508	16604	F	4061	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Inner Ditch	4508	16605	C	4061	Ditch	West side of Aisled Hall	1	2.9	1.35
Enclosure Inner Ditch	4508	16628	F	4061	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16629	F	4061	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Inner Ditch	4508	16630	F	4061	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Inner Ditch	4508	16631	F	4061	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Inner Ditch	4508	16632	F	4061	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Inner Ditch	4508	16633	F	4061	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Inner Ditch	4508	16634	F	4061	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Inner Ditch	4508	16635	F	4061	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Inner Ditch	4508	16636	F	4061	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Inner Ditch	4508	16637		4061	Ditch	West side of Aisled Hall			
Enclosure Inner Ditch	4512	16045	F	3928	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16046	F	3928	Ditch	Ditch Middle			
Enclosure Inner Ditch	4512	16047	F	3928	Ditch	Ditch Lower			
Enclosure Inner Ditch	4512	16048	C	3928	Ditch		1	3.11	0.69
Enclosure Inner Ditch	4512	16069	F	3932	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16070	F	3932	Ditch	Ditch Lower			
Enclosure Inner Ditch	4512	16071	C	3932	Ditch		1	1.55	0.62
Enclosure Inner Ditch	4512	16271	F	3988	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16272	F	3988	Ditch	Ditch Middle			
Enclosure Inner Ditch	4512	16273	F	3988	Ditch	Ditch Lower			
Enclosure Inner Ditch	4512	16274	F	3988	Ditch	Ditch Lower			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Inner Ditch	4512	16275	C	3988	Ditch		0.95	1.65	0.93
Enclosure Inner Ditch	4512	17406	F	3988	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	17407	F	3988	Ditch	Ditch Middle			
Enclosure Inner Ditch	4512	16297	F	3996	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16298	F	3996	Ditch	Ditch Middle			
Enclosure Inner Ditch	4512	16299	F	3996	Ditch	Ditch Lower			
Enclosure Inner Ditch	4512	16300	C	3996	Ditch		1	2.22	0.74
Enclosure Inner Ditch	4512	16312	F	4000	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16313	F	4000	Ditch	Ditch Middle			
Enclosure Inner Ditch	4512	16314	C	4000	Ditch		1	0.75	0.78
Enclosure Inner Ditch	4512	16317	F	4000	Ditch	Ditch Lower			
Enclosure Inner Ditch	4512	16324	F	4004	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16325	F	4004	Ditch	Ditch Middle			
Enclosure Inner Ditch	4512	16326	F	4004	Ditch	Ditch Lower			
Enclosure Inner Ditch	4512	16327	C	4004	Ditch		1	1.45	0.55
Enclosure Inner Ditch	4512	16356	F	4011	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16357	F	4011	Ditch	Ditch re-deposited natural			
Enclosure Inner Ditch	4512	16358	F	4011	Ditch	Ditch Lower			
Enclosure Inner Ditch	4512	16359	C	4011	Ditch		1.1	1.7	0.64
Enclosure Inner Ditch	4512	16552	F	4063	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16553	F	4063	Ditch	Ditch Middle			
Enclosure Inner Ditch	4512	16554	F	4063	Ditch	Ditch Lower			
Enclosure Inner Ditch	4512	16555	F	4063	Ditch	Ditch Lower			
Enclosure Inner Ditch	4512	16556	C	4063	Ditch		0.95	1.9	0.52
Enclosure Inner Ditch	4512	16557	F	4064	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16558	C	4064	Ditch		1	1.5	0.45
Enclosure Inner Ditch	4512	16624	F	4080	Ditch	Ditch Lower			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Inner Ditch	4512	16625	F	4080	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16626	C	4080	Ditch		1	2.3	0.78
Enclosure Inner Ditch	4512	16627	F	4080	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16670	F	4090	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16671	F	4090	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16672	F	4090	Ditch	Ditch Upper			
Enclosure Inner Ditch	4512	16673	F	4090	Ditch	Ditch Lower			
Enclosure Inner Ditch	4512	16674	C	4090	Ditch		1	2.7	0.72
Enclosure Inner Ditch	4513	16189	F	3967	Ditch	Ditch Upper			
Enclosure Inner Ditch	4513	16190	C	3967	Ditch			1	0.65
Enclosure Inner Ditch	4513	16194	F	3969	Ditch	Ditch Upper			
Enclosure Inner Ditch	4513	16195	F	3969	Ditch	Ditch Middle			
Enclosure Inner Ditch	4513	16196	F	3969	Ditch	Ditch Lower			
Enclosure Inner Ditch	4513	16197	C	3969	Ditch		1	1.8	0.9
Enclosure Inner Ditch	4513	16206	F	3974	Ditch	Ditch Upper			
Enclosure Inner Ditch	4513	16207	F	3974	Ditch	Ditch Upper			
Enclosure Inner Ditch	4513	16208	F	3974	Ditch	Ditch Middle			
Enclosure Inner Ditch	4513	16209	F	3974	Ditch	Ditch Middle			
Enclosure Inner Ditch	4513	16210	F	3974	Ditch	Ditch Lower			
Enclosure Inner Ditch	4513	16211	C	3974	Ditch		1	2.5	0.9
Enclosure Inner Ditch	4513	16464	F	4040	Ditch	Ditch Upper			
Enclosure Inner Ditch	4513	16465	F	4040	Ditch	Ditch Middle			
Enclosure Inner Ditch	4513	16466	F	4040	Ditch	Ditch re-deposited natural			
Enclosure Inner Ditch	4513	16467	F	4040	Ditch	Ditch re-deposited natural			
Enclosure Inner Ditch	4513	16468	F	4040	Ditch	Ditch Lower			
Enclosure Inner Ditch	4513	16469	C	4040	Ditch		1	1.54	0.9
Enclosure Inner Ditch	4513	16475	F	4042	Ditch	Ditch Upper			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Inner Ditch	4513	16476	F	4042	Ditch	Ditch Middle			
Enclosure Inner Ditch	4513	16477	F	4042	Ditch	Ditch Lower			
Enclosure Inner Ditch	4513	16478	C	4042	Ditch		1	1.9	0.85
Enclosure Inner Ditch	4556	16191	F	3967	Gully				
Enclosure Inner Ditch	4556	16192	C	3967	Gully		5	0.5	0.25
Enclosure Inner Ditch	4563	16062	F	3976	Hollow				
Enclosure Inner Ditch	4563	16221	F	3976	Hollow				
Enclosure Inner Ditch	4563	16222	F	3976	Hollow				
Enclosure Inner Ditch	4563	16223	C	3976	Hollow		0.9	0.9	0.2
Enclosure Inner Ditch	4594	16386	F	4017	Pit	West side of Aisled Hall			
Enclosure Inner Ditch	4594	16387	C	4017	Pit	West side of Aisled Hall	0.45	0.67	0.28
Enclosure Outer Ditch	4506	16053	C	3925	Ditch		1	1.1	0.64
Enclosure Outer Ditch	4506	16054	F	3925	Ditch	Ditch Upper			
Enclosure Outer Ditch	4506	16254	F	3984	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Outer Ditch	4506	16255	C	3984	Ditch	West side of Aisled Hall	0.95	0.55	0.52
Enclosure Outer Ditch	4506	16397	F	4022	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Outer Ditch	4506	16398	C	4022	Ditch	West side of Aisled Hall	1	1.3	0.42
Enclosure Outer Ditch	4506	16664	F	4089	Ditch	Ditch Upper			
Enclosure Outer Ditch	4506	16665	F	4089	Ditch	Ditch Middle			
Enclosure Outer Ditch	4506	16666	F	4089	Ditch	Ditch Lower			
Enclosure Outer Ditch	4506	16667	C	4089	Ditch		1	2.7	0.68
Enclosure Outer Ditch	4506	16693	F	4093	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Outer Ditch	4506	16694	F	4093	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Outer Ditch	4506	16695	F	4093	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Outer Ditch	4506	16696	C	4093	Ditch	West side of Aisled Hall	1.6	5	0.85
Enclosure Outer Ditch	4506	16715	F	4095	Ditch	Ditch Upper			
Enclosure Outer Ditch	4506	16716	F	4095	Ditch	Ditch Lower			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Outer Ditch	4506	16717	C	4095	Ditch		1	0.9	0.54
Enclosure Outer Ditch	4511	16041	F	3927	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16042	F	3927	Ditch	Ditch Lower			
Enclosure Outer Ditch	4511	16043	F	3927	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16044	C	3927	Ditch		2.28	1.27	0.36
Enclosure Outer Ditch	4511	16265	F	3986	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16266	F	3986	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16267	F	3986	Ditch	Ditch Lower			
Enclosure Outer Ditch	4511	16268	C	3986	Ditch				
Enclosure Outer Ditch	4511	16349	F	4010	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16350	F	4010	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16351	F	4010	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16352	F	4010	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16353	F	4010	Ditch	Ditch Middle			
Enclosure Outer Ditch	4511	16354	F	4010	Ditch	Ditch Lower			
Enclosure Outer Ditch	4511	16355	C	4010	Ditch			2.7	0.72
Enclosure Outer Ditch	4511	16399	F	4023	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16400	F	4023	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16401	F	4023	Ditch	Ditch Lower			
Enclosure Outer Ditch	4511	16402	C	4023	Ditch		1	2.27	0.63
Enclosure Outer Ditch	4511	16412	F	4026	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16413	F	4026	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16414	F	4026	Ditch	Ditch Middle			
Enclosure Outer Ditch	4511	16415	F	4026	Ditch	Ditch Middle			
Enclosure Outer Ditch	4511	16416	F	4026	Ditch	Ditch Lower			
Enclosure Outer Ditch	4511	16417	C	4026	Ditch			2	0.7
Enclosure Outer Ditch	4511	16597	F	4065	Ditch	Ditch Lower			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Outer Ditch	4511	16598	C	4065	Ditch		1	0.9	0.47
Enclosure Outer Ditch	4511	16564	F	4066	Ditch	Ditch Middle			
Enclosure Outer Ditch	4511	16566	F	4066	Ditch	Ditch Lower			
Enclosure Outer Ditch	4511	16599	C	4066	Ditch		1	2	0.74
Enclosure Outer Ditch	4511	16594	F	4074	Ditch	Ditch Middle			
Enclosure Outer Ditch	4511	16595	F	4074	Ditch	Ditch Lower			
Enclosure Outer Ditch	4511	17414	F	4074	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16678	C	4092	Ditch				
Enclosure Outer Ditch	4511	16726	F	4092	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16727	F	4092	Ditch	Ditch Lower			
Enclosure Outer Ditch	4511	16710	F	4094	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16711	C	4094	Ditch		2	2.93	0.7
Enclosure Outer Ditch	4511	16728	F	4094	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16729	F	4094	Ditch	Ditch Middle			
Enclosure Outer Ditch	4511	16750	F	4094	Ditch	Ditch Lower			
Enclosure Outer Ditch	4511	16734	F	4097	Ditch	Ditch Upper			
Enclosure Outer Ditch	4511	16735	F	4097	Ditch	Ditch Lower			
Enclosure Outer Ditch	4511	16736	C	4097	Ditch		2	5.25	0.41
Enclosure Outer Ditch	4511	16738	F	4097	Ditch	Ditch Upper			
Enclosure Outer Ditch	4649	16754	F	4101	Ditch	Ditch Upper			
Enclosure Outer Ditch	4649	16755	F	4101	Ditch	Ditch Middle			
Enclosure Outer Ditch	4649	16756	C	4101	Ditch		1	1.45	0.6
Enclosure Outer Ditch	4649	16758	F	4101	Ditch	Ditch Lower			
Enclosure Outer Ditch		16722	L	4095	Plough Scarring				0.3
Enclosure Outer Ditch		16723	L	4095	Plough Scarring				0.3
Enclosure Outer Ditch recut	4515	16055	C	3925	Ditch		1	2.3	0.8
Enclosure Outer Ditch recut	4515	16056	F	3925	Ditch	Ditch Upper			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Outer Ditch recut	4515	16057	F	3925	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4515	16058	F	3925	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4515	16051	F	3929	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4515	16052	C	3929	Ditch		1.1	0.8	0.2
Enclosure Outer Ditch recut	4515	16251	F	3984	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Outer Ditch recut	4515	16252	F	3984	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Outer Ditch recut	4515	16253	C	3984	Ditch	West side of Aisled Hall	0.95	2.1	0.76
Enclosure Outer Ditch recut	4515	16269	F	3987	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Outer Ditch recut	4515	16270	F	3987	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Outer Ditch recut	4515	16271	F	3987	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Outer Ditch recut	4515	16272	C	3987	Ditch	West side of Aisled Hall	2	1.4	0.63
Enclosure Outer Ditch recut	4515	16363	F	4013	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4515	16364	F	4013	Ditch	Ditch Middle			
Enclosure Outer Ditch recut	4515	16365	F	4013	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4515	16366	C	4013	Ditch		1	2	0.89
Enclosure Outer Ditch recut	4515	16393	F	4022	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Outer Ditch recut	4515	16394	F	4022	Ditch	West side of Aisled Hall, Ditch Middle			
Enclosure Outer Ditch recut	4515	16395	F	4022	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Outer Ditch recut	4515	16396	C	4022	Ditch	West side of Aisled Hall	1	1.85	0.72
Enclosure Outer Ditch recut	4515	16424	C	4025	Ditch	West side of Aisled Hall	1	2.5	0.66
Enclosure Outer Ditch recut	4515	16425	F	4025	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Outer Ditch recut	4515	16426	F	4025	Ditch	West side of Aisled Hall, Ditch Lower			
Enclosure Outer Ditch recut	4515	16668	F	4089	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4515	16669	C	4089	Ditch		1	1.12	0.52
Enclosure Outer Ditch recut	4515	16692	F	4093	Ditch	West side of Aisled Hall, Ditch Upper			
Enclosure Outer Ditch recut	4515	16709	C	4093	Ditch	West side of Aisled Hall			
Enclosure Outer Ditch recut	4515	16718	F	4095	Ditch	Ditch Upper			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Outer Ditch recut	4515	16719	F	4095	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4515	16720	F	4095	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4515	16721	C	4095	Ditch		1	1.58	0.71
Enclosure Outer Ditch recut	4576	16262	F	3986	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4576	16263	F	3986	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4576	16264	C	3986	Ditch			0.65	0.57
Enclosure Outer Ditch recut	4576	16347	F	4010	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4576	16348	C	4010	Ditch			0.65	0.42
Enclosure Outer Ditch recut	4576	16403	F	4023	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4576	16404	F	4023	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4576	16405	C	4023	Ditch		1	0.71	0.63
Enclosure Outer Ditch recut	4576	16409	F	4026	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4576	16410	F	4026	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4576	16411	C	4026	Ditch			0.55	0.55
Enclosure Outer Ditch recut	4576	16559	F	4065	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4576	16560	F	4065	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4576	16561	C	4065	Ditch		1	1.65	0.4
Enclosure Outer Ditch recut	4576	16562	F	4066	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4576	16563	F	4066	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4576	16565	C	4066	Ditch		1	2.01	0.5
Enclosure Outer Ditch recut	4576	16593	F	4074	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4576	16596	C	4074	Ditch		1	1.83	0.57
Enclosure Outer Ditch recut	4576	17413	C	4074	Ditch				
Enclosure Outer Ditch recut	4576	16724	F	4092	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4576	16725	C	4092	Ditch				
Enclosure Outer Ditch recut	4576	16712	F	4094	Ditch	Ditch Upper			
Enclosure Outer Ditch recut	4576	16713	C	4094	Ditch		2	2.12	0.58

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Outer Ditch recut	4576	16730	F	4094	Ditch	Ditch Lower			
Enclosure Outer Ditch recut	4576	16737	F	4097	Ditch				
Enclosure Outer Ditch recut	4576	16739	C	4097	Ditch		2	4.38	0.54
Enclosure Outer Ditch recut	4650	16757	F	4101	Ditch				
Enclosure Outer Ditch recut	4650	16759	C	4101	Ditch		1	1.55	0.75
Enclosure Outer Ditch recut	4650	16768	F	4101	Ditch				
Enclosure Partition	4500	16020	F	3920	Ditch	Ditch Upper			
Enclosure Partition	4500	16021	F	3920	Ditch	Ditch Middle			
Enclosure Partition	4500	16022	F	3920	Ditch	Ditch Lower			
Enclosure Partition	4500	16023	C	3920	Ditch		1	1.48	0.67
Enclosure Partition	4500	16024	F	3921	Ditch	Ditch Upper			
Enclosure Partition	4500	16025	F	3921	Ditch	Ditch Lower			
Enclosure Partition	4500	16026	C	3921	Ditch		1	1.46	0.46
Enclosure Partition	4500	16027	F	3922	Ditch	Ditch Upper			
Enclosure Partition	4500	16028	F	3922	Ditch	Ditch Lower			
Enclosure Partition	4500	16029	C	3922	Ditch		1	1.25	0.5
Enclosure Partition	4500	16032	F	3924	Ditch	Ditch Upper			
Enclosure Partition	4500	16033	F	3924	Ditch	Ditch Middle			
Enclosure Partition	4500	16034	F	3924	Ditch	Ditch Lower			
Enclosure Partition	4500	16035	C	3924	Ditch		1	1.1	0.5
Enclosure Partition	4500	16181	F	3965	Ditch	Ditch Upper			
Enclosure Partition	4500	16182	F	3965	Ditch	Ditch Middle			
Enclosure Partition	4500	16183	F	3965	Ditch	Ditch Middle			
Enclosure Partition	4500	16184	F	3965	Ditch	Ditch Lower			
Enclosure Partition	4500	16185	C	3965	Ditch		1	1.6	0.55
Enclosure Partition	4500	16242	F	3981	Ditch	Ditch Upper			
Enclosure Partition	4500	16243	F	3981	Ditch	Ditch Upper			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Partition	4500	16244	C	3981	Ditch		1	1.16	0.22
Enclosure Partition	4500	16418	F	3981	Ditch	Ditch Lower			
Enclosure Partition	4500	16344	F	4009	Ditch	Ditch Upper			
Enclosure Partition	4500	16345	F	4009	Ditch	Ditch Lower			
Enclosure Partition	4500	16346	C	4009	Ditch		1	1.4	0.43
Enclosure Partition	4500	16460	F	4039	Ditch	Ditch Upper			
Enclosure Partition	4500	16461	F	4039	Ditch	Ditch Middle			
Enclosure Partition	4500	16462	F	4039	Ditch	Ditch Lower			
Enclosure Partition	4500	16463	C	4039	Ditch		1	1.32	0.62
Enclosure Partition	4500	16472	F	4055	Ditch	Machine excavated upper profile			
Enclosure Partition	4500	17245	F	4175	Ditch	Machine excavated upper profile			
Enclosure Partition	4510	16038	F	3927	Ditch				
Enclosure Partition	4510	16039	F	3927	Ditch				
Enclosure Partition	4510	16040	C	3927	Ditch		1.98	1.66	0.34
Enclosure Partition	4510	16328	F	4004	Ditch				
Enclosure Partition	4510	16329	C	4004	Ditch		0.5	1.2	0.5
Enclosure Partition	4510	16548	F	4062	Ditch				
Enclosure Partition	4510	16549	F	4062	Ditch				
Enclosure Partition	4510	16550	F	4062	Ditch				
Enclosure Partition	4510	16551	C	4062	Ditch		1	1.55	0.49
Enclosure Partition	4521	16367	F	4014	Ditch	Ditch Lower			
Enclosure Partition	4521	16368	C	4014	Ditch		1	1.38	0.62
Enclosure Partition	4521	16369	F	4014	Ditch	Ditch Upper			
Enclosure Partition	4521	16390	F	4020	Ditch	Ditch Upper			
Enclosure Partition	4521	16391	F	4020	Ditch	Ditch Lower			
Enclosure Partition	4521	16392	C	4020	Ditch		1.4	1.7	0.6
Enclosure Partition	4521	16406	F	4024	Ditch	Ditch Upper			

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Enclosure Partition	4521	16407	F	4024	Ditch	Ditch Lower			
Enclosure Partition	4521	16408	C	4024	Ditch		2	1.9	0.5
Enclosure Partition	4521	16606	F	4075	Ditch	Ditch Upper			
Enclosure Partition	4521	16607	F	4075	Ditch	Ditch Upper			
Enclosure Partition	4521	16608	F	4075	Ditch	Ditch Lower			
Enclosure Partition	4521	16609	C	4075	Ditch		1	1.4	0.7
Feeder Ditches	4509	16049	F	3929	Ditch				
Feeder Ditches	4509	16050	C	3929	Ditch		1 ex	1.65	0.82
Feeder Ditches	4509	16137	F	3952	Ditch				
Feeder Ditches	4509	16138	C	3952	Ditch		1 ex	1.3	0.6
Feeder Ditches	4509	16143	F	3954	Ditch				
Feeder Ditches	4509	16144	C	3954	Ditch		1 ex	0.94	0.64
Feeder Ditches	4509	16150	F	3954	Ditch				
Feeder Ditches	4509	16145	F	3955	Ditch				
Feeder Ditches	4509	16146	F	3955	Ditch				
Feeder Ditches	4509	16147	F	3955	Ditch				
Feeder Ditches	4509	16148	F	3955	Ditch				
Feeder Ditches	4509	16149	C	3955	Ditch				
Feeder Ditches	4509	16167	F	3961	Ditch				
Feeder Ditches	4509	16168	F	3961	Ditch				
Feeder Ditches	4509	16169	F	3961	Ditch				
Feeder Ditches	4509	16170	C	3961	Ditch		1 ex	1.2	0.34
Feeder Ditches	4509	16173	F	3962	Ditch				
Feeder Ditches	4509	16174	F	3962	Ditch				
Feeder Ditches	4509	16175	C	3962	Ditch		1 ex	1.1	0.37
Feeder Ditches	4509	16178	F	3964	Ditch				
Feeder Ditches	4509	16179	C	3964	Ditch		1 ex	1.5	0.38

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Feeder Ditches	4509	16180	F	3964	Ditch				
Feeder Ditches	4509	16186	C	3966	Ditch		1 ex	0.7	0.24
Feeder Ditches	4509	16187	F	3966	Ditch				
Feeder Ditches	4509	16188	F	3966	Ditch				
Feeder Ditches	4509	16496	F	4050	Ditch				
Feeder Ditches	4509	16497	F	4050	Ditch				
Feeder Ditches	4509	16498	F	4050	Ditch				
Feeder Ditches	4509	16499	F	4050	Ditch				
Feeder Ditches	4509	16500	F	4050	Ditch				
Feeder Ditches	4509	16529	F	4050	Ditch				
Feeder Ditches	4509	16530	F	4050	Ditch				
Feeder Ditches	4509	16531	F	4050	Ditch				
Feeder Ditches	4509	16532	C	4050	Ditch		1.5 ex	2.1	0.8
Feeder Ditches	4509	16538	F	4059	Ditch				
Feeder Ditches	4509	16539	C	4059	Ditch		1 ex	0.5	0.4
Feeder Ditches	4509	17278	F	4152	Ditch				
Feeder Ditches	4509	17279	F	4152	Ditch				
Feeder Ditches	4509	17280	C	4152	Ditch			1.2-1.7	0.35-0.48
Feeder Ditches	4509	16158	F	4154	Ditch				
Feeder Ditches	4509	17186	F	4154	Ditch		1	0.4	0.1
Feeder Ditches	4509	17232	F	4154	Ditch				
Feeder Ditches	4509	17234	F	4154	Ditch				
Feeder Ditches	4509	17235	F	4154	Ditch				
Feeder Ditches	4509	17419	F	4154	Ditch				
Feeder Ditches	4509	16159	C	4178	Ditch		1 ex	1.50+	0.75
Feeder Ditches	4509	17194	F	4178	Ditch				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Feeder Ditches	4509	17314	F	4178	Ditch				
Feeder Ditches	4522	16066	F	3931	Ditch				
Feeder Ditches	4522	16067	F	3931	Ditch				
Feeder Ditches	4522	16068	C	3931	Ditch		1	1.66	0.35
Feeder Ditches	4522	16176	F	3963	Ditch				
Feeder Ditches	4522	16177	C	3963	Ditch		1	0.6	0.4
Feeder Ditches	4522	17226	C	4152	Ditch				
Feeder Ditches	4522	17272	F	4152	Ditch				
Feeder Ditches	4522	17273	F	4152	Ditch				
Feeder Ditches	4522	17274	F	4152	Ditch				
Feeder Ditches	4522	17275	C	4152	Ditch				0.45
Feeder Ditches	4562	16217	F	3976	Pit				
Feeder Ditches	4562	16218	F	3976	Pit				
Feeder Ditches	4562	16219	F	3976	Pit				
Feeder Ditches	4562	16220	C	3976	Pit		3.2	1.1	1
Feeder Ditches	4630	16536	F	4059	Gully				
Feeder Ditches	4630	16537	C	4059	Gully		1	0.7	0.3
Feeder Ditches	4631	16540	F	4059	Ditch				
Feeder Ditches	4631	16541	C	4059	Ditch		1	0.5	0.25
Feeder Ditches	4754	17096	F	4152	Ditch				
Feeder Ditches	4754	17097	F	4152	Ditch		1.1	1.27	0.39
Feeder Ditches	4754	17200	C	4152	Ditch				0.72
Feeder Ditches	4754	17257	F	4152	Ditch				
Feeder Ditches	4754	17258	F	4152	Ditch				
Feeder Ditches	4754	17260	F	4152	Ditch				
Feeder Ditches	4754	17261	F	4152	Ditch				0.07
Feeder Ditches	4754	17262	F	4152	Ditch				0.1

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Feeder Ditches	4754	17263	F	4152	Ditch				
Feeder Ditches	4754	17264	F	4152	Ditch				0.17
Feeder Ditches	4754	17268	F	4152	Ditch		0.8+		0.08
Feeder Ditches	4754	17294	F	4152	Ditch				
Feeder Ditches	4754	17318	F	4166	Ditch				
Feeder Ditches	4754	17319	F	4166	Ditch				
Feeder Ditches	4754	17320	F	4166	Ditch				
Feeder Ditches	4754	17321	C	4166	Ditch		?	?	0.65
Feeder Ditches	4754	17360	F	4166	Ditch				
Feeder Ditches	4754	17383	F	4166	Ditch				
Feeder Ditches	4754	17378		4178	Ditch				
Feeder Ditches	4754	17379		4178	Ditch				
Feeder Ditches	4761	17228	F	4154	Ditch				
Feeder Ditches	4761	17229	F	4154	Ditch				
Feeder Ditches	4761	17230	C	4154	Ditch		3.1	0.44	0.77
Feeder Ditches	4761	17416	F	4154	Ditch				
Feeder Ditches	4761	17417	F	4154	Ditch				
Feeder Ditches	4761	17418	F	4154	Ditch				
Feeder Ditches	4761	17195	F	4178	Ditch				
Feeder Ditches	4761	17196	C	4178	Ditch			2.8	0.85
Feeder Ditches	4768	17187	C	4152	Ditch				
Feeder Ditches	4768	17188	F	4152	Ditch				
Feeder Ditches	4768	17202	F	4152	Ditch				
Feeder Ditches	4768	17259	F	4152	Ditch				
Feeder Ditches	4768	17265	F	4152	Ditch				0.1-0.17
Feeder Ditches	4768	17269	F	4152	Ditch				
Feeder Ditches	4768	17276	F	4152	Ditch				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Feeder Ditches	4768	17277	C	4152	Ditch			0.84	0.46
Feeder Ditches	4769	17266	F	4152	Ditch		?	?	0.2
Feeder Ditches	4769	17281	F	4152	Ditch or drain			1.1-1.5	0.5-0.8
Feeder Ditches	4769	17295	F	4152	Ditch or drain				
Feeder Ditches		16542	L	4059	Spread				
Feeder Ditches		17236	L	4154	Layer				
Pit alignment 1	4523	16072	F	3933	Pit				
Pit alignment 1	4523	16073	F	3933	Pit				
Pit alignment 1	4523	16074	F	3933	Pit				
Pit alignment 1	4523	16075	C	3933	Pit			2.2	0.8
Pit alignment 1	4545	16290	F	3993	Pit				
Pit alignment 1	4545	16291	C	3993	Pit		1.25	0.57	0.47
Pit alignment 1	4545	16338	F	3993	Pit				
Pit alignment 1	4545	16339	F	3993	Pit				
Pit alignment 1	4571	16286	F	3991	Pit				
Pit alignment 1	4571	16287	C	3991	Pit			0.65	0.26
Pit alignment 1	4571	16337	F	3991	Pit				
Pit alignment 1	4573	16288	F	3992	Post hole				
Pit alignment 1	4573	16289	C	3992	Post hole			0.5	0.27
Pit alignment 1	4587	16340	F	4007	Pit				
Pit alignment 1	4587	16341	F	4007	Pit				
Pit alignment 1	4587	16342	F	4007	Pit				
Pit alignment 1	4587	16343	C	4007	Pit			0.55	0.3
Pit alignment 1	4588	16334	F	4008	Pit				
Pit alignment 1	4588	16335	F	4008	Pit				
Pit alignment 1	4588	16336	C	4008	Pit		1.05	0.77	0.22
Pit alignment 1	4589	16360	F	4012	Pit				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Pit alignment 1	4589	16361	F	4012	Pit				
Pit alignment 1	4589	16362	C	4012	Pit		1.4	1.5	0.5
Pit alignment 1	4601	16435	F	4027	Post hole				
Pit alignment 1	4601	16436	F	4027	Post hole				
Pit alignment 1	4601	16437	C	4027	Post hole		1.35	1.3	0.6
Pit Alignment 2	4505	16030	F	3923	Pit				
Pit Alignment 2	4505	16031	C	3923	Pit		0.85	0.71	0.17
Pit Alignment 2	4528	16485	F	4045	Hollow				
Pit Alignment 2	4528	16486	F	4045	Hollow				
Pit Alignment 2	4528	16487	C	4045	Hollow		1.2	1.95	0.32
Pit Alignment 2	4535	16099	F	3943	Pit				
Pit Alignment 2	4535	16100	F	3943	Pit				
Pit Alignment 2	4535	16101	C	3943	Pit		2.8	2.5	0.29
Pit Alignment 2	4612	16473	F	4043	Pit				
Pit Alignment 2	4612	16474	C	4043	Pit		0.8	1.17	0.22
Pit Alignment 2	4612	16479	F	4043	Pit				
Pit Alignment 2	4612	16480	F	4043	Pit				
Pit Alignment 2	4612	16481	F	4043	Pit				
Pit Alignment 2	4638	16638	F	4082	Pit				
Pit Alignment 2	4638	16639	F	4082	Pit				
Pit Alignment 2	4638	16640	C	4082	Pit		0.9	0.9	0.2
Pit Alignment 2	4681	16889	F	4123	Pit				
Pit Alignment 2	4681	16890	C	4123	Pit		0.61	0.58	0.14
Pit Alignment 2	4682	16891	F	4124	Pit				
Pit Alignment 2	4682	16892	C	4124	Pit		0.85	0.74	0.23
Pit Alignment 2	4683	16893	F	4125	Pit				
Pit Alignment 2	4683	16894	C	4125	Pit		1	1.17	0.26

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Pit Group 1	4579	16301	F	3997	Pit				
Pit Group 1	4579	16302	C	3997	Pit		2	1.6	0.18
Pit Group 1	4580	16303	F	3997	Pit				
Pit Group 1	4580	16304	C	3997	Pit		2.1	1.9	0.2
Pit Group 1	4581	16305	F	3997	Pit				
Pit Group 1	4581	16306	C	3997	Pit		1.2	1	0.1
Pit Group 2	4544	16330	F	4005	Pit/Gully				
Pit Group 2	4544	16331	C	4005	Pit/Gully		2.05	0.7	0.54
Pit Group 2	4544	16427	F	4005	Pit/Gully				
Pit Group 2	4544	16428	F	4005	Pit/Gully				
Pit Group 2	4577	16276	F	3989	Pit				
Pit Group 2	4577	16277	F	3989	Pit				
Pit Group 2	4577	16278	C	3989	Pit		1.1	0.8	0.3
Pit Group 2	4578	16294	F	3995	Pit				
Pit Group 2	4578	16295	C	3995	Pit		0.9	0.7	0.15
Pit Group 2	4578	16296	F	3995	Pit				
Pit Group 2	4582	16307	F	3998	Pit				
Pit Group 2	4582	16308	F	3998	Pit				
Pit Group 2	4582	16309	C	3998	Pit		1.1	1.15	0.12
Pit Group 2	4584	16315	F	4001	Pit				
Pit Group 2	4584	16316	C	4001	Pit		0.3	0.27	0.17
Pit Group 2	4585	16318	F	4002	Pit				
Pit Group 2	4585	16319	C	4002	Pit			0.52	0.09
Pit Group 2	4586	16332	F	4006	Pit/Gully				
Pit Group 2	4586	16333	C	4006	Pit/Gully		1.2	0.6	0.11
Pit Group 2	4592	16381	F	4018	Pit				
Pit Group 2	4592	16382	C	4018	Pit		0.95	1	0.22

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Pit Group 2	4593	16383	F	4019	Pit				
Pit Group 2	4593	16384	F	4019	Pit				
Pit Group 2	4593	16385	C	4019	Pit		1.5	1.5	0.53
Pit Group 2	4600	16434	C	4027	Pit		0.58	0.49	0.09
Pit Group 2	4600	16433	F	4029	Pit				
Pit Group 3	4538	16470	F	4041	Pit?				
Pit Group 3	4538	16471	C	4041	Pit?		2.75	1.65	0.3
Pit Group 3	4603	16440	F	4032	Scoop				
Pit Group 3	4603	16441	F	4032	Scoop				
Pit Group 3	4603	16442	C	4032	Scoop			1.43	0.26
Pit Group 3	4604	16443	F	4033	Scoop				
Pit Group 3	4604	16444	F	4033	Scoop				
Pit Group 3	4604	16445	C	4033	Scoop		1.9	2.3	0.2
Pit Group 3	4606	16448	F	4035	Scoop				
Pit Group 3	4606	16449	C	4035	Scoop		4.6	3.6	0.22
Pit Group 3	4607	16450	F	4036	Scoop				
Pit Group 3	4607	16451	C	4037	Scoop		1.85	1.7	0.11
Pit Group 3	4608	16452	F	4037	Scoop				
Pit Group 3	4608	16453	C	4037	Scoop		1.96	1.6	0.17
Pit Group 3	4609	16454	F	4037	Scoop				
Pit Group 3	4609	16455	C	4037	Scoop		2.7	0.69	0.1
Pit Group 3	4610	16456	F	4037	Scoop				
Pit Group 3	4610	16457	C	4037	Scoop		1	1.04	0.16
Pit Group 3	4611	16458	F	4038	Scoop				
Pit Group 3	4611	16459	C	4039	Scoop		0.9	1.5	0.12
Pit Group 3	4615	16488	F	4046	Scoop				
Pit Group 3	4615	16489	C	4046	Scoop		1.2	0.7	0.13

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Pit Group 3	4616	16490	F	4047	Scoop				
Pit Group 3	4616	16491	C	4047	Scoop		0.9	0.75	0.07
Pit Group 3	4617	16492	F	4048	Scoop				
Pit Group 3	4617	16493	C	4048	Scoop		0.5	0.45	0.05
Pit Group 3	4618	16494	F	4049	Scoop				
Pit Group 3	4618	16495	C	4049	Scoop		0.5	0.4	0.05
Pit Group 4	4685	16897	F	4127	Pit				
Pit Group 4	4685	16898	C	4127	Pit			0.8	0.35
Pit Group 4	4685	16925	F	4127	Pit				
Pit Group 4	4685	16925	F	4127	Pit				
Pit Group 4	4685	16926	F	4127	Pit				
Pit Group 4	4685	16926	F	4127	Pit				
Pit Group 4	4741	17331	F	4172	Pit				
Pit Group 4	4741	17332	C	4172	Pit				
Pit Group 4	4771	17286	F	4172	Pit				
Pit Group 4	4771	17287	F	4172	Pit				
Pit Group 4	4771	17288	C	4172	Pit		0.52	1	0.34
Pit Group 4	4772	17289	F	4173	Pit				
Pit Group 4	4772	17290	C	4173	Pit		0.75	0.51	0.26
Isolated - Iron Age pit	4599	16431	F	4028	Pit				
Isolated - Iron Age pit	4599	16432	C	4028	Pit		0.4	0.4	0.2
Isolated pits / hollows	4507	16036	F	3926	Pit	Shallow Scoop			
Isolated pits / hollows	4507	16037	C	3926	Pit	Shallow Scoop	0.77	0.47	0.13
Isolated pits / hollows	4602	16438	F	4031	Pit				
Isolated pits / hollows	4602	16439	C	4031	Pit		2.4	1.9	0.32
Isolated pits / hollows	4605	16446	F	4034	Pit	Burnt Stone pit			
Isolated pits / hollows	4605	16447	C	4035	Pit	Burnt Stone pit	0.75	0.75	0.15

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Isolated pits / hollows	4621	16505	F	4051	Hollow				
Isolated pits / hollows	4621	16506	F	4051	Hollow				
Isolated pits / hollows	4621	16507	C	4051	Hollow		2.8	2.1	0.22
Isolated pits / hollows	4623	16516	F	4050	Pit				
Isolated pits / hollows	4623	16517	F	4050	Pit				
Isolated pits / hollows	4623	16518	C	4050	Pit		1.95	1.5	0.47
Isolated pits / hollows	4684	16895	F	4126	Pit	Shallow Scoop			
Isolated pits / hollows	4684	16896	C	4126	Pit	Shallow Scoop	0.72	0.69	0.1
Isolated pits / hollows	4688	16917	F	4131	Pit	Shallow Scoop			
Isolated pits / hollows	4688	16917	F	4131	Pit	Shallow Scoop			
Isolated pits / hollows	4688	16918	C	4131	Pit	Shallow Scoop			
Isolated pits / hollows	4688	16918	C	4131	Pit	Shallow Scoop	1.08	1.48	0.16
Rubble Spread 1	4640	16060	L	4086	Rubble spread				
Rubble Spread 1	4640	16114	F	4086	Rubble spread				
Rubble Spread 1	4640	16649	F	4086	Rubble spread				
Rubble Spread 1	4640	16650	C	4086	Rubble spread			1.8	0.11
Rubble Spread 1	4641	16193	L	4085	Rubble spread				
Rubble Spread 1	4641	16647	F	4085	Rubble spread				
Rubble Spread 1	4641	16648	C	4085	Rubble spread			1.8	0.11
Rubble Spread 1	4641	16059	L	4086	Rubble spread				
Rubble Spread 2		16899	L	4127	Rubble spread			2.75	0.15
Post-Roman activity	4525	16089	F	4221	Wheel Rut				
Post-Roman activity	4525	16090	C	4221	Wheel Rut		6	0.65	0.08
Post-Roman activity	4526	16203	F	3964	Furrow				
Post-Roman activity	4526	16204	C	3964	Furrow		1		0.1
Post-Roman activity	4526	16201	F	3966	Furrow				
Post-Roman activity	4526	16202	C	3966	Furrow		1	1.3	0.28

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Post-Roman activity	4526	16118	F	4153	Furrow				
Post-Roman activity	4526	16119	C	4153	Furrow				
Post-Roman activity	4526	16122	F	4153	Furrow				
Post-Roman activity	4526	16123	C	4153	Furrow				
Post-Roman activity	4526	16112	F	4154	Furrow				
Post-Roman activity	4526	16113	C	4154	Furrow		1	1.6	0.18
Post-Roman activity	4526	16163	F	4154	Furrow				
Post-Roman activity	4526	16164	C	4154	Furrow				
Post-Roman activity	4526	16091	C	4221	Furrow		3.4	1.8	0.18
Post-Roman activity	4526	16092	F	4221	Furrow				
Post-Roman activity	4526	16126	F	4221	Wheel rut				
Post-Roman activity	4526	16127	C	4221	Wheel rut				
Post-Roman activity	4541	16103	F	4153	Furrow				
Post-Roman activity	4541	16104	C	4153	Furrow		6	2	0.1
Post-Roman activity	4541	16160	F	4154	Furrow				
Post-Roman activity	4541	16161	C	4154	Furrow		9		0.1
Post-Roman activity	4543	16105	F	3940	Furrow				
Post-Roman activity	4543	16106	F	3940	Furrow				
Post-Roman activity	4543	16107	C	3940	Furrow		2	2	0.14
Post-Roman activity	4543	16388	F	4020	Furrow				
Post-Roman activity	4543	16389	C	4020	Furrow		1.7	0.75	0.2
Post-Roman activity	4548	16108	C	4221	Wheel Rut		15	0.18	0.15
Post-Roman activity	4548	16109	F	4221	Wheel Rut				
Post-Roman activity	4548	16120	F	4221	Wheel rut				
Post-Roman activity	4548	16121	C	4221	Wheel rut				
Post-Roman activity	4548	16124	F	4221	Wheel rut				
Post-Roman activity	4548	16125	C	4221	Wheel rut				

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Post-Roman activity	4549	16116	F	4145	Furrow				
Post-Roman activity	4549	16117	C	4145	Furrow		7	1.8	0.08
Post-Roman activity	4549	16128	F	4153	Furrow				
Post-Roman activity	4549	16129	C	4153	Furrow				
Post-Roman activity	4549	16110	F	4154	Wheel Rut				
Post-Roman activity	4549	16111	C	4154	Wheel Rut		1	1.85	0.1
Post-Roman activity	4550	16279	F	3990	Furrow				
Post-Roman activity	4550	16280	F	3990	Furrow				
Post-Roman activity	4550	16281	C	3990	Furrow		2.8	0.5	0.16
Post-Roman activity	4557	16171	F	4166	Furrow				
Post-Roman activity	4557	16172	C	4166	Furrow				0.17
Post-Roman activity	4564				Plough Scar				
Post-Roman activity	4565				Plough Scar				
Post-Roman activity	4566				Drain				
Post-Roman activity	4567	16256	F	3985	Furrow				
Post-Roman activity	4567	16257	C	3985	Furrow		7	2.96	1.4
Post-Roman activity	4569	16258	F	3985	Furrow				
Post-Roman activity	4569	16259	C	3985	Furrow		1	1.16	1.4
Post-Roman activity	4570	16260	F	3985	Furrow				
Post-Roman activity	4570	16261	C	3985	Furrow		1	0.78	0.16
Post-Roman activity	4570	17251	F	4170	Gully				
Post-Roman activity	4570	17252	C	4170	Gully		1.18	1	0.22
Post-Roman activity	4598	16429	F	4005					
Post-Roman activity	4598	16430	C	4005					
Post-Roman activity	4647	16742	F	4098	Plough Scar				
Post-Roman activity	4647	16743	F	4098	Plough Scar				
Post-Roman activity	4647	16744	C	4098	Plough Scar		0.4	0.13	0.3

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Post-Roman activity	4647	17117	F	4156	Plough Scar				
Post-Roman activity	4647	17118	C	4156	Plough Scar			0.35ex	0.1
Post-Roman activity	4705	16966	F	4139	Furrow				
Post-Roman activity	4705	16967	C	4139	Furrow			3	0.2
Post-Roman activity	4706	16964	F	4139	Ceramic Drain				
Post-Roman activity	4706	16965	C	4139	Ceramic Drain			0.45	0.35
Post-Roman activity	4718	17028	F	4130	Furrow				
Post-Roman activity	4718	17029	C	4130	Furrow		2	1.75	0.15
Post-Roman activity	4746	17123	F	4151	Furrow				
Post-Roman activity	4746	17146	F	4151	Furrow				0.24
Post-Roman activity	4746	17184	F	4162	Furrow				
Post-Roman activity	4746	17185	C	4162	Furrow				0.25
Post-Roman activity	4801	16707	F	4095	Furrow				
Post-Roman activity	4801	17403	F	4095	Furrow			1.2	0.26
Smaller ditches & gullies	4520	16134	F	3917	Gully				
Smaller ditches & gullies	4520	16135	F	3917	Gully				
Smaller ditches & gullies	4520	16136	C	3917	Gully		3.1	1	0.24
Smaller ditches & gullies	4520	16063	F	3930	Gully				
Smaller ditches & gullies	4520	16064	F	3930	Gully				
Smaller ditches & gullies	4520	16065	C	3930	Gully		1.5	0.8	0.25
Smaller ditches & gullies	4529	16141	F	3953	Linear				
Smaller ditches & gullies	4529	16142	C	3953	Linear		1	0.92	0.16
Smaller ditches & gullies	4534	16115	F	3950	Ditch				
Smaller ditches & gullies	4534	16132	F	3950	Ditch				
Smaller ditches & gullies	4534	16133	C	3950	Ditch		0.5	1.12	0.12
Smaller ditches & gullies	4534	17242	F	4168	Ditch				
Smaller ditches & gullies	4534	17243	C	4168	Ditch		1	0.9	0.08

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Smaller ditches & gullies	4553	16139	F	3952	Ditch				
Smaller ditches & gullies	4553	16140	C	3952	Ditch		0.5	1.1	0.25
Smaller ditches & gullies	4556	16165	F	3959	Ditch				
Smaller ditches & gullies	4556	16166	C	3959	Ditch		1	0.48	0.2
Smaller ditches & gullies	4624	16520	F	4056	Dump				
Smaller ditches & gullies	4624	16521	F	4056	Dump				
Smaller ditches & gullies	4624	16522	C	4056	Dump				
Smaller ditches & gullies	4626	17155	F	3948	Ditch/gully				
Smaller ditches & gullies	4626	17156	F	3948	Ditch/gully				
Smaller ditches & gullies	4626	17157	F	3948	Ditch/gully				
Smaller ditches & gullies	4626	17158	C	3948	Ditch/gully				0.33
Smaller ditches & gullies	4626	16519	L	4050	Ditch/gully		1	0.85	0.2
Smaller ditches & gullies	4626	16527	F	4050	Ditch/gully				
Smaller ditches & gullies	4626	16528	C	4050	Ditch/gully		1.3	0.57	0.36
Smaller ditches & gullies	4626	17119	F	4156	Ditch/gully				
Smaller ditches & gullies	4626	17120	F	4156	Ditch/gully				
Smaller ditches & gullies	4626	17121	F	4156	Ditch/gully				
Smaller ditches & gullies	4626	17122	C	4156	Ditch/gully		1.40ex	0.34	0.34
Smaller ditches & gullies	4626	17315	F	4174	Ditch/gully				
Smaller ditches & gullies	4626	17316	F	4174	Ditch/gully				
Smaller ditches & gullies	4626	17317	C	4174	Ditch/gully		1ex	1.12	0.37
Smaller ditches & gullies	4627	16533	F	4058	Ditch				
Smaller ditches & gullies	4627	16534	F	4058	Ditch				
Smaller ditches & gullies	4627	16535	C	4058	Ditch				
Smaller ditches & gullies	4628	17444	L						
Smaller ditches & gullies	4639	16641	F	4082	Gully				
Smaller ditches & gullies	4639	16642	C	4082	Gully			0.62	0.06

Feature Category	Feature no.	Context no.	Category (F, C, L)	Slot	Feature type	Profile Group	Length (m)	Width (m)	Depth (m)
Smaller ditches & gullies	4639	16643	F	4083	Gully				
Smaller ditches & gullies	4639	16644	C	4083	Gully			0.62	0.06
Smaller ditches & gullies	4639	16645	F	4084	Gully				
Smaller ditches & gullies	4639	16646	C	4084	Gully				
Smaller ditches & gullies	4689	16919	F	4131	Ditch				
Smaller ditches & gullies	4689	16919	F	4131	Ditch terminus				
Smaller ditches & gullies	4689	16920	C	4131	Ditch		0.96	0.72	0.23
Smaller ditches & gullies	4689	16920	C	4131	Ditch terminus		0.96ex	0.72	0.23
Smaller ditches & gullies	4691	16927	F	4133	Ditch				
Smaller ditches & gullies	4691	16927	F	4133	Ditch terminus				
Smaller ditches & gullies	4691	16928	C	4133	Ditch		1	0.51	0.17
Smaller ditches & gullies	4691	16928	C	4133	Ditch terminus		1ex	0.51	0.17
Smaller ditches & gullies	4730	17067	F	4150	Gully				
Smaller ditches & gullies	4730	17255	F	4150	Gully				
Smaller ditches & gullies	4730	17256	C	4150	Gully		1	0.85	0.5
Smaller ditches & gullies	4730	17253	F	4170	Gully				
Smaller ditches & gullies	4730	17254	C	4170	Gully		0.37	0.55	0.18
Smaller ditches & gullies	4770	17283	F	4171	Gully				
Smaller ditches & gullies	4770	17284	F	4171	Gully				
Smaller ditches & gullies	4770	17285	C	4171	Gully		1	0.62	0.3

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TRIUM

Appendix: EIA Methodology

Annex 1: EIA Scoping Report

Annex 2: EIA Scoping Opinion

Annex 3: Cumulative Schemes List and Map

TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 2017

SCOPING OPINION

'North West Cambridge Development'

Land between Huntingdon Road, Madingley Road, and the M11, Cambridge

Proposed Development consists of outline planning permission for up to 4,200 dwellings (C3), up to 1,675 student accommodation units (Sui Generis), up to approximately 675 co-living units (Sui Generis), up to 6,500sqm GIA of senior living accommodation (C2), up to 100,000sqm GEA of flexible employment and academic floorspace (E(g)(i, ii, iii), Sui Generis, F1), up to 6,000sqm of flexible floorspace likely to compromise retail, nursery, health, and indoor sports uses (E(a-f)), up to 45ha of public open space including play space, sports pitches, allotments, SuDS, hard and soft landscaping, ancillary uses and plant, and all other supporting infrastructure.

SCOPING RESPONSE ON BEHALF OF SOUTH CAMBRIDGESHIRE DISTRICT COUNCIL & CAMRIDGE CITY COUNCIL

GREATER CAMBRIDGE
SHARED PLANNING

CAMBRIDGE CITY COUNCIL
PLANNING REFERENCE 24/04479/SCOP

SOUTH CAMBRIDGESHIRE DISTRICT COUNCIL
PLANNING REFERENCE 24/04533/SCOP

23 January 2025

Introduction

1. Environmental Impact Assessment (EIA) is an iterative process that attempts to ensure that any significant effects on a range of environmental issues that might result from a particular development are fully understood and taken into account prior to any planning decision being taken.

2. 'Scoping' forms part of the overall EIA process and attempts to identify all of the possible environmental impacts that a development project might cause, and then to subsequently determine which of those impacts are likely to be significant and which therefore require detailed investigation in the EIA.

3. The effects of the proposal on a range of environmental topics should be assessed in terms of their characteristic (adverse, beneficial, neutral, direct, indirect, cumulative), scale (international, national, regional, direct, local), and significance (long term, short term, irreversible, reversible, major, minor), together with their timing (pre-construction, construction, operation/occupation, decommissioning, restoration). Where the potential for significant environmental effects have been identified as part of a scoping exercise, the Environmental Statement (ES) comprising part of the EIA process should propose mitigation and monitoring measures.

4. The Town and Country Planning (Environmental Impact Assessment (England and Wales) Regulations 2017 ('the 2017 Regulations') form the basis for the scoping procedure, by allowing a person minded making an EIA application to ask the relevant planning authority to state in writing their opinion as to the scope and level of detail of the information to be provided within the Environmental Statement (ES), in the form of a Scoping Opinion.

Request for a scoping opinion 24/04479/SCOP & 24/04533/SCOP

5. This Scoping Opinion is based on information provided to Cambridge City Council and South Cambridgeshire District Council ('the Councils') in the form of an EIA Scoping Report dated November 2024 ('the Scoping Report'), prepared by Trium Environmental Consulting LLP on behalf of the University of Cambridge ('the Applicant'), together with the comments and opinions resulting from consultation with other bodies.

6. The scoping exercise was initiated following the receipt of the above documents and constituting a formal request for a scoping opinion to the Councils. This Scoping Opinion has been prepared and issued by the Councils in response to the request as part of the EIA process.

7. In accordance with the 2017 Regulations, this Scoping Opinion shall not preclude the Councils from subsequently requiring the developer to submit

further information in connection with any applications subsequently submitted to the Councils.

Consultation

8. During the scoping process, formal consultation was undertaken with relevant statutory agencies/authorities.

9. A list of the parties consulted, and representations received can be viewed online through the Councils' planning application system, quoting the references **24/04479/SCOP & 24/04533/SCOP**: -

   https://www.greatercambridgeplanning.org/planning-applications/view-and-comment-on-planning-applications/

Comments on Scoping Report

10. The Scoping Report comprises a request for a Scoping Opinion under Regulation 15 of the 2017 Regulations. The request includes the information required under Regulation 15 (2), in addition to additional information which sets out the proposed approach to the EIA and technical assessments; the consultation that will be undertaken as part of the EIA, and the intended structure of the ES.

11. It is an expectation that in submitting the ES, all necessary information is provided as identified in Part 4 of the 2017 Regulations.

SECTION 1 – INTRODUCTION

12. The description of the site, the existing development (referred to as the OPP), and the proposed development is noted.

13. The purpose of the Scoping Report and the obligations of the Councils as Competent Authority including the relevance of overarching EIA Regulations and process is noted.

14. It is noted that the Applicant considers the proposals exceed the applicable screening thresholds at Schedule 2, 10(b) of the EIA Regulations (urban development projects), and that taking into account the scale of the development, nature of the site and surrounding area, there is potential for significant environmental effects.

15. The Councils confirm and agree that the proposals constitute EIA development and that an ES is required.

16. The Councils acknowledges the applicant's position of voluntarily preparing this Scoping Report to establish the scope of any forthcoming EIA process and the content of any ES which will subsequently accompany the planning

application for the proposed development.

SECTION 2 – STRUCTURE OF THE SCOPING REPORT

17. The structure of the scoping report is noted.

SECTION 3 – PLANNING CONTEXT AND HISTORY

18. The planning history of the site is noted, including the extent to which the development permitted under the existing outline planning permissions has been completed.

SECTION 4 – SITE LOCATION AND DESCRIPTION

19. The site location and description of the existing land uses and features within the site is noted, as well as the proposed extent of the application site boundary, and land parcels which are proposed to be excluded from the site boundary.

20. The site description identifies the Traveller's Rest Pit SSSI as a key feature within the site.

SECTION 5 – ENVIRONMENTAL CONTEXT

21. The description of environmental context of the site and surrounding area are noted. The scoping report identifies key features within the context of the site, linking them to environmental topics.

SECTION 6 – PROPOSED DEVELOPMENT

22. The scoping report set out that the proposal is intended to be in the form of outline planning applications with all matters reserved, except for primary site access, and is likely to comprise:
    - Up to 4,200 dwellings (Use Class C3)
    - Up to 1,675 student accommodation units (sui generis)
    - Up to 675 co-living units (sui generis)
    - Up to 6,500sqm GIA of senior living accommodation (C2)
    - Up to 100,000sqm GEA of flexible employment floorspace (E(g), F1)
    - Up to 6,000sqm GEA flexible community and commercial floorspace (E(a)-(f))
    - Up to 45ha of public open space,
    - Hard and soft landscaping,
    - Ancillary uses and plant.

23. Buildings are intended to range between 2-6 storeys (7-25m) above ground. Construction of the development is anticipated to be phased over a period of approximately 10 years.

SECTION 7 – THE OUTLINE PLANNING APPLICATION

24. The proposed contents of the outline planning application are noted.

25. It should be noted that as the site extends across the administrative boundaries of Cambridge City and South Cambridgeshire District, parallel applications will be required.

SECTION 8 – SCOPE OF THE EIA

EIA Methodology

26. The submitted Scoping Report is considered to satisfy the Scoping Opinion information requirements set out in Part 4, Paragraph 15 (2) of the 2017 Regulations.

27. Overall, the Councils support the methodological approach as set out in this section, and as expanded on in Annex A, based on the 2017 Regulations and with reference to best practice, including IEMA and other relevant guidance.

28. In addressing the scope of the proposed ES, the Council has followed the guidance on the EIA regulations provided in the National Planning Practice Guidance (NPPG).

29. Paragraph 35 of the NPPG states that the emphasis of the ES should be on the main or significant environmental effects and should be proportionate. Impacts which have little, or no significance will need only brief treatment to indicate their possible relevance has been considered.

SECTION 9 – PROPOSED STRUCTURE OF THE ES

30. The proposed structure of the ES is noted and agreed.

SECTION 10 – REQUEST FOR EIA SCOPING OPINION

31. The request for a scoping opinion is noted. The Council's opinion on the proposed scope and methodology is set out above. The Council's opinion with respect to induvial topics is set out below.

ANNEX A: APPROACH TO EIA SCOPING AND EIA METHODOLOGY

32. The approach to the consideration of alternatives is noted, as is the approach to assessment scenarios and consideration of sensitive receptors.

ANNEX B: PLANNING POLICY

33. The planning policy context to the site is noted.

ANNEX C: CUMULATIVE SCHEMES

34. A list of schemes for inclusion within the cumulative effects assessment has been compiled based on a screening criteria of submitted and/or approved applications for large-scale major developments within 1km of the site.

35. An impact assessment should identify, describe, and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment (subject to available information):
    a. existing completed projects;
    b. approved but uncompleted projects;
    c. ongoing activities;
    d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
    e. plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

36. It should be noted that are a number of infrastructure projects within the vicinity of the site, including the Cambourne to Cambridge busway where there may be potential for cumulative effects.

ANNEX D: SCOPED IN TOPIC SHEETS

AGRICULTURE AND SOILS

37. The report sets out that there is potential for significant effects in relation to agriculture and soil and as such this topic will be scoped in. A detailed Agricultural Land Classification survey was undertaken in support of the original outline applications in 2010, and an agriculture and soil assessment will be undertaken to support the ES.

38. The Councils support the scoping in of this topic and the proposed assessment methodology is considered suitable.

AIR QUALITY

39. The scoping report sets out that there is potential for significant effects in relation to air quality, and as such this topic will be scoped in. Tan air quality assessment is proposed to be included within the ES, including an assessment of available air monitoring data.

40. The Councils support the scoping in of this topic and the proposed assessment methodology is considered broadly suitable, however it has the following comments:
    - Given that air quality impacts are intrinsically limited to vehicle movements the finding of the air quality assessment will only be accepted once colleagues assessing transport impacts have agreed methodology and approach.
    - Where detailed assessments are required, we would expect roads and receptor locations to be agreed prior to assessment. Consideration should be given to impact both inside and outside the AQMA.

- Local policy including the Greater Cambridge Sustainable Design & Construction SPD and the recently adopted Greater Cambridge Air Quality Strategy (2024) which outline both councils' commitment to delivering improved air quality across greater Cambridge should be considered in the design to minimise the impact of the development on air quality longer term and incorporated into the basis of the assessment. It is worth noting that under the current Local Plans Cambridge City Council and South Cambridgeshire District Council have different approaches to assessing air quality within their districts, however this will be streamlined under the emerging local plan. The SPD outlines the approach for each council.
- Limited information has been provided on the proposed energy strategy. We would expect all relevant point sources to be considered where there is combustion emissions to air. The proposed methodology references assessment of energy centres should this approach be taken. Whilst this is acceptable, we also require the air quality assessment to consider the use of back-up generators given that the proposal includes laboratories, although we recognise detailed assessment may only be possible at the reserved matters stage. We encourage sustainable alternatives to be built into the wider design. Where diesel back-up generators are to be retained consideration of venting height and adjacent receptors should be considered at the design stage, particularly in relation to adjacent residential receptors. Given uncertainties in energy supply issues in the future there is a growing concern that these 'back up generators' could be increasingly in use leading to a significant worsening of air quality in a short period of time and exposing onsite and adjacent receptors to unacceptable pollutant levels. If proposed the air quality assessment should include a detailed assessment on the potential impact on adjacent residential sensitive receptors and demonstrate that the operation will not lead to hourly exceedances of the National Air Quality Objectives for both Nitrogen Dioxide and PM10 (with consideration also given to the recently adopted PM2.5 targets). Modelling should consider worst case and model operation for a minimum of 50 hours per annum which is the allowable operation of a back-up generator under current guidance.
- Requirements for electric vehicle charge points (EVCP) for non-residential developments is higher than those under Building Regulations. EVCP provision within these parts of the development should be in accordance with local policy as detailed in the Greater Cambridge Sustainable Design and Construction SPD (2020).
- Given the increasing demands on access to increased electricity capacity to deliver a range of environmental agendas, consideration of grid capacity and loads should be considered early on.

BUILT HERITAGE

41. The scoping report identifies there is potential for significant effects in relation to built heritage, and as such this topic is to be scoped in. Whilst there are no designated heritage assets within the site boundary, the report identifies 125 within 750m of the site, including several Grade II* listed buildings. A heritage assessment will be included within the ES.

42. The Councils support the scoping in of this topic and the proposed assessment methodology is considered broadly suitable. A townscape visual assessment should be undertaken to consider the visual impact on the views and vistas towards and from Cambridge as within the surrounding the local vicinity.

43. There are a number of additional heritage assets within 1.5km of the site, including Cambridge Castle Mound SAM, and a number of grade II* listed buildings, and due to the relatively flat topography there is potential for the development to affect assets at some distance from the site. The ES should clearly demonstrate the extent of the study area is of an appropriate size.

ECOLOGY AND BIODIVERSITY

44. The scoping report identifies the potential for significant effects relating to ecology and biodiversity and as such this topic is proposed to be scoped in. There are a wide range of species and habitats present within and in close proximity to the site, the Traveller's Rest SSSI is within the site, and two further SSSI's are within 1.8km of the site. Eversden and Wimpole Woods SAC is within 10km of the site. A range of ecological reports will accompany the ES chapter, together with a BNG assessment.

45. The Councils support the scoping in of this topic and the proposed assessment methodology is considered broadly suitable.

46. The assessment of ecology and biodiversity should be undertaken in accordance with national and local guidance, including the Greater Cambridge Biodiversity SPD, and making use of relevant standing advice and datasets available from Natural England and the Environment Agency.

47. The boundary of the Existing SSSI shown in Figure 3 (page 6) is incorrect and should be amended to be the same shape as the 10m buffer. The ES must include avoidance measures to ensure no adverse effect on the Traveller's Rest SSSI, and it is important the no activity or development disturbs, removes, obscures, or reduces access to the gravels, in order for the favourable conservation status of the SSSI to be maintained.

48. In relation to barbastelles, bat activity surveys should be undertaken to understand site usage patterns, given the proximity of Madingley Wood SSSI. ecologically sensitive lighting strategies should be produced, for construction and operation phases of development. Existing treelines, hedgerows, and woodlands should be retained, enhanced, and maintained as dark corridors for commuting and foraging. Riparian habitats should also be kept dark as these can be important foraging areas.

GROUND CONDITIONS AND LAND CONTAMINATION

49. The scoping report identifies the potential for significant effects in relation to ground conditions and land contamination, and as such this topic is proposed to be scoped in. The report identifies a range of potential sources of

contamination within and close to the site, as well as sensitive receptors including the Traveller's Rest SSSI. A Phase 1 Preliminary Risk Assessment will accompany the ES chapter.

50. The Councils support the scoping in of this topic and the proposed assessment methodology is considered suitable.

51. Attention is drawn to the Greater Cambridge Sustainable Design and Construction SPD, in particular Appendix 7: The Development of Potentially Contaminated Sites in Cambridge and South Cambridgeshire: A Developers Guide.

LANDSCAPE AND VISUAL

52. The scoping report identifies the potential for significant effects in relation to landscape and visual impacts, and as such this topic is proposed to be scoped in. A Landscape and Visual Baseline Report is appended to the Scoping Report, and a LVIA is proposed to be included within the ES.

53. The Councils support the scoping in of this topic, and the proposed assessment methodology is considered broadly suitable.

54. The type requirements and selection of viewpoints should be discussed and agreed with the Councils' landscape officers through the pre-application process.

NOISE AND VIBRATION

55. The scoping report identifies potential for significant effect in relation to noise, and as such this topic is proposed to be scoped in. A noise and vibration assessment is proposed to be included within the ES. It is noted that vibration is proposed to be scoped out due to the distance to sources of vibration.

56. The Councils support the scoping in of noise, and agree vibration can be scoped out. The proposed assessment methodology is considered broadly suitable.

57. Any detailed information supplied, which informs the content of the ES Noise Chapter must have due regard to current government / industry standards, best practice and guidance. Additionally, in order to satisfy local Environmental Health requirements any assessment and mitigation must reference and be in accordance with guidance in the relevant sections of the: Greater Cambridge Sustainable Design and Construction SPD, and in particular section 3.6 - Pollution) and further technical guidance related to noise pollution (pages 230-256).

58. It is accepted at this stage detailed design information is not available as to potential plant and equipment that may be installed by future occupiers. Detailed mitigation will need to be assessed and mitigated on a case-by-case basis when this information becomes apparent and is likely to be controlled by the imposition of planning conditions (as necessary) at the Reserved Matters/detailed design stage.

SOCIO-ECONOMICS

59. The scoping report identifies the potential for significant effects relating to socio-economics, and as such this topic is proposed to be scoped in. A socio-economic assessment is proposed to be included within the ES.

60. The Councils support the scoping in of this topic, and the proposed assessment methodology is considered suitable.

CLIMATE CHANGE AND GREENHOUSE GASES

61. The scoping report identifies the potential for significant effects relating to climate change and greenhouse gas emissions, and as such this topic is proposed to be scoped in. A climate assessment is proposed to be included within the ES.

62. The Councils support the scoping in of this topic and the proposed assessment methodology is considered broadly suitable.

63. It is recommended as a baseline that the climate risks highlighted in the UK Climate Change Risk Assessment 2022 be used, with particular reference to Priority Risk Area 7 (risks to human health, wellbeing and productivity from increased exposure to heat in homes and other buildings) as well as flood risk and risks associated with land instability.

64. The scoping report suggest that no further reports are required in relation to climate change, however a site-wide Sustainability Strategy and Energy Strategy will be required to accompany the planning applications.

TRAFFIC AND MOVEMENT

65. The scoping report identifies the potential for significant effects relating to traffic and movement, and as such this topic is proposed to be scoped in. It is noted that the ES chapter on traffic is proposed to be accompanied by a Transport Assessment (TA), Travel Plan, Delivery and Servicing Plan, and Construction Management Plan.

66. The Councils support the scoping on of this topic, and the proposed assessment methodology is considered acceptable.

67. The applicant should ensure that the transport data used in the ES and the TA are from the same source to ensure consistency between the two documents.

68. The application will need to take account of the interaction of the site with the strategic road network, principally the M11, as well as identifying any necessary mitigation. The assessment should be undertaken in accordance with DfT Circular 01/2022 "The Strategic Road Network and the Delivery of Sustainable development" or subsequent iterations of the document, and other relevant guidance.

69. National Highways have advised they agree with the inclusion of SRN

junctions within the Study Area. Further to this, we request the Applicant to provides information on the trip distribution, providing flow diagrams which include the junctions with the SRN in the vicinity of the proposed development. If the proposed development proposes to generate an increase of 30 two-way movements or more on any junctions on the Strategic Road Network within a peak period (AM or PM), they expect a capacity assessment to be undertaken to assess the impact of the proposed trips on the affected junctions and provide mitigations, if required. Where a junction capacity assessment could potentially be required, they ask that National Highways are consulted early during the TA scoping process to ensure impacts to the SRN are appropriately assessed.

70. A Construction Traffic Management Plan (CTMP) should be submitted as part of a future planning application, The CTMP should include (but not limited to) agreement on travel routes during construction and operation to and from the M11 to the proposed development site and measures to minimise delivery of construction materials during peak periods.

WATER RESOURCES, FLOOD RISK, AND DRAINAGE

71. The scoping report identifies there is potential for significant effects relation to water resources, flood risk and drainage, and as such this topic is proposed to be scoped in. The ES chapter on this topic is proposed to be supported by a Flood Risk Assessment and Outline Drainage Strategy.

72. The Councils support the scoping in of this topic, and the proposed assessment methodology is considered to be broadly suitable.

73. The outline applications should be accompanied by a full flood risk assessment and/or surface water drainage strategy, prepared in accordance with national and local guidance, including the Cambridgeshire Flood and Water SPD 2018, and taking into account the relevant Surface Flood Risk Assessment and Surface Water Management Plan.

74. Only a small part of the site is shown to be in Flood Zone 2 on the EA's Flood Map for Planning, this flood zone extent is based on broadscale JFlow modelling which should only be considered indicative. In addition, part of the ordinary watercourse (Washpit Brook) that runs across the site has not been modelled. As such, detailed modelling of Washpit Brook should be undertaken as part of a site-specific Flood Risk Assessment (FRA) to define the flood zones extents at the site and to assess the impacts of climate change on flood risk. The EA should be consulted on any modelling undertaken as part of the FRA so they can review this and determine whether it is fit for purpose.

75. A sequential approach should be taken to the site layout, with all vulnerable aspects of the development located in Flood Zone 1. Opportunities for reducing flood risk downstream of the site to be fully considered as part of the FRA and ES.

76. In relation to water resources, the proposed development represents an uplift on the current development plan allocation for this site, and in the absence of an up-to-date DEFRA approved WRMP that includes for this uplift, it is

recommended that potable water supply be fully scoped into the ES, with reference to the latest WRMP from Cambridge Water (February 2024).

77. The water used during the construction phase needs to be scoped in and considered separately to the water to be used during the operational phase of the development. Most water related construction activities, including dewatering and dust suppression, are licensable activities if they abstract more than 20 cubic metres a day. Therefore, early consideration should be given to where the water can be sourced from if Cambridge Water Company is not the provider. New consumptive groundwater licences are not available, and surface water is restricted to high flows only. New dewatering will need to demonstrate that it is non-consumptive to the local environment to obtain an abstraction licence. Dewatering by other means, for example, construction of drainage ditches, needs to be discussed with the Lead Local Flood Authority (LLFA).

78. In relation to operational water supply, non-residential demand and residential demand be dealt with separately whenever possible. The development should aim for the highest level of water efficiency in both domestic and non-domestic buildings. It should be noted that CWC is heavily reliant on the success of demand management measures to maintain customer supplies until new strategic sustainable supplies of water can be developed. Planning applications should seek to achieve greater water efficiency and re-use in their designs (beyond the standards within current adopted local plan policies) wherever possible to help CWC meet their water efficiency targets.

79. The development is on the edge of the Cambridge Waste Water Treatment Works (WWTW) and Uttons Drove WWTW catchments. Capacity at the local water recycling centre could have implications for the development and you should be satisfied that the local water recycling centre has sufficient capacity to take wastewater flows associated with the proposed development.

80. Whilst table 3 –Scope of the EIA states that "Water Resources, Flood Risk and Drainage" will be scoped in to the 'enabling, demolition and construction' as well as the 'completed development' phases of the EIA, WWTW capacity is not currently mentioned in the scoping documents. It is essential that the EIA process takes WWTW capacity into consideration and must provide further details on how flows will be routed and subsequently treated at a works with sufficient capacity. The EA have indicated that there may be limitations in capacity at the local WWTWs and recommend Water Quality is scoped in to the ES.

ANNEX E: SCOPED OUT TOPIC SHEETS

ARCHAEOLOGY

81. The scoping report identifies that significant effects relating to archaeology are unlikely, and as such this topic proposed to be scoped out of the ES. Archaeological assessment and mitigation has been undertaken for the site in relation to the OPP.

82. The Councils are satisfied that archaeology can be scoped out of the ES.

83. The scoping report makes reference to evaluation reports, and a single report on the final phase of excavation, but does not refer to reports on previous excavations. The works are also incorrectly referred to as a “watching brief,” whereas they comprised set-piece excavations, prior to construction activity. These errors should be corrected in the ES.

DAYLIGHT, SUNLIGHT, OVERSHADOWING, SOLAR GLARE, AND LIGHT POLLUTION

84. The scoping report identifies that significant effects in relation to this topic are unlikely, and as such it is proposed to be scoped out of the ES. An outline lighting strategy is expected to be submitted as part of the ES to inform the assessment in relation to other topics.

85. The Councils are satisfied that this topic can be scoped out of the ES.

86. By virtue of the nature, size, and location of the development, it will increase lighting levels and result in a change to the lighting environment in the area. Whilst this will be considered at the detailed design stage, it would be beneficial to consider impacts early on.

87. Supporting documents should include consideration of any artificial lighting impacts in accordance with the Institute of Lighting Professionals “Guidance Notes for the Reduction of Obtrusive Light”. It should be made clear for easy reference where the artificial lighting is to be installed and an assessment will need to be presented within the document. The artificial lighting impact assessment will be required to establish lighting during pre and post curfew, in accordance with the ILP guidance notes. The assessment of light intrusion into receptor windows as vertical lux levels is also required.

HUMAN HEALTH

88. The scoping report identifies that significant effects in relation to human health are unlikely, and as such this topic is proposed to be scoped out of the ES. A Health Impact Assessment (HIA) is proposed to be undertaken to support the outline planning applications.

89. The Councils are satisfied that human health can be scoped out of the ES, although human health linkages will need to be considered through other topic areas as set out in the scoping report.

90. The approach to HIA should be discussed with officers prior to submission.

PROJECT VULNERABILITY (MAJOR ACCIDENTS AND DISASTERS)

91. The scoping report identifies that significant effects relating to vulnerability are unlikely. It is noted that interactions with other topics will be considered in the relevant sections of the ES.

92. The Councils are satisfied that project vulnerability can be scoped out of the ES.

WASTE AND MATERIALS

93. The scoping report identifies that significant effects in relation to waste and materials are unlikely, and as such this topic is proposed to be scooped out of the ES. Construction waste is intended to be controlled through the CEMP, whilst operation waste from the development is proposed to be managed through an outline waste management strategy.

94. The Councils are satisfied that waste and materials can be scoped out of the ES. The waste strategy for the development should be developed with reference to the GCSW Waste Storage & Collection Guidance for Developers.

WIND MICROCLIMATE

95. The scoping report identifies that significant effects in relation to wind microclimate are unlikely, and as such this topic is proposed to be scoped out of the ES.

96. The Council is satisfied that wind microclimate can be scoped out of the ES.

ANNEX F-I

97. The appended ecology consultation, landscape and visual baseline report, WSI, and archaeological report are noted.

END

Appendix: EIA Methodology

Annex 1: EIA Scoping Report
Annex 2: EIA Scoping Opinion
Annex 3: Cumulative schemes List and Map

TRIUM

ANNEX 3: CUMULATIVE SCHEMES

The EIA Regulations require that, in assessing the effects of a particular development proposal, consideration should also be given to the likely significant effects arising from the "*cumulation of effects with other existing and/or approved projects*" (Schedule 4, 5(e)). Table 1 presents the list of cumulative schemes that have been considered within the cumulative effects assessment of the technical chapters.

Generally, the criteria for the cumulative schemes included within the cumulative effects assessment typically include the following:

- Development within 1km of the site that is subject to a planning application (and is either yet to be determined, have full planning consent or a resolution to grant), comprising either:
  - An uplift of more than 10,000 m^2 (Gross External Area (GEA) of mixed-use floorspace), or over 150 residential units; Or
  - Any office to residential conversions (granted under the General Permitted Development Order) giving rise to more than 150 residential units; Or
  - Any development/ change of use adjacent to the site.

The criteria listed above have been set to allow all the schemes coming forward within the South Cambridge District Council and Cambridge City Council to be subject to an initial screening exercise to determine the schemes that, based on the scale of redevelopment (amount and mix of uses), could potentially have a cumulative effect with the Proposed Development and should be considered further within the cumulative effects assessment of the EIA.

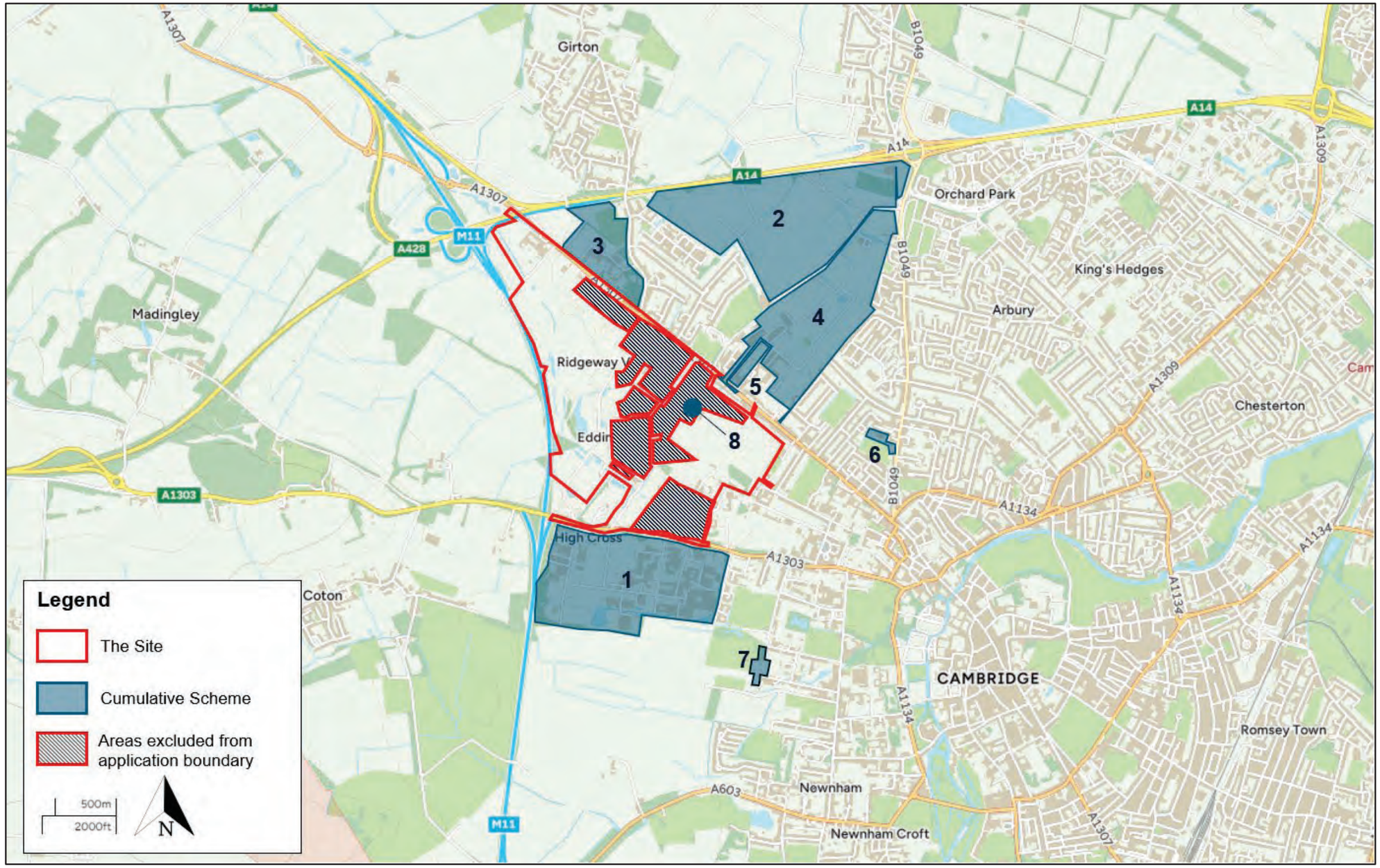
A map has been provided as Figure 1, which shows the approximate location of the cumulative schemes list in Table 1.

Table 1 Cumulative Schemes

No.	Address	Reference	Description	Status
1	West Cambridge Site Madingley Road Cambridge Cambridgeshire	16/1134/OUT	Outline planning permission with all matters reserved is sought for up to 383,300m^2 of development comprising up to 370,000m^2 of academic floorspace (Class D1 space), commercial/research institute floorspace (Class B1b and sui generis research uses), of which not more than 170,000m^2 will be commercial floorspace (Class B1b), up to 2,500m^2 nursery floorspace (Class D1), up to 4,000m^2 of retail/food and drink floorspace (Classes A1-A5), up to 4,100m^2 and not less than 3,000m^2 for assembly and leisure floorspace (Class D2), up to 5,700m^2 of sui generis uses, including Energy Centre and Data Centre, associated infrastructure including roads (including adaptations to highway junctions on Madingley Road), pedestrian, cycle and vehicle routes, parking, drainage, open spaces, landscaping and earthworks, and demolition of existing buildings and breaking up of hardstanding.	Approved 21 June 2024
2	Darwin Green Phases Two And Three Development Site Cambridge Road Impington Cambridgeshire	22/02528/OUT	Outline planning permission (all matters reserved except for means of access) for up to 1,000 residential dwellings, secondary school, primary school, community facilities, retail uses, open space and landscaped areas, associated engineering, demolition and infrastructure works	Application submitted May 2022 Appeal for non-determination Awaiting Decision
3	Girton College Huntingdon Road Girton CB3 0JG	22/00887/OUT	Outline application for the construction of student residential accommodation together will ancillary meeting, office and social space (maximum 14700m^2), auditorium (maximum 1300m^2) replacement buildings and grounds maintenance workshops, one new and relocated sports pitch, additional ball-stop fencing, relocated tennis courts, a new vehicular access and replacement car park with some matters reserved except for access.	Awaiting Decision
4	Darwin Green Phase One Development Site Huntingdon Road Cambridge Cambridgeshire	07/0003/OUT	Mixed use development comprising up to 1593 dwellings, primary school, community facilities, retail units (use classes A1, A2, A3, A4 and A5) and associated infrastructure including vehicular, pedestrian and cycleway accesses, open space and drainage works.	Approved 18 December 2013
		14/0086/REM	Reserved Matters of 07/0003/OUT for access roads, pedestrian and cycle paths, public open space, services across the site and one allotment site.	Approved 19 June 2014 Under Construction
		15/1670/REM	Reserved Matters for 114 residential units and local centre including library, community rooms, health centre and retail units pursuant to outline consent 07/0003/OUT.	Approved 23 May 2016 Under Construction (Significantly Progressed)
		16/0208/REM	Reserved Matters Application for first housing phase (known as BDW1) including 173 dwellings with associated internal roads, car parking, landscaping, amenity and public open space.	Approved 27 May 2016 Completed
		21/03619/REM	Reserved Matters Application for fifth and sixth housing phases and Allotment 3 (collectively known as BDW5 and 6) including 410 dwellings and allotments with associated internal roads, car parking, landscaping, amenity and public open space.	Approved 22 December 2021 Under Construction

		21/04431/REM	Reserved Matters Application for second housing phase (known as BDW2) including 323 dwellings with associated internal roads, car parking, landscaping, amenity and public open space.	Approved 26 July 2022 Under Construction
		21/05433/REM	Reserved Matters application for the fourth housing phase (known as BDW4) including 342 dwellings, with associated internal roads, car parking, landscaping, amenity and public open space.	Approved 22 December 2022 Under Construction
		21/05434/REM	Reserved Matters application for third housing phase (known as BDW3) including 210 dwellings with associated internal roads, car parking, landscaping, amenity and public open space.	Approved 27 April 2023 Not Commenced
5	National Institute of Agricultural Botany (NIAB) Huntingdon Road Cambridge Cambridgeshire CB3 0LE	21/03609/FUL	Retention of the former NIAB Headquarters building, the demolition of all other buildings and structures, and the erection of buildings with basements for 291 Build to Rent units (Use Class C3) including affordable housing and a 202 bed Apart-Hotel (Sui Generis) and associated facilities along with access, car and cycle parking, landscaping and infrastructure works.	Approved 2 February 2024
		23/04643/OUT	Outline application for the demolition of all site buildings and structures other than Chapter House and erection of buildings for a laboratory/office campus (Class E (g(i)) and (g(ii))) and associated facilities, cafe (class E(b)), access, car and cycle parking, revised access, car and cycle parking and refuse storage for the retained Chapter House with some matters reserved except for access, layout and scale.	Awaiting Decision
6	137 and 143 Histon Road Cambridge Cambridgeshire CB4 3HZ	24/01354/FUL	Erection of 70 dwellings including access, car parking, cycle storage, substation, landscaping and associated works.	Awaiting Decision
7	Grange Farm Site Land South Of Wilberforce Road Cambridge Cambridgeshire	21/02052/FUL	Demolition of existing buildings/structures and the erection of college accommodation comprising 39 townhouses with 245 student and academic staff bedrooms	Approved 1 March 2022 Under Construction
8	Gusto Mills Huntingdon Road Cambridge Cambridgeshire CB3 0DL	24/02324/FUL	Demolition of existing structures and construction of extra care apartments (Class C2) with access, car parking, cycle parking, refuse storage, landscaping, boundary treatments, substation, solar PV and other associated works.	Awaiting Decision

Figure 1 Cumulative Schemes



Appendix: Traffic and Movement

Annex 1: Baseline and Future Year Traffic Flows

Annex 2: Road Links

TRIUM

Appendix: Traffic and Movement

Annex 1: Baseline and Future Year Traffic Flows

Annex 2: Road Links

TRIUM

24 hour AADT Link Flows - Total Vehicles

Link Ref.	2024 Existing	2027 Future Baseline (No Redistribution)	2033 Future Baseline (No Redistribution)	2038 Future Baseline (No Redistribution)	2027 Future Baseline (With Redistribution)	2033 Future Baseline (With Redistribution)	2038 Future Baseline (With Redistribution)	2027 Future Baseline + Development	2033 Future Baseline + Development	2038 Future Baseline + Development
1	4,612	4,874	4,952	5,203	4,874	4,952	5,203	4,874	4,952	5,389
2	4,213	4,778	4,932	5,163	4,778	4,932	5,163	4,791	5,060	5,972
3	7,455	8,265	8,491	8,967	8,265	8,491	8,967	8,278	8,620	9,962
4	3,379	3,463	3,463	3,690	3,463	3,463	3,690	3,476	3,577	4,488
5	37	37	37	37	37	37	37	37	37	37
6	10,414	11,307	11,533	11,913	11,307	11,533	11,913	11,334	11,776	13,706
7	10,601	11,217	11,353	12,056	9,921	10,049	10,584	9,921	10,164	11,783
8	5,949	11,114	11,274	11,644	11,114	11,274	11,644	11,114	11,288	11,757
9	17	17	17	17	17	17	17	17	17	17
10	14,263	20,043	20,339	21,413	18,747	19,035	19,940	18,747	19,158	21,227
11	13,659	19,315	19,924	20,727	19,315	19,924	20,727	19,315	20,411	22,180
12	221	221	221	221	221	221	221	221	221	221
13	14,111	19,939	20,566	21,394	19,939	20,566	21,394	19,939	21,053	22,847
14	1,539	5,698	6,933	7,761	5,698	6,933	7,761	5,698	6,933	7,761
15	14,326	19,448	20,057	20,057	19,448	20,057	20,057	19,448	20,544	21,510
16	10,766	10,833	10,833	11,261	10,833	10,833	11,261	10,833	11,141	11,971
17	9,025	9,627	9,925	9,925	9,627	9,925	9,925	9,627	10,029	10,388
18	15,863	16,531	16,829	17,257	16,531	16,829	17,257	16,531	17,241	18,430
19	11,005	11,005	11,005	11,005	11,005	11,005	11,005	11,005	11,005	11,005
20	3,443	7,179	7,319	7,747	7,179	7,319	7,747	7,179	7,394	8,027
21	9,551	10,443	10,455	12,859	10,443	10,455	12,859	10,443	10,530	13,139
22	3,400	5,532	5,586	5,864	5,532	5,586	5,864	5,532	5,586	5,864
23	10,874	13,433	13,507	16,618	13,433	13,507	16,618	13,433	13,507	16,618
24	4,874	7,158	7,314	9,122	5,885	6,033	7,677	5,885	6,420	10,045
25	6,179	8,463	8,619	10,461	7,190	7,338	9,015	7,190	7,724	11,384
26	1,689	1,689	1,689	1,689	1,689	1,689	1,689	1,689	1,689	1,689
27	0	0	0	0	0	0	0	23	56	2,568
28	3,519	3,519	3,519	3,519	3,519	3,519	3,519	3,543	3,575	6,087
29	4,874	7,158	7,314	9,122	5,885	6,033	7,677	5,885	6,420	10,045
30	4,802	6,931	7,087	8,895	6,931	7,087	8,895	6,931	7,514	11,498
31	17,322	19,695	19,856	30,186	19,695	19,856	30,186	19,708	19,894	30,399
32	7,436	7,507	7,507	10,756	7,507	7,507	10,756	7,519	7,713	11,342
33	17,306	19,751	19,912	31,179	19,751	19,912	31,179	19,782	20,172	31,979
34	7,717	7,790	7,790	10,732	7,790	7,790	10,732	7,809	8,043	11,353
35	16,923	19,442	19,603	26,626	19,442	19,603	26,626	19,465	20,052	28,039
36	3,266	3,266	3,266	4,771	3,266	3,266	4,771	3,266	3,266	4,771
37	15,840	18,358	18,519	25,542	18,358	18,519	25,542	18,382	18,969	26,956
38	6,409	8,537	8,693	10,501	8,537	8,693	10,501	8,561	9,176	12,214
39	3,135	3,581	3,581	9,590	3,581	3,581	9,590	3,581	3,581	9,590
40	13,080	15,782	15,782	19,506	15,782	15,782	19,506	15,782	15,815	19,806
41	1,016	1,016	1,016	1,137	1,016	1,016	1,137	1,016	1,016	1,137
42	2,711	2,711	2,711	7,914	2,711	2,711	7,914	2,711	2,711	7,914
43	14,114	16,816	16,816	25,301	16,816	16,816	25,301	16,816	16,849	25,600
44	69	69	69	69	69	69	69	69	69	69
45	750	750	750	1,490	750	750	1,490	750	750	1,490
46	13,311	15,897	15,897	24,755	15,897	15,897	24,755	15,897	15,930	25,054
47	14,025	17,101	17,101	20,234	17,101	17,101	20,234	17,101	17,134	20,533
48	970	970	970	5,653	970	970	5,653	970	970	5,653
49	103	550	550	1,487	550	550	1,487	550	550	1,487
50	1,021	1,468	1,468	5,213	1,468	1,468	5,213	1,468	1,468	5,213
51	1,773	1,773	1,773	6,713	1,773	1,773	6,713	1,773	1,773	6,713
52	420	420	420	420	420	420	420	420	420	420
53	90,514	94,664	102,900	114,088	94,664	102,900	114,088	94,730	103,443	115,306
54	74,438	77,726	84,500	88,296	77,726	84,500	88,296	77,757	84,575	88,306
55	109,387	114,889	125,002	131,061	114,889	125,002	131,061	114,968	125,366	132,684
56	0	0	0	0	1,273	1,281	1,446	1,299	1,638	2,437
57	0	0	0	0	1,273	1,281	1,446	1,273	2,094	2,959

24 hour AADT Link Flows - HDVs

Link Ref.	2024 Existing	2027 Future Baseline (No Redistribution)	2033 Future Baseline (No Redistribution)	2038 Future Baseline (No Redistribution)	2027 Future Baseline (With Redistribution)	2033 Future Baseline (With Redistribution)	2038 Future Baseline (With Redistribution)	2027 Future Baseline + Development	2033 Future Baseline + Development	2038 Future Baseline + Development
1	156	156	156	156	156	156	156	156	156	156
2	140	140	140	140	140	140	140	147	163	151
3	253	253	253	253	253	253	253	259	275	263
4	122	122	122	122	122	122	122	129	145	132
5	16	16	16	16	16	16	16	16	16	16
6	387	387	387	387	387	387	387	400	432	407
7	398	398	398	398	398	398	398	398	398	408
8	221	221	221	221	221	221	221	221	221	221
9	0	0	0	0	0	0	0	0	0	0
10	524	524	524	524	524	524	524	524	524	534
11	331	331	331	331	331	331	331	331	331	331
12	8	8	8	8	8	8	8	8	8	8
13	461	461	461	461	461	461	461	461	461	461
14	39	39	39	39	39	39	39	39	39	39
15	466	466	466	466	466	466	466	466	466	466
16	652	652	652	652	652	652	652	652	652	652
17	365	365	365	365	365	365	365	365	365	365
18	709	709	709	709	709	709	709	709	709	709
19	361	361	361	361	361	361	361	361	361	361
20	316	316	316	316	316	316	316	316	316	316
21	491	491	491	491	491	491	491	491	491	491
22	599	599	599	599	599	599	599	599	599	599
23	724	724	724	724	724	724	724	724	724	724
24	83	83	83	83	83	83	83	83	83	93
25	106	106	106	106	106	106	106	106	106	116
26	85	85	85	85	85	85	85	85	85	85
27	0	0	0	0	0	0	0	11	40	34
28	149	149	149	149	149	149	149	161	189	183
29	83	83	83	83	83	83	83	83	83	93
30	85	85	85	85	85	85	85	85	85	105
31	1,195	1,195	1,195	1,195	1,195	1,195	1,195	1,202	1,217	1,213
32	525	525	525	525	525	525	525	531	546	535
33	994	994	994	994	994	994	994	1,009	1,047	1,023
34	546	546	546	546	546	546	546	555	577	557
35	630	630	630	630	630	630	630	642	670	665
36	238	238	238	238	238	238	238	238	238	238
37	810	810	810	810	810	810	810	822	850	845
38	219	219	219	219	219	219	219	230	259	253
39	120	120	120	120	120	120	120	120	120	120
40	728	728	728	728	728	728	728	728	728	728
41	70	70	70	70	70	70	70	70	70	70
42	173	173	173	173	173	173	173	173	173	173
43	786	786	786	786	786	786	786	786	786	786
44	4	4	4	4	4	4	4	4	4	4
45	2	2	2	2	2	2	2	2	2	2
46	791	791	791	791	791	791	791	791	791	791
47	501	501	501	501	501	501	501	501	501	501
48	24	24	24	24	24	24	24	24	24	24
49	10	10	10	10	10	10	10	10	10	10
50	29	29	29	29	29	29	29	29	29	29
51	113	113	113	113	113	113	113	113	113	113
52	14	14	14	14	14	14	14	14	14	14
53	13,960	14,577	15,847	16,559	14,577	15,847	16,559	14,609	15,959	16,587
54	12,694	13,255	14,410	15,057	13,255	14,410	15,057	13,270	14,464	15,064
55	25,293	26,410	28,711	30,001	26,410	28,711	30,001	26,448	28,844	30,032
56	0	0	0	0	0	0	0	13	45	10
57	0	0	0	0	0	0	0	0	0	10

1: 2033 Future Baseline (With Redistribution)
2: 2033 Future Baseline + Development + Construction

Screening for Rule 1 and Rule 2

Link Ref.	Link Name	Sensitivity	New Link	Total Vehicles				HDVs				Screened	
				2033 Future Baseline (With Redistribution)	2033 Future Baseline + Development	Net Change	% Change	2033 Future Baseline (With Redistribution)	2033 Future Baseline + Development	Net Change	% Change	Tot. Vehs.	HGVs
1	A1307 (West of Girton West Rbt)	Negligible		4,952	4,952	0	0.0%	156	156	0	0.0%	-	-
2	M11 On-Slip (North of Girton West Rbt)	Negligible		4,932	5,060	129	2.6%	140	163	23	16.4%	-	-
3	A1307 (East of Girton West Rbt)	Negligible		8,491	8,620	129	1.5%	253	275	23	9.1%	-	-
4	M11 Off-Slip (North of Girton East Rbt)	Negligible		3,463	3,577	114	3.3%	122	145	23	18.9%	-	-
5	Access Road (South of Girton East Rbt)	Negligible		37	37	0	0.0%	16	16	0	0.0%	-	-
6	A1307 (West of West Parcel Site Access)	Low		11,533	11,776	243	2.1%	387	432	45	11.6%	-	-
7	A1307 (East of West Parcel Site Access)	Low		10,049	10,164	115	1.1%	398	398	0	0.0%	-	-
8	Girton Road	Medium		11,274	11,288	14	0.1%	221	221	0	0.0%	-	-
9	Bunker's Hill	Medium		17	17	0	0.0%	0	0	0	-	-	-
10	A1307 (West of Eddington Road)	Low		19,035	19,158	123	0.6%	524	524	0	0.0%	-	-
11	A1307 (East of Eddington Road)	Low		19,924	20,411	487	2.4%	331	331	0	0.0%	-	-
12	Whitehorse Lane	Low		221	221	0	0.0%	8	8	0	0.0%	-	-
13	A1307 (East of Whitehorse Lane)	Low		20,566	21,053	487	2.4%	461	461	0	0.0%	-	-
14	Lawrence Weaver Road	Low		6,933	6,933	0	0.0%	39	39	0	0.0%	-	-
15	A1307 (East of Lawrence Weaver Road)	Low		20,057	20,544	487	2.4%	466	466	0	0.0%	-	-
16	Histon Road	Medium		10,833	11,141	308	2.8%	652	652	0	0.0%	-	-
17	A1134 Victoria Road (North of Histon Road)	Low		9,925	10,029	104	1.0%	365	365	0	0.0%	-	-
18	A1134 Victoria Road (South of Histon Road)	Low		16,829	17,241	412	2.4%	709	709	0	0.0%	-	-
19	Mount Pleasant	High		11,005	11,005	0	0.0%	361	361	0	0.0%	-	-
20	Castle Street (East of Mount Pleasant)	Medium		7,319	7,394	75	1.0%	316	316	0	0.0%	-	-
21	Chesterton Lane	Medium		10,455	10,530	75	0.7%	491	491	0	0.0%	-	-
22	Magdalene Street	High		5,586	5,586	0	0.0%	599	599	0	0.0%	-	-
23	Northampton Street	High		13,507	13,507	0	0.0%	724	724	0	0.0%	-	-
24	Turing Way (North)	Medium		6,033	6,420	386	6.4%	83	83	0	0.0%	-	-
25	Eddington Avenue (South of A1307)	Low		7,338	7,724	386	5.3%	106	106	0	0.0%	-	-
26	Eddington Avenue (near Sainsbury's Access)	Medium		1,689	1,689	0	0.0%	85	85	0	0.0%	-	-
27	Garrod Street (East Parcel Site Access)	Medium	New	0	56	56	-	0	40	40	-	Y	Y
28	Eddington Avenue (South of Garrod Street)	Medium		3,519	3,575	56	1.6%	149	189	40	26.8%	-	-
29	Turing Way (North of Site Access)	Medium		6,033	6,420	386	6.4%	83	83	0	0.0%	-	-
30	Turing Way (South of Site Access)	Medium		7,087	7,514	427	6.0%	85	85	0	0.0%	-	-
31	Madingley Road (West of M11 Off-Slip)	Negligible		19,856	19,894	38	0.2%	1,195	1,217	21	1.8%	-	-
32	M11 Off-Slip (South of Madingley Road)	Negligible		7,507	7,713	207	2.8%	525	546	21	4.0%	-	-
33	Madingley Road (Between Slips)	Negligible		19,912	20,172	260	1.3%	994	1,047	53	5.3%	-	-
34	M11 On-Slip (South of Madingley Road)	Negligible		7,790	8,043	254	3.3%	546	577	32	5.9%	-	-
35	Madingley Road (West of P&R Access)	Low		19,603	20,052	450	2.3%	630	670	40	6.3%	-	-
36	P&R Access	Low		3,266	3,266	0	0.0%	238	238	0	0.0%	-	-
37	Madingley Road (West of Eddington Avenue)	Low		18,519	18,969	450	2.4%	810	850	40	4.9%	-	-
38	Eddington Avenue (North of Madingley Road)	Low		8,693	9,176	483	5.6%	219	259	40	18.3%	-	-
39	No Name Road	Low		3,581	3,581	0	0.0%	120	120	0	0.0%	-	-
40	Madingley Road (East of Eddington Avenue)	Low		15,782	15,815	33	0.2%	728	728	0	0.0%	-	-
41	Madingley Rise	Low		1,016	1,016	0	0.0%	70	70	0	0.0%	-	-
42	JJ Thomson Avenue	Low		2,711	2,711	0	0.0%	173	173	0	0.0%	-	-
43	Madingley Road (East of Madingley Rise)	Low		16,816	16,849	33	0.2%	786	786	0	0.0%	-	-
44	Observatory Access	High		69	69	0	0.0%	4	4	0	0.0%	-	-
45	Clerk Maxwell Road	Medium		750	750	0	0.0%	2	2	0	0.0%	-	-
46	Madingley Road (East of Clerk Maxwell Road)	Low		15,897	15,930	33	0.2%	791	791	0	0.0%	-	-
47	A1134 Queen's Road	Low		17,101	17,134	33	0.2%	501	501	0	0.0%	-	-
48	High Cross	Low		970	970	0	0.0%	24	24	0	0.0%	-	-
49	Ada Lovelace Road	Low		550	550	0	0.0%	10	10	0	0.0%	-	-
50	Charles Babbage Road (West of No Name Road)	Low		1,468	1,468	0	0.0%	29	29	0	0.0%	-	-
51	Charles Babbage Road (East of No Name Road)	Low		1,773	1,773	0	0.0%	113	113	0	0.0%	-	-
52	Charles Babbage Road (East of JJ Thomson Ave)	Medium		420	420	0	0.0%	14	14	0	0.0%	-	-
53	M11 (South of Slips)	Negligible		102,900	103,443	542	0.5%	15,847	15,959	112	0.7%	-	-
54	M11 (Between Slips)	Negligible		84,500	84,575	75	0.1%	14,410	14,464	54	0.4%	-	-
55	M11 (North of Slips)	Negligible		125,002	125,366	364	0.3%	28,711	28,844	132	0.5%	-	-
56	Cartwright Avenue - North	Medium	New	1,281	1,638	358	28.0%	0	45	45	-	Y	Y
57	Cartwright Avenue - East	Medium	New	1,281	2,094	814	63.6%	0	0	0	-	Y	Y

1: 2038 Future Baseline (With Redistribution)
2: 2038 Future Baseline + Development

Screening for Rule 1 and Rule 2

Link Ref.	Link Name	Sensitivity	New Link	Total Vehicles				HDVs				Screened	
				2038 Future Baseline (With Redistribution)	2038 Future Baseline + Development	Net Change	% Change	2038 Future Baseline (With Redistribution)	2038 Future Baseline + Development	Net Change	% Change	Tot. Vehs.	HGVs
1	A1307 (West of Girton West Rbt)	Negligible		5,203	5,389	186	3.6%	156	156	0	0.0%	-	-
2	M11 On-Slip (North of Girton West Rbt)	Negligible		5,163	5,972	808	15.6%	140	151	10	7.1%	-	-
3	A1307 (East of Girton West Rbt)	Negligible		8,967	9,962	995	11.1%	253	263	10	4.0%	-	-
4	M11 Off-Slip (North of Girton East Rbt)	Negligible		3,690	4,488	798	21.6%	122	132	10	8.2%	-	-
5	Access Road (South of Girton East Rbt)	Negligible		37	37	0	0.0%	16	16	0	0.0%	-	-
6	A1307 (West of West Parcel Site Access)	Low		11,913	13,706	1,793	15.1%	387	407	20	5.2%	-	-
7	A1307 (East of West Parcel Site Access)	Low		10,584	11,783	1,199	11.3%	398	408	10	2.5%	-	-
8	Girton Road	Medium		11,644	11,757	114	1.0%	221	221	0	0.0%	-	-
9	Bunker's Hill	Medium		17	17	0	0.0%	0	0	0	-	-	-
10	A1307 (West of Eddington Road)	Low		19,940	21,227	1,287	6.5%	524	534	10	1.9%	-	-
11	A1307 (East of Eddington Road)	Low		20,727	22,180	1,453	7.0%	331	331	0	0.0%	-	-
12	Whitehorse Lane	Low		221	221	0	0.0%	8	8	0	0.0%	-	-
13	A1307 (East of Whitehorse Lane)	Low		21,394	22,847	1,453	6.8%	461	461	0	0.0%	-	-
14	Lawrence Weaver Road	Low		7,761	7,761	0	0.0%	39	39	0	0.0%	-	-
15	A1307 (East of Lawrence Weaver Road)	Low		20,057	21,510	1,453	7.2%	466	466	0	0.0%	-	-
16	Histon Road	Medium		11,261	11,971	710	6.3%	652	652	0	0.0%	-	-
17	A1134 Victoria Road (North of Histon Road)	Low		9,925	10,388	463	4.7%	365	365	0	0.0%	-	-
18	A1134 Victoria Road (South of Histon Road)	Low		17,257	18,430	1,173	6.8%	709	709	0	0.0%	-	-
19	Mount Pleasant	High		11,005	11,005	0	0.0%	361	361	0	0.0%	-	-
20	Castle Street (East of Mount Pleasant)	Medium		7,747	8,027	280	3.6%	316	316	0	0.0%	-	-
21	Chesterton Lane	Medium		12,859	13,139	280	2.2%	491	491	0	0.0%	-	-
22	Magdalene Street	High		5,864	5,864	0	0.0%	599	599	0	0.0%	-	-
23	Northampton Street	High		16,618	16,618	0	0.0%	724	724	0	0.0%	-	-
24	Turing Way (North)	Medium		7,677	10,045	2,369	30.9%	83	93	10	12.1%	Y	-
25	Eddington Avenue (South of A1307)	Low		9,015	11,384	2,369	26.3%	106	116	10	9.5%	-	-
26	Eddington Avenue (near Sainsbury's Access)	Medium		1,689	1,689	0	0.0%	85	85	0	0.0%	-	-
27	Garrod Street (East Parcel Site Access)	Medium	New	0	2,568	2,568	-	0	34	34	-	Y	Y
28	Eddington Avenue (South of Garrod Street)	Medium		3,519	6,087	2,568	73.0%	149	183	34	22.8%	Y	-
29	Turing Way (North of Site Access)	Medium		7,677	10,045	2,369	30.9%	83	93	10	12.1%	Y	-
30	Turing Way (South of Site Access)	Medium		8,895	11,498	2,603	29.3%	85	105	20	23.4%	-	-
31	Madingley Road (West of M11 Off-Slip)	Negligible		30,186	30,399	212	0.7%	1,195	1,213	17	1.4%	-	-
32	M11 Off-Slip (South of Madingley Road)	Negligible		10,756	11,342	586	5.4%	525	535	10	1.9%	-	-
33	Madingley Road (Between Slips)	Negligible		31,179	31,979	801	2.6%	994	1,023	29	2.9%	-	-
34	M11 On-Slip (South of Madingley Road)	Negligible		10,732	11,353	621	5.8%	546	557	11	2.0%	-	-
35	Madingley Road (West of P&R Access)	Low		26,626	28,039	1,413	5.3%	630	665	34	5.4%	-	-
36	P&R Access	Low		4,771	4,771	0	0.0%	238	238	0	0.0%	-	-
37	Madingley Road (West of Eddington Avenue)	Low		25,542	26,956	1,413	5.5%	810	845	34	4.2%	-	-
38	Eddington Avenue (North of Madingley Road)	Low		10,501	12,214	1,713	16.3%	219	253	34	15.5%	-	-
39	No Name Road	Low		9,590	9,590	0	0.0%	120	120	0	0.0%	-	-
40	Madingley Road (East of Eddington Avenue)	Low		19,506	19,806	299	1.5%	728	728	0	0.0%	-	-
41	Madingley Rise	Low		1,137	1,137	0	0.0%	70	70	0	0.0%	-	-
42	JJ Thomson Avenue	Low		7,914	7,914	0	0.0%	173	173	0	0.0%	-	-
43	Madingley Road (East of Madingley Rise)	Low		25,301	25,600	299	1.2%	786	786	0	0.0%	-	-
44	Observatory Access	High		69	69	0	0.0%	4	4	0	0.0%	-	-
45	Clerk Maxwell Road	Medium		1,490	1,490	0	0.0%	2	2	0	0.0%	-	-
46	Madingley Road (East of Clerk Maxwell Road)	Low		24,755	25,054	299	1.2%	791	791	0	0.0%	-	-
47	A1134 Queen's Road	Low		20,234	20,533	299	1.5%	501	501	0	0.0%	-	-
48	High Cross	Low		5,653	5,653	0	0.0%	24	24	0	0.0%	-	-
49	Ada Lovelace Road	Low		1,487	1,487	0	0.0%	10	10	0	0.0%	-	-
50	Charles Babbage Road (West of No Name Road)	Low		5,213	5,213	0	0.0%	29	29	0	0.0%	-	-
51	Charles Babbage Road (East of No Name Road)	Low		6,713	6,713	0	0.0%	113	113	0	0.0%	-	-
52	Charles Babbage Road (East of JJ Thomson Ave)	Medium		420	420	0	0.0%	14	14	0	0.0%	-	-
53	M11 (South of Slips)	Negligible		114,088	115,306	1,218	1.1%	16,559	16,587	28	0.2%	-	-
54	M11 (Between Slips)	Negligible		88,296	88,306	10	0.0%	15,057	15,064	6	0.0%	-	-
55	M11 (North of Slips)	Negligible		131,061	132,684	1,622	1.2%	30,001	30,032	31	0.1%	-	-
56	Cartwright Avenue - North	Medium	New	1,446	2,437	991	68.5%	0	10	10	-	Y	Y
57	Cartwright Avenue - East	Medium	New	1,446	2,959	1,513	104.7%	0	10	10	-	Y	Y

1: 2033 Future Baseline (No Redistribution)
2: 2033 Future Baseline + Development + Construction

Screening for Rule 1 and Rule 2

Link Ref.	Link Name	Sensitivity	New Link	Total Vehicles				HDVs				Screened	
				2033 Future Baseline (No Redistribution)	2033 Future Baseline + Development	Net Change	% Change	2033 Future Baseline (No Redistribution)	2033 Future Baseline + Development	Net Change	% Change	Tot. Vehs.	HGVs
1	A1307 (West of Girton West Rbt)	Negligible		4,952	4,952	0	0.0%	156	156	0	0.0%	-	-
2	M11 On-Slip (North of Girton West Rbt)	Negligible		4,932	5,060	129	2.6%	140	163	23	16.4%	-	-
3	A1307 (East of Girton West Rbt)	Negligible		8,491	8,620	129	1.5%	253	275	23	9.1%	-	-
4	M11 Off-Slip (North of Girton East Rbt)	Negligible		3,463	3,577	114	3.3%	122	145	23	18.9%	-	-
5	Access Road (South of Girton East Rbt)	Negligible		37	37	0	0.0%	16	16	0	0.0%	-	-
6	A1307 (West of West Parcel Site Access)	Low		11,533	11,776	243	2.1%	387	432	45	11.6%	-	-
7	A1307 (East of West Parcel Site Access)	Low		11,353	10,164	-1,189	-10.5%	398	398	0	0.0%	-	-
8	Girton Road	Medium		11,274	11,288	14	0.1%	221	221	0	0.0%	-	-
9	Bunker's Hill	Medium		17	17	0	0.0%	0	0	0	-	-	-
10	A1307 (West of Eddington Road)	Low		20,339	19,158	-1,181	-5.8%	524	524	0	0.0%	-	-
11	A1307 (East of Eddington Road)	Low		19,924	20,411	487	2.4%	331	331	0	0.0%	-	-
12	Whitehorse Lane	Low		221	221	0	0.0%	8	8	0	0.0%	-	-
13	A1307 (East of Whitehorse Lane)	Low		20,566	21,053	487	2.4%	461	461	0	0.0%	-	-
14	Lawrence Weaver Road	Low		6,933	6,933	0	0.0%	39	39	0	0.0%	-	-
15	A1307 (East of Lawrence Weaver Road)	Low		20,057	20,544	487	2.4%	466	466	0	0.0%	-	-
16	Histon Road	Medium		10,833	11,141	308	2.8%	652	652	0	0.0%	-	-
17	A1134 Victoria Road (North of Histon Road)	Low		9,925	10,029	104	1.0%	365	365	0	0.0%	-	-
18	A1134 Victoria Road (South of Histon Road)	Low		16,829	17,241	412	2.4%	709	709	0	0.0%	-	-
19	Mount Pleasant	High		11,005	11,005	0	0.0%	361	361	0	0.0%	-	-
20	Castle Street (East of Mount Pleasant)	Medium		7,319	7,394	75	1.0%	316	316	0	0.0%	-	-
21	Chesterton Lane	Medium		10,455	10,530	75	0.7%	491	491	0	0.0%	-	-
22	Magdalene Street	High		5,586	5,586	0	0.0%	599	599	0	0.0%	-	-
23	Northampton Street	High		13,507	13,507	0	0.0%	724	724	0	0.0%	-	-
24	Turing Way (North)	Medium		7,314	6,420	-894	-12.2%	83	83	0	0.0%	-	-
25	Eddington Avenue (South of A1307)	Low		8,619	7,724	-894	-10.4%	106	106	0	0.0%	-	-
26	Eddington Avenue (near Sainsbury's Access)	Medium		1,689	1,689	0	0.0%	85	85	0	0.0%	-	-
27	Garrod Street (East Parcel Site Access)	Medium	New	0	56	56	-	0	40	40	-	Y	Y
28	Eddington Avenue (South of Garrod Street)	Medium		3,519	3,575	56	1.6%	149	189	40	26.8%	-	-
29	Turing Way (North of Site Access)	Medium		7,314	6,420	-894	-12.2%	83	83	0	0.0%	-	-
30	Turing Way (South of Site Access)	Medium		7,087	7,514	427	6.0%	85	85	0	0.0%	-	-
31	Madingley Road (West of M11 Off-Slip)	Negligible		19,856	19,894	38	0.2%	1,195	1,217	21	1.8%	-	-
32	M11 Off-Slip (South of Madingley Road)	Negligible		7,507	7,713	207	2.8%	525	546	21	4.0%	-	-
33	Madingley Road (Between Slips)	Negligible		19,912	20,172	260	1.3%	994	1,047	53	5.3%	-	-
34	M11 On-Slip (South of Madingley Road)	Negligible		7,790	8,043	254	3.3%	546	577	32	5.9%	-	-
35	Madingley Road (West of P&R Access)	Low		19,603	20,052	450	2.3%	630	670	40	6.3%	-	-
36	P&R Access	Low		3,266	3,266	0	0.0%	238	238	0	0.0%	-	-
37	Madingley Road (West of Eddington Avenue)	Low		18,519	18,969	450	2.4%	810	850	40	4.9%	-	-
38	Eddington Avenue (North of Madingley Road)	Low		8,693	9,176	483	5.6%	219	259	40	18.3%	-	-
39	No Name Road	Low		3,581	3,581	0	0.0%	120	120	0	0.0%	-	-
40	Madingley Road (East of Eddington Avenue)	Low		15,782	15,815	33	0.2%	728	728	0	0.0%	-	-
41	Madingley Rise	Low		1,016	1,016	0	0.0%	70	70	0	0.0%	-	-
42	JJ Thomson Avenue	Low		2,711	2,711	0	0.0%	173	173	0	0.0%	-	-
43	Madingley Road (East of Madingley Rise)	Low		16,816	16,849	33	0.2%	786	786	0	0.0%	-	-
44	Observatory Access	High		69	69	0	0.0%	4	4	0	0.0%	-	-
45	Clerk Maxwell Road	Medium		750	750	0	0.0%	2	2	0	0.0%	-	-
46	Madingley Road (East of Clerk Maxwell Road)	Low		15,897	15,930	33	0.2%	791	791	0	0.0%	-	-
47	A1134 Queen's Road	Low		17,101	17,134	33	0.2%	501	501	0	0.0%	-	-
48	High Cross	Low		970	970	0	0.0%	24	24	0	0.0%	-	-
49	Ada Lovelace Road	Low		550	550	0	0.0%	10	10	0	0.0%	-	-
50	Charles Babbage Road (West of No Name Road)	Low		1,468	1,468	0	0.0%	29	29	0	0.0%	-	-
51	Charles Babbage Road (East of No Name Road)	Low		1,773	1,773	0	0.0%	113	113	0	0.0%	-	-
52	Charles Babbage Road (East of JJ Thomson Ave)	Medium		420	420	0	0.0%	14	14	0	0.0%	-	-
53	M11 (South of Slips)	Negligible		102,900	103,443	542	0.5%	15,847	15,959	112	0.7%	-	-
54	M11 (Between Slips)	Negligible		84,500	84,575	75	0.1%	14,410	14,464	54	0.4%	-	-
55	M11 (North of Slips)	Negligible		125,002	125,366	364	0.3%	28,711	28,844	132	0.5%	-	-
56	Cartwright Avenue - North	Medium	New	0	1,638	1,638	-	0	45	45	-	Y	Y
57	Cartwright Avenue - East	Medium	New	0	2,094	2,094	-	0	0	0	-	Y	Y

1: 2038 Future Baseline (No Redistribution)
2: 2038 Future Baseline + Development

Screening for Rule 1 and Rule 2

Link Ref.	Link Name	Sensitivity	New Link	Total Vehicles				HDVs				Screened	
				2038 Future Baseline (No Redistribution)	2038 Future Baseline + Development	Net Change	% Change	2038 Future Baseline (No Redistribution)	2038 Future Baseline + Development	Net Change	% Change	Tot. Vehs.	HGVs
1	A1307 (West of Girton West Rbt)	Negligible		5,203	5,389	186	3.6%	156	156	0	0.0%	-	-
2	M11 On-Slip (North of Girton West Rbt)	Negligible		5,163	5,972	808	15.6%	140	151	10	7.1%	-	-
3	A1307 (East of Girton West Rbt)	Negligible		8,967	9,962	995	11.1%	253	263	10	4.0%	-	-
4	M11 Off-Slip (North of Girton East Rbt)	Negligible		3,690	4,488	798	21.6%	122	132	10	8.2%	-	-
5	Access Road (South of Girton East Rbt)	Negligible		37	37	0	0.0%	16	16	0	0.0%	-	-
6	A1307 (West of West Parcel Site Access)	Low		11,913	13,706	1,793	15.1%	387	407	20	5.2%	-	-
7	A1307 (East of West Parcel Site Access)	Low		12,056	11,783	-274	-2.3%	398	408	10	2.5%	-	-
8	Girton Road	Medium		11,644	11,757	114	1.0%	221	221	0	0.0%	-	-
9	Bunker's Hill	Medium		17	17	0	0.0%	0	0	0	-	-	-
10	A1307 (West of Eddington Road)	Low		21,413	21,227	-185	-0.9%	524	534	10	1.9%	-	-
11	A1307 (East of Eddington Road)	Low		20,727	22,180	1,453	7.0%	331	331	0	0.0%	-	-
12	Whitehorse Lane	Low		221	221	0	0.0%	8	8	0	0.0%	-	-
13	A1307 (East of Whitehorse Lane)	Low		21,394	22,847	1,453	6.8%	461	461	0	0.0%	-	-
14	Lawrence Weaver Road	Low		7,761	7,761	0	0.0%	39	39	0	0.0%	-	-
15	A1307 (East of Lawrence Weaver Road)	Low		20,057	21,510	1,453	7.2%	466	466	0	0.0%	-	-
16	Histon Road	Medium		11,261	11,971	710	6.3%	652	652	0	0.0%	-	-
17	A1134 Victoria Road (North of Histon Road)	Low		9,925	10,388	463	4.7%	365	365	0	0.0%	-	-
18	A1134 Victoria Road (South of Histon Road)	Low		17,257	18,430	1,173	6.8%	709	709	0	0.0%	-	-
19	Mount Pleasant	High		11,005	11,005	0	0.0%	361	361	0	0.0%	-	-
20	Castle Street (East of Mount Pleasant)	Medium		7,747	8,027	280	3.6%	316	316	0	0.0%	-	-
21	Chesterton Lane	Medium		12,859	13,139	280	2.2%	491	491	0	0.0%	-	-
22	Magdalene Street	High		5,864	5,864	0	0.0%	599	599	0	0.0%	-	-
23	Northampton Street	High		16,618	16,618	0	0.0%	724	724	0	0.0%	-	-
24	Turing Way (North)	Medium		9,122	10,045	923	10.1%	83	93	10	12.1%	-	-
25	Eddington Avenue (South of A1307)	Low		10,461	11,384	923	8.8%	106	116	10	9.5%	-	-
26	Eddington Avenue (near Sainsbury's Access)	Medium		1,689	1,689	0	0.0%	85	85	0	0.0%	-	-
27	Garrod Street (East Parcel Site Access)	Medium	New	0	2,568	2,568	-	0	34	34	-	Y	Y
28	Eddington Avenue (South of Garrod Street)	Medium		3,519	6,087	2,568	73.0%	149	183	34	22.8%	Y	-
29	Turing Way (North of Site Access)	Medium		9,122	10,045	923	10.1%	83	93	10	12.1%	-	-
30	Turing Way (South of Site Access)	Medium		8,895	11,498	2,603	29.3%	85	105	20	23.4%	-	-
31	Madingley Road (West of M11 Off-Slip)	Negligible		30,186	30,399	212	0.7%	1,195	1,213	17	1.4%	-	-
32	M11 Off-Slip (South of Madingley Road)	Negligible		10,756	11,342	586	5.4%	525	535	10	1.9%	-	-
33	Madingley Road (Between Slips)	Negligible		31,179	31,979	801	2.6%	994	1,023	29	2.9%	-	-
34	M11 On-Slip (South of Madingley Road)	Negligible		10,732	11,353	621	5.8%	546	557	11	2.0%	-	-
35	Madingley Road (West of P&R Access)	Low		26,626	28,039	1,413	5.3%	630	665	34	5.4%	-	-
36	P&R Access	Low		4,771	4,771	0	0.0%	238	238	0	0.0%	-	-
37	Madingley Road (West of Eddington Avenue)	Low		25,542	26,956	1,413	5.5%	810	845	34	4.2%	-	-
38	Eddington Avenue (North of Madingley Road)	Low		10,501	12,214	1,713	16.3%	219	253	34	15.5%	-	-
39	No Name Road	Low		9,590	9,590	0	0.0%	120	120	0	0.0%	-	-
40	Madingley Road (East of Eddington Avenue)	Low		19,506	19,806	299	1.5%	728	728	0	0.0%	-	-
41	Madingley Rise	Low		1,137	1,137	0	0.0%	70	70	0	0.0%	-	-
42	JJ Thomson Avenue	Low		7,914	7,914	0	0.0%	173	173	0	0.0%	-	-
43	Madingley Road (East of Madingley Rise)	Low		25,301	25,600	299	1.2%	786	786	0	0.0%	-	-
44	Observatory Access	High		69	69	0	0.0%	4	4	0	0.0%	-	-
45	Clerk Maxwell Road	Medium		1,490	1,490	0	0.0%	2	2	0	0.0%	-	-
46	Madingley Road (East of Clerk Maxwell Road)	Low		24,755	25,054	299	1.2%	791	791	0	0.0%	-	-
47	A1134 Queen's Road	Low		20,234	20,533	299	1.5%	501	501	0	0.0%	-	-
48	High Cross	Low		5,653	5,653	0	0.0%	24	24	0	0.0%	-	-
49	Ada Lovelace Road	Low		1,487	1,487	0	0.0%	10	10	0	0.0%	-	-
50	Charles Babbage Road (West of No Name Road)	Low		5,213	5,213	0	0.0%	29	29	0	0.0%	-	-
51	Charles Babbage Road (East of No Name Road)	Low		6,713	6,713	0	0.0%	113	113	0	0.0%	-	-
52	Charles Babbage Road (East of JJ Thomson Ave)	Medium		420	420	0	0.0%	14	14	0	0.0%	-	-
53	M11 (South of Slips)	Negligible		114,088	115,306	1,218	1.1%	16,559	16,587	28	0.2%	-	-
54	M11 (Between Slips)	Negligible		88,296	88,306	10	0.0%	15,057	15,064	6	0.0%	-	-
55	M11 (North of Slips)	Negligible		131,061	132,684	1,622	1.2%	30,001	30,032	31	0.1%	-	-
56	Cartwright Avenue - North	Medium	New	0	2,437	2,437	-	0	10	10	-	Y	Y
57	Cartwright Avenue - East	Medium	New	0	2,959	2,959	-	0	10	10	-	Y	Y

1: 2027 Future Baseline (No Redistribution)
2: 2027 Future Baseline (With Redistribution)

Screening for Rule 1 and Rule 2

Link Ref.	Link Name	Sensitivity	New Link	Total Vehicles				HDVs				Screened	
				2027 Future Baseline (No Redistribution)	2027 Future Baseline (With Redistribution)	Net Change	% Change	2027 Future Baseline (No Redistribution)	2027 Future Baseline (With Redistribution)	Net Change	% Change	Tot. Vehs.	HGVs
1	A1307 (West of Girton West Rbt)	Negligible		4,874	4,874	0	0.0%	156	156	0	0.0%	-	-
2	M11 On-Slip (North of Girton West Rbt)	Negligible		4,778	4,778	0	0.0%	140	140	0	0.0%	-	-
3	A1307 (East of Girton West Rbt)	Negligible		8,265	8,265	0	0.0%	253	253	0	0.0%	-	-
4	M11 Off-Slip (North of Girton East Rbt)	Negligible		3,463	3,463	0	0.0%	122	122	0	0.0%	-	-
5	Access Road (South of Girton East Rbt)	Negligible		37	37	0	0.0%	16	16	0	0.0%	-	-
6	A1307 (West of West Parcel Site Access)	Low		11,307	11,307	0	0.0%	387	387	0	0.0%	-	-
7	A1307 (East of West Parcel Site Access)	Low		11,217	9,921	-1,296	-11.6%	398	398	0	0.0%	-	-
8	Girton Road	Medium		11,114	11,114	0	0.0%	221	221	0	0.0%	-	-
9	Bunker's Hill	Medium		17	17	0	0.0%	0	0	0	-	-	-
10	A1307 (West of Eddington Road)	Low		20,043	18,747	-1,296	-6.5%	524	524	0	0.0%	-	-
11	A1307 (East of Eddington Road)	Low		19,315	19,315	0	0.0%	331	331	0	0.0%	-	-
12	Whitehorse Lane	Low		221	221	0	0.0%	8	8	0	0.0%	-	-
13	A1307 (East of Whitehorse Lane)	Low		19,939	19,939	0	0.0%	461	461	0	0.0%	-	-
14	Lawrence Weaver Road	Low		5,698	5,698	0	0.0%	39	39	0	0.0%	-	-
15	A1307 (East of Lawrence Weaver Road)	Low		19,448	19,448	0	0.0%	466	466	0	0.0%	-	-
16	Histon Road	Medium		10,833	10,833	0	0.0%	652	652	0	0.0%	-	-
17	A1134 Victoria Road (North of Histon Road)	Low		9,627	9,627	0	0.0%	365	365	0	0.0%	-	-
18	A1134 Victoria Road (South of Histon Road)	Low		16,531	16,531	0	0.0%	709	709	0	0.0%	-	-
19	Mount Pleasant	High		11,005	11,005	0	0.0%	361	361	0	0.0%	-	-
20	Castle Street (East of Mount Pleasant)	Medium		7,179	7,179	0	0.0%	316	316	0	0.0%	-	-
21	Chesterton Lane	Medium		10,443	10,443	0	0.0%	491	491	0	0.0%	-	-
22	Magdalene Street	High		5,532	5,532	0	0.0%	599	599	0	0.0%	-	-
23	Northampton Street	High		13,433	13,433	0	0.0%	724	724	0	0.0%	-	-
24	Turing Way (North)	Medium		7,158	5,885	-1,273	-17.8%	83	83	0	0.0%	-	-
25	Eddington Avenue (South of A1307)	Low		8,463	7,190	-1,273	-15.0%	106	106	0	0.0%	-	-
26	Eddington Avenue (near Sainsbury's Access)	Medium		1,689	1,689	0	0.0%	85	85	0	0.0%	-	-
27	Garrod Street (East Parcel Site Access)	Medium	New	0	0	0	-	0	0	0	-	Y	Y
28	Eddington Avenue (South of Garrod Street)	Medium		3,519	3,519	0	0.0%	149	149	0	0.0%	-	-
29	Turing Way (North of Site Access)	Medium		7,158	5,885	-1,273	-17.8%	83	83	0	0.0%	-	-
30	Turing Way (South of Site Access)	Medium		6,931	6,931	0	0.0%	85	85	0	0.0%	-	-
31	Madingley Road (West of M11 Off-Slip)	Negligible		19,695	19,695	0	0.0%	1,195	1,195	0	0.0%	-	-
32	M11 Off-Slip (South of Madingley Road)	Negligible		7,507	7,507	0	0.0%	525	525	0	0.0%	-	-
33	Madingley Road (Between Slips)	Negligible		19,751	19,751	0	0.0%	994	994	0	0.0%	-	-
34	M11 On-Slip (South of Madingley Road)	Negligible		7,790	7,790	0	0.0%	546	546	0	0.0%	-	-
35	Madingley Road (West of P&R Access)	Low		19,442	19,442	0	0.0%	630	630	0	0.0%	-	-
36	P&R Access	Low		3,266	3,266	0	0.0%	238	238	0	0.0%	-	-
37	Madingley Road (West of Eddington Avenue)	Low		18,358	18,358	0	0.0%	810	810	0	0.0%	-	-
38	Eddington Avenue (North of Madingley Road)	Low		8,537	8,537	0	0.0%	219	219	0	0.0%	-	-
39	No Name Road	Low		3,581	3,581	0	0.0%	120	120	0	0.0%	-	-
40	Madingley Road (East of Eddington Avenue)	Low		15,782	15,782	0	0.0%	728	728	0	0.0%	-	-
41	Madingley Rise	Low		1,016	1,016	0	0.0%	70	70	0	0.0%	-	-
42	JJ Thomson Avenue	Low		2,711	2,711	0	0.0%	173	173	0	0.0%	-	-
43	Madingley Road (East of Madingley Rise)	Low		16,816	16,816	0	0.0%	786	786	0	0.0%	-	-
44	Observatory Access	High		69	69	0	0.0%	4	4	0	0.0%	-	-
45	Clerk Maxwell Road	Medium		750	750	0	0.0%	2	2	0	0.0%	-	-
46	Madingley Road (East of Clerk Maxwell Road)	Low		15,897	15,897	0	0.0%	791	791	0	0.0%	-	-
47	A1134 Queen's Road	Low		17,101	17,101	0	0.0%	501	501	0	0.0%	-	-
48	High Cross	Low		970	970	0	0.0%	24	24	0	0.0%	-	-
49	Ada Lovelace Road	Low		550	550	0	0.0%	10	10	0	0.0%	-	-
50	Charles Babbage Road (West of No Name Road)	Low		1,468	1,468	0	0.0%	29	29	0	0.0%	-	-
51	Charles Babbage Road (East of No Name Road)	Low		1,773	1,773	0	0.0%	113	113	0	0.0%	-	-
52	Charles Babbage Road (East of JJ Thomson Ave)	Medium		420	420	0	0.0%	14	14	0	0.0%	-	-
53	M11 (South of Slips)	Negligible		94,664	94,664	0	0.0%	14,577	14,577	0	0.0%	-	-
54	M11 (Between Slips)	Negligible		77,726	77,726	0	0.0%	13,255	13,255	0	0.0%	-	-
55	M11 (North of Slips)	Negligible		114,889	114,889	0	0.0%	26,410	26,410	0	0.0%	-	-
56	Cartwright Avenue - North	Medium	New	0	1,273	1,273	-	0	0	0	-	Y	Y
57	Cartwright Avenue - East	Medium	New	0	1,273	1,273	-	0	0	0	-	Y	Y

Severance - Significance of Effects

Scenario 6 — 2033 Future Baseline (With Redistribution)
Scenario 9 — 2033 Future Baseline + Development
Time Period AADT — < Select time period here

kmc transport planning

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	6 v 9	2033 Future Baseline (With Redistribution)	2033 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East	Medium	New	Y	0	56	56	New	TBD	TBD
56	Cartwright Avenue -	Medium	New	Y	1,281	1,638	358	28.0%	Negligible	Minor Adverse
57	Cartwright Avenue -	Medium	New	Y	1,281	2,094	814	63.6%	Medium	Moderate Adverse

Severance - Significance of Effects

Scenario 2033 Future Baseline (With Redistribution)
Scenario 2033 Future Baseline + Development
Time Period AADT

HGVs

Link Ref.	Link Name	Sensitivity	New Link	6 v 9	2033 Future Baseline (With Redistribution)	2033 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East F	Medium	New	Y	0	40	40	New	TBD	TBD
56	Cartwright Avenue -	Medium	New	Y	0	45	45	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	0	0	New	TBD	TBD

Amenity - Significance of Effects

Scenario 6 2033 Future Baseline (With Redistribution)
Scenario 9 2033 Future Baseline + Development
Time Period AADT < Select time period here

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	6 v 9	2033 Future Baseline (With Redistribution)	2033 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East F	Medium	New	Y	0	56	56	New	TBD	TBD
56	Cartwright Avenue -	Medium	New	Y	1,281	1,638	358	28.0%	Negligible	Minor Adverse
57	Cartwright Avenue -	Medium	New	Y	1,281	2,094	814	63.6%	Negligible	Minor Adverse

Amenity - Significance of Effects

Scenario 2033 Future Baseline (With Redistribution)
Scenario 2033 Future Baseline + Development
Time Period AADT

HGVs

Link Ref.	Link Name	Sensitivity	New Link	6 v 9	2033 Future Baseline (With Redistribution)	2033 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East F	Medium	New	Y	0	40	40	New	TBD	TBD
56	Cartwright Avenue -	Medium	New	Y	0	45	45	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	0	0	New	TBD	TBD

Non-Motorised User Delay - Significance of Effects

Scenario 6 2033 Future Baseline (With Redistribution)
Scenario 9 2033 Future Baseline + Development
Time Period AADT < Select time period here
Hours 24

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	6 v 9	2033 Future Baseline (With Redistribution)	2033 Future Baseline + Development	Net Change (Volume)	Scenario 1: Ped. Delay (Seconds)	Scenario 2: Ped. Delay (Seconds)	Ped. Delay Change (Seconds)	Mag. Impact	Significance
27	Garrod Street (East I	Medium	New	Y	0	2	2	1.26	1.26	0.00	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	53	68	15	1.27	1.28	0.01	Negligible	Minor Adverse
57	Cartwright Avenue -	Medium	New	Y	53	87	34	1.27	1.29	0.02	Negligible	Minor Adverse

Non-Motorised User Delay - Significance of Effects

Scenario 2033 Future Baseline (With Redistribution)
Scenario 2033 Future Baseline + Development
Time Period AADT
Hours 24

HGVs

Link Ref.	Link Name	Sensitivity	New Link	6 v 9	2033 Future Baseline (With Redistribution)	2033 Future Baseline + Development	Net Change (Volume)	Scenario 1: Ped. Delay (Seconds)	Scenario 2: Ped. Delay (Seconds)	Ped. Delay Change (Seconds)	Mag. Impact	Significance
27	Garrod Street (East	Medium	New	Y	0	2	2	1.26	1.26	0.00	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	0	2	2	1.26	1.26	0.00	Negligible	Minor Adverse
57	Cartwright Avenue -	Medium	New	Y	0	0	0	1.26	1.26	0.00	-	-

Fear and Intimidation - Significance of Effects

Scenario 6 2033 Future Baseline (With Redistribution)
Scenario 9 2033 Future Baseline + Development
Time Period AAWT < Select time period here
Hours 18 <- for total vehicles only

Scenario: 2033 Future Baseline (With Redistribution)

					Total Vehicles (Hourly)	(A)	HGVs	(B)	Avg. Veh. Speed	(C)	(A+B+C)	
Link Ref.	Link Name	Sensitivity	New Link	6 v 9	2033 Future Baseline (With Redistribution)	Score	2033 Future Baseline (With Redistribution)	Score	2033 Future Baseline (With Redistribution)	Score	Total Score	Level
27	Garrod Street (	Medium	New	Y	0	0	0	0	21	10	10	0
56	Cartwright Ave	Medium	New	Y	70	0	0	0	20	10	10	0
57	Cartwright Ave	Medium	New	Y	70	0	0	0	20	10	10	0

Fear and Intimidation - Significance of Effects

Scenario 2033 Future Baseline (With Redistribution)
Scenario 2033 Future Baseline + Development
Time Period AAWT
Hours 18

Scenario: 2033 Future Baseline + Development

					Total Vehicles (Hourly)	(A)	HGVs	(B)	Avg. Veh. Speed	(C)	(A+B+C)	
Link Ref.	Link Name	Sensitivity	New Link	6 v 9	2033 Future Baseline + Development	Score	2033 Future Baseline + Development	Score	2033 Future Baseline + Development	Score	Total Score	Level
27	Garrod Street (	Medium	New	Y	3	0	40	0	21	10	10	0
56	Cartwright Ave	Medium	New	Y	90	0	45	0	20	10	10	0
57	Cartwright Ave	Medium	New	Y	115	0	0	0	20	10	10	0

Fear and Intimidation - Significance of Effects

Scenario 2033 Future Baseline (With Redistribution)
Scenario 2033 Future Baseline + Development
Time Period AAWT
Hours 18

Link Ref.	Link Name	Sensitivity	Total Vehicles: NET	HDVS: NET	Step Changes	Magnitude of Impact	Significance
27	Garrod Street (East Parce	Medium	3	40	0	Negligible	Minor Adverse
56	Cartwright Avenue - Nort	Medium	20	45	0	Negligible	Minor Adverse
57	Cartwright Avenue - East	Medium	45	0	0	Negligible	Minor Adverse

Severance - Significance of Effects

Scenario 7 2038 Future Baseline (With Redistribution)
Scenario 10 2038 Future Baseline + Development
Time Period AADT < Select time period here

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	7 v 10	2038 Future Baseline (With Redistribution)	2038 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
24	Turing Way (North)	Medium		Y	7,677	10,045	2,369	30.9%	Low	Minor Adverse
27	Garrod Street (East	Medium	New	Y	0	2,568	2,568	New	TBD	TBD
28	Eddington Avenue (S	Medium		Y	3,519	6,087	2,568	73.0%	Medium	Moderate Adverse
29	Turing Way (North o	Medium		Y	7,677	10,045	2,369	30.9%	Low	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	1,446	2,437	991	68.5%	Medium	Moderate Adverse
57	Cartwright Avenue -	Medium	New	Y	1,446	2,959	1,513	104.7%	High	Major Adverse

Severance - Significance of Effects

Scenario 2038 Future Baseline (With Redistribution)
Scenario 2038 Future Baseline + Development
Time Period AADT

HGVs

Link Ref.	Link Name	Sensitivity	New Link	7 v 10	2038 Future Baseline (With Redistribution)	2038 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
24	Turing Way (North)	Medium		-	83	93	10	12.1%	Negligible	Minor Adverse
27	Garrod Street (East	Medium	New	Y	0	34	34	New	TBD	TBD
28	Eddington Avenue (S	Medium		-	149	183	34	22.8%	Negligible	Minor Adverse
29	Turing Way (North o	Medium		-	83	93	10	12.1%	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	0	10	10	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	10	10	New	TBD	TBD

Amenity - Significance of Effects

Scenario	7	2038 Future Baseline (With Redistribution)
Scenario	10	2038 Future Baseline + Development
Time Period	AADT	< Select time period here

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	7 v 10	2038 Future Baseline (With Redistribution)	2038 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
24	Turing Way (North)	Medium		Y	7,677	10,045	2,369	30.9%	Negligible	Minor Adverse
27	Garrod Street (East	Medium	New	Y	0	2,568	2,568	New	TBD	TBD
28	Eddington Avenue (S	Medium		Y	3,519	6,087	2,568	73.0%	Negligible	Minor Adverse
29	Turing Way (North o	Medium		Y	7,677	10,045	2,369	30.9%	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	1,446	2,437	991	68.5%	Negligible	Minor Adverse
57	Cartwright Avenue -	Medium	New	Y	1,446	2,959	1,513	104.7%	Low	Minor Adverse

Amenity - Significance of Effects

Scenario	2038 Future Baseline (With Redistribution)
Scenario	2038 Future Baseline + Development
Time Period	AADT

HGVs

Link Ref.	Link Name	Sensitivity	New Link	7 v 10	2038 Future Baseline (With Redistribution)	2038 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
24	Turing Way (North)	Medium		-	83	93	10	12.1%	Negligible	Minor Adverse
27	Garrod Street (East	Medium	New	Y	0	34	34	New	TBD	TBD
28	Eddington Avenue (S	Medium		-	149	183	34	22.8%	Negligible	Minor Adverse
29	Turing Way (North o	Medium		-	83	93	10	12.1%	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	0	10	10	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	10	10	New	TBD	TBD

Non-Motorised User Delay - Significance of Effects

Scenario 7 2038 Future Baseline (With Redistribution)
Scenario 10 2038 Future Baseline + Development
Time Period AADT < Select time period here
Hours 24

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	7 v 10	2038 Future Baseline (With Redistribution)	2038 Future Baseline + Development	Net Change (Volume)	Scenario 1: Ped. Delay (Seconds)	Scenario 2: Ped. Delay (Seconds)	Ped. Delay Change (Seconds)	Mag. Impact	Significance
24	Turing Way (North)	Medium		Y	320	419	99	1.72	2.06	0.33	Negligible	Minor Adverse
27	Garrod Street (East f	Medium	New	Y	0	107	107	1.26	1.31	0.05	Negligible	Minor Adverse
28	Eddington Avenue (S	Medium		Y	147	254	107	1.36	1.55	0.19	Negligible	Minor Adverse
29	Turing Way (North d	Medium		Y	320	419	99	1.72	2.06	0.33	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	60	102	41	1.28	1.31	0.03	Negligible	Minor Adverse
57	Cartwright Avenue -	Medium	New	Y	60	123	63	1.28	1.33	0.05	Negligible	Minor Adverse

Non-Motorised User Delay - Significance of Effects

Scenario 2038 Future Baseline (With Redistribution)
Scenario 2038 Future Baseline + Development
Time Period AADT
Hours 24

HGVs

Link Ref.	Link Name	Sensitivity	New Link	7 v 10	2038 Future Baseline (With Redistribution)	2038 Future Baseline + Development	Net Change (Volume)	Scenario 1: Ped. Delay (Seconds)	Scenario 2: Ped. Delay (Seconds)	Ped. Delay Change (Seconds)	Mag. Impact	Significance
24	Turing Way (North)	Medium		-	3	4	0	1.26	1.26	0.00	-	-
27	Garrod Street (East f	Medium	New	Y	0	1	1	1.26	1.26	0.00	Negligible	Minor Adverse
28	Eddington Avenue (S	Medium		-	6	8	1	1.26	1.26	0.00	Negligible	Minor Adverse
29	Turing Way (North d	Medium		-	3	4	0	1.26	1.26	0.00	-	-
56	Cartwright Avenue -	Medium	New	Y	0	0	0	1.26	1.26	0.00	-	-
57	Cartwright Avenue -	Medium	New	Y	0	0	0	1.26	1.26	0.00	-	-

Fear and Intimidation - Significance of Effects

Scenario 7 2038 Future Baseline (With Redistribution)
Scenario 10 2038 Future Baseline + Development
Time Period AAWT < Select time period here
Hours 18 <- for total vehicles only

Scenario: 2038 Future Baseline (With Redistribution)

					Total Vehicles (Hourly)	(A)	HGVs	(B)	Avg. Veh. Speed	(C)	(A+B+C)	
Link Ref.	Link Name	Sensitivity	New Link	7 v 10	2038 Future Baseline (With Redistribution)	Score	2038 Future Baseline (With Redistribution)	Score	2038 Future Baseline (With Redistribution)	Score	Total Score	Level
24	Turing Way (No	Medium		Y	419	0	79	0	21	10	10	0
27	Garrod Street (	Medium	New	Y	0	0	0	0	21	10	10	0
28	Eddington Aves	Medium		Y	192	0	142	0	21	10	10	0
29	Turing Way (No	Medium		Y	419	0	79	0	21	10	10	0
56	Cartwright Ave	Medium	New	Y	79	0	0	0	20	10	10	0
57	Cartwright Ave	Medium	New	Y	79	0	0	0	20	10	10	0

Fear and Intimidation - Significance of Effects

Scenario 2038 Future Baseline (With Redistribution)
Scenario 2038 Future Baseline + Development
Time Period AAWT
Hours 18

Scenario: 2038 Future Baseline + Development

					Total Vehicles (Hourly)	(A)	HGVs	(B)	Avg. Veh. Speed	(C)	(A+B+C)	
Link Ref.	Link Name	Sensitivity	New Link	7 v 10	2038 Future Baseline + Development	Score	2038 Future Baseline + Development	Score	2038 Future Baseline + Development	Score	Total Score	Level
24	Turing Way (No	Medium		Y	550	0	89	0	21	10	10	0
27	Garrod Street (	Medium	New	Y	142	0	34	0	21	10	10	0
28	Eddington Aves	Medium		Y	335	0	176	0	21	10	10	0
29	Turing Way (No	Medium		Y	550	0	89	0	21	10	10	0
56	Cartwright Ave	Medium	New	Y	134	0	10	0	20	10	10	0
57	Cartwright Ave	Medium	New	Y	162	0	10	0	20	10	10	0

Fear and Intimidation - Significance of Effects

Scenario 2038 Future Baseline (With Redistribution)
Scenario 2038 Future Baseline + Development
Time Period AAWT
Hours 18

Link Ref.	Link Name	Sensitivity	Total Vehicles: NET	HDVS: NET	Step Changes	Magnitude of Impact	Significance
24	Turing Way (North)	Medium	131	10	0	Negligible	Minor Adverse
27	Garrod Street (East Parce	Medium	142	34	0	Negligible	Minor Adverse
28	Eddington Avenue (South	Medium	142	34	0	Negligible	Minor Adverse
29	Turing Way (North of Site	Medium	131	10	0	Negligible	Minor Adverse
56	Cartwright Avenue - Nort	Medium	55	10	0	Negligible	Minor Adverse
57	Cartwright Avenue - East	Medium	84	10	0	Negligible	Minor Adverse

Severance - Significance of Effects

Scenario 3 2033 Future Baseline (No Redistribution)
Scenario 9 2033 Future Baseline + Development
Time Period AADT < Select time period here

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	3 v 9	2033 Future Baseline (No Redistribution)	2033 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East	Medium	New	Y	0	56	56	New	TBD	TBD
56	Cartwright Avenue -	Medium	New	Y	0	1,638	1,638	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	2,094	2,094	New	TBD	TBD

Severance - Significance of Effects

Scenario 2033 Future Baseline (No Redistribution)
Scenario 2033 Future Baseline + Development
Time Period AADT

HGVs

Link Ref.	Link Name	Sensitivity	New Link	3 v 9	2033 Future Baseline (No Redistribution)	2033 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East F	Medium	New	Y	0	40	40	New	TBD	TBD
56	Cartwright Avenue -	Medium	New	Y	0	45	45	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	0	0	New	TBD	TBD

Amenity - Significance of Effects

Scenario 3 2033 Future Baseline (No Redistribution)
Scenario 9 2033 Future Baseline + Development
Time Period AADT **< Select time period here**

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	3 v 9	2033 Future Baseline (No Redistribution)	2033 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East F	Medium	New	Y	0	56	56	New	TBD	TBD
56	Cartwright Avenue -	Medium	New	Y	0	1,638	1,638	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	2,094	2,094	New	TBD	TBD

Amenity - Significance of Effects

Scenario 2033 Future Baseline (No Redistribution)
Scenario 2033 Future Baseline + Development
Time Period AADT

HGVs

Link Ref.	Link Name	Sensitivity	New Link	3 v 9	2033 Future Baseline (No Redistribution)	2033 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East P	Medium	New	Y	0	40	40	New	TBD	TBD
56	Cartwright Avenue -	Medium	New	Y	0	45	45	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	0	0	New	TBD	TBD

Non-Motorised User Delay - Significance of Effects

Scenario 3 2033 Future Baseline (No Redistribution)
Scenario 9 2033 Future Baseline + Development
Time Period AADT < Select time period here
Hours 24

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	3 v 9	2033 Future Baseline (No Redistribution)	2033 Future Baseline + Development	Net Change (Volume)	Scenario 1: Ped. Delay (Seconds)	Scenario 2: Ped. Delay (Seconds)	Ped. Delay Change (Seconds)	Mag. Impact	Significance
27	Garrod Street (East I	Medium	New	Y	0	2	2	1.26	1.26	0.00	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	0	68	68	1.26	1.28	0.02	Negligible	Minor Adverse
57	Cartwright Avenue -	Medium	New	Y	0	87	87	1.26	1.29	0.03	Negligible	Minor Adverse

Non-Motorised User Delay - Significance of Effects

Scenario 2033 Future Baseline (No Redistribution)
Scenario 2033 Future Baseline + Development
Time Period AADT
Hours 24

HGVs

Link Ref.	Link Name	Sensitivity	New Link	3 v 9	2033 Future Baseline (No Redistribution)	2033 Future Baseline + Development	Net Change (Volume)	Scenario 1: Ped. Delay (Seconds)	Scenario 2: Ped. Delay (Seconds)	Ped. Delay Change (Seconds)	Mag. Impact	Significance
27	Garrod Street (East	Medium	New	Y	0	2	2	1.26	1.26	0.00	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	0	2	2	1.26	1.26	0.00	Negligible	Minor Adverse
57	Cartwright Avenue -	Medium	New	Y	0	0	0	1.26	1.26	0.00	-	-

Fear and Intimidation - Significance of Effects

Scenario 3 2033 Future Baseline (No Redistribution)
Scenario 9 2033 Future Baseline + Development
Time Period AAWT < Select time period here
Hours 18 <- for total vehicles only

Scenario: 2033 Future Baseline (No Redistribution)

Link Ref.	Link Name	Sensitivity	New Link	3 v 9	Total Vehicles (Hourly) 2033 Future Baseline (No Redistribution)	(A) Score	HGVs 2033 Future Baseline (No Redistribution)	(B) Score	Avg. Veh. Speed 2033 Future Baseline (No Redistribution)	(C) Score	(A+B+C) Total Score	Level
27	Garrod Street (	Medium	New	Y	0	0	0	0	21	10	10	0
56	Cartwright Ave	Medium	New	Y	0	0	0	0	20	10	10	0
57	Cartwright Ave	Medium	New	Y	0	0	0	0	20	10	10	0

Fear and Intimidation - Significance of Effects

Scenario 2033 Future Baseline (No Redistribution)
Scenario 2033 Future Baseline + Development
Time Period AAWT
Hours 18

Scenario: 2033 Future Baseline + Development

					Total Vehicles (Hourly)	(A)	HGVs	(B)	Avg. Veh. Speed	(C)	(A+B+C)	
Link Ref.	**Link Name**	**Sensitivity**	**New Link**	**3 v 9**	**2033 Future Baseline + Development**	**Score**	**2033 Future Baseline + Development**	**Score**	**2033 Future Baseline + Development**	**Score**	**Total Score**	**Level**
27	Garrod Street (	Medium	New	Y	3	0	40	0	21	10	10	0
56	Cartwright Ave	Medium	New	Y	90	0	45	0	20	10	10	0
57	Cartwright Ave	Medium	New	Y	115	0	0	0	20	10	10	0

Fear and Intimidation - Significance of Effects

Scenario 2033 Future Baseline (No Redistribution)
Scenario 2033 Future Baseline + Development
Time Period AAWT
Hours 18

Link Ref.	Link Name	Sensitivity	Total Vehicles: NET	HDVS: NET	Step Changes	Magnitude of Impact	Significance
27	Garrod Street (East Parce	Medium	3	40	0	Negligible	Minor Adverse
56	Cartwright Avenue - Nort	Medium	90	45	0	Negligible	Minor Adverse
57	Cartwright Avenue - East	Medium	115	0	0	Negligible	Minor Adverse

Severance - Significance of Effects

Scenario 4 2038 Future Baseline (No Redistribution)
Scenario 10 2038 Future Baseline + Development
Time Period AADT < Select time period here

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	4 v 10	2038 Future Baseline (No Redistribution)	2038 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East t	Medium	New	Y	0	2,568	2,568	New	TBD	TBD
28	Eddington Avenue (S	Medium		Y	3,519	6,087	2,568	73.0%	Medium	Moderate Adverse
56	Cartwright Avenue -	Medium	New	Y	0	2,437	2,437	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	2,959	2,959	New	TBD	TBD

Severance - Significance of Effects

Scenario 2038 Future Baseline (No Redistribution)
Scenario 2038 Future Baseline + Development
Time Period AADT

HGVs

Link Ref.	Link Name	Sensitivity	New Link	4 v 10	2038 Future Baseline (No Redistribution)	2038 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East t	Medium	New	Y	0	34	34	New	TBD	TBD
28	Eddington Avenue (S	Medium		-	149	183	34	22.8%	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	0	10	10	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	10	10	New	TBD	TBD

Amenity - Significance of Effects

Scenario 4 2038 Future Baseline (No Redistribution)
Scenario 10 2038 Future Baseline + Development
Time Period AADT < Select time period here

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	4 v 10	2038 Future Baseline (No Redistribution)	2038 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East	Medium	New	Y	0	2,568	2,568	New	TBD	TBD
28	Eddington Avenue (S	Medium		Y	3,519	6,087	2,568	73.0%	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	0	2,437	2,437	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	2,959	2,959	New	TBD	TBD

Amenity - Significance of Effects

Scenario 2038 Future Baseline (No Redistribution)
Scenario 2038 Future Baseline + Development
Time Period AADT

HGVs

Link Ref.	Link Name	Sensitivity	New Link	4 v 10	2038 Future Baseline (No Redistribution)	2038 Future Baseline + Development	Net Change	% Change	Mag. Impact	Significance
27	Garrod Street (East	Medium	New	Y	0	34	34	New	TBD	TBD
28	Eddington Avenue (S	Medium		-	149	183	34	22.8%	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	0	10	10	New	TBD	TBD
57	Cartwright Avenue -	Medium	New	Y	0	10	10	New	TBD	TBD

Non-Motorised User Delay - Significance of Effects

Scenario	4	2038 Future Baseline (No Redistribution)
Scenario	10	2038 Future Baseline + Development
Time Period	AADT	< Select time period here
Hours	24	

Total Vehicles

Link Ref.	Link Name	Sensitivity	New Link	4 v 10	2038 Future Baseline (No Redistribution)	2038 Future Baseline + Development	Net Change (Volume)	Scenario 1: Ped. Delay (Seconds)	Scenario 2: Ped. Delay (Seconds)	Ped. Delay Change (Seconds)	Mag. Impact	Significance
27	Garrod Street (East t	Medium	New	Y	0	107	107	1.26	1.31	0.05	Negligible	Minor Adverse
28	Eddington Avenue (S	Medium		Y	147	254	107	1.36	1.55	0.19	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	0	102	102	1.26	1.31	0.05	Negligible	Minor Adverse
57	Cartwright Avenue -	Medium	New	Y	0	123	123	1.26	1.33	0.07	Negligible	Minor Adverse

Non-Motorised User Delay - Significance of Effects

Scenario	2038 Future Baseline (No Redistribution)
Scenario	2038 Future Baseline + Development
Time Period	AADT
Hours	24

HGVs

Link Ref.	Link Name	Sensitivity	New Link	4 v 10	2038 Future Baseline (No Redistribution)	2038 Future Baseline + Development	Net Change (Volume)	Scenario 1: Ped. Delay (Seconds)	Scenario 2: Ped. Delay (Seconds)	Ped. Delay Change (Seconds)	Mag. Impact	Significance
27	Garrod Street (East t	Medium	New	Y	0	1	1	1.26	1.26	0.00	Negligible	Minor Adverse
28	Eddington Avenue (S	Medium		-	6	8	1	1.26	1.26	0.00	Negligible	Minor Adverse
56	Cartwright Avenue -	Medium	New	Y	0	0	0	1.26	1.26	0.00	-	-
57	Cartwright Avenue -	Medium	New	Y	0	0	0	1.26	1.26	0.00	-	-

Fear and Intimidation - Significance of Effects

Scenario 4 2038 Future Baseline (No Redistribution)
Scenario 10 2038 Future Baseline + Development
Time Period AAWT < Select time period here
Hours 18 <- for total vehicles only

Scenario: 2038 Future Baseline (No Redistribution)

					Total Vehicles (Hourly)	(A)	HGVs	(B)	Avg. Veh. Speed	(C)	(A+B+C)	
Link Ref.	Link Name	Sensitivity	New Link	4 v 10	2038 Future Baseline (No Redistribution)	Score	2038 Future Baseline (No Redistribution)	Score	2038 Future Baseline (No Redistribution)	Score	Total Score	Level
27	Garrod Street (	Medium	New	Y	0	0	0	0	21	10	10	0
28	Eddington Ave	Medium		Y	192	0	142	0	21	10	10	0
56	Cartwright Ave	Medium	New	Y	0	0	0	0	20	10	10	0
57	Cartwright Ave	Medium	New	Y	0	0	0	0	20	10	10	0

Fear and Intimidation - Significance of Effects

Scenario 2038 Future Baseline (No Redistribution)
Scenario 2038 Future Baseline + Development
Time Period AAWT
Hours 18

Scenario: 2038 Future Baseline + Development

					Total Vehicles (Hourly)	(A)	HGVs	(B)	Avg. Veh. Speed	(C)	(A+B+C)	
Link Ref.	Link Name	Sensitivity	New Link	4 v 10	2038 Future Baseline + Development	Score	2038 Future Baseline + Development	Score	2038 Future Baseline + Development	Score	Total Score	Level
27	Garrod Street (	Medium	New	Y	142	0	34	0	21	10	10	0
28	Eddington Ave	Medium		Y	335	0	176	0	21	10	10	0
56	Cartwright Ave	Medium	New	Y	134	0	10	0	20	10	10	0
57	Cartwright Ave	Medium	New	Y	162	0	10	0	20	10	10	0

Fear and Intimidation - Significance of Effects

Scenario 2038 Future Baseline (No Redistribution)
Scenario 2038 Future Baseline + Development
Time Period AAWT
Hours 18

Link Ref.	Link Name	Sensitivity	Total Vehicles: NET	HDVS: NET	Step Changes	Magnitude of Impact	Significance
27	Garrod Street (East Parce	Medium	142	34	0	Negligible	Minor Adverse
28	Eddington Avenue (South	Medium	142	34	0	Negligible	Minor Adverse
56	Cartwright Avenue - Nort	Medium	134	10	0	Negligible	Minor Adverse
57	Cartwright Avenue - East	Medium	162	10	0	Negligible	Minor Adverse

Appendix: Traffic and Movement

Annex 1: Baseline and Future Year Traffic Flows

Annex 2: Road Links

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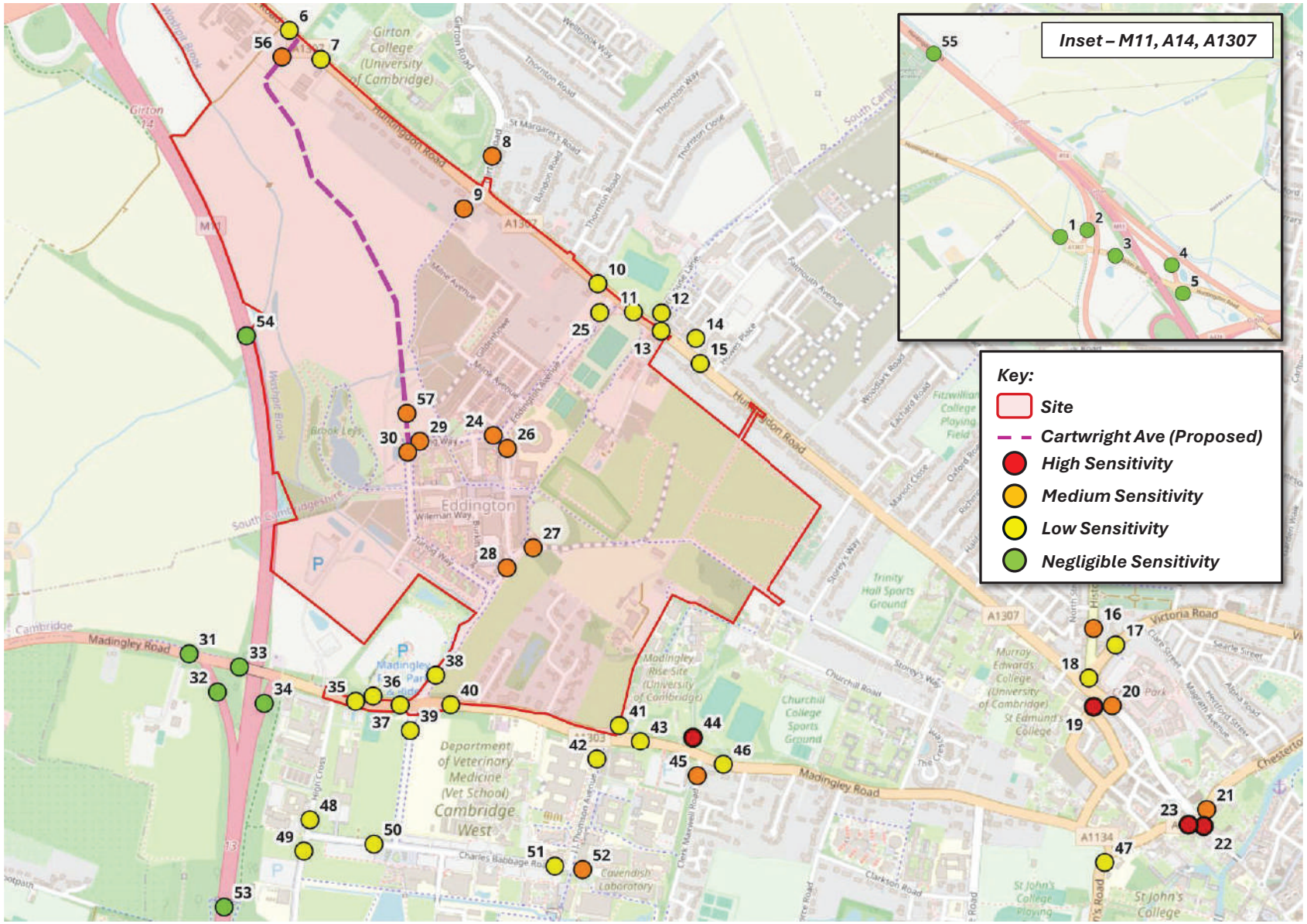
Inset – M11, A14, A1307
Key:
Site
Cartwright Ave (Proposed)
High Sensitivity
Medium Sensitivity
Low Sensitivity
Negligible Sensitivity
Girton College (University of Cambridge)
Eddington
Madingley Road
Huntingdon Road
Victoria Road
Department of Veterinary Medicine (Vet School)
Cambridge West
Cavendish Laboratory
Madingley Rise Site (University of Cambridge)
Murray Edwards College (University of Cambridge)
St Edmund's College
Churchill College Sports Ground
Trinity Hall Sports Ground
St John's College
A1307
A1134
M11
A14

Appendix: Air Quality

Annex 1: Model Verification

Annex 2: Air Quality Legislation Policy

Annex 3: Dust Risk Assessment

TRIUM

Appendix: Air Quality

Annex 1: Model Verification

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North West Cambridge Masterplan

Annex 1: Model Verification

26 June 2025

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Table 1. Model Performance Prior to Bias Adjustment 1
Table 2. Model Performance After Bias Adjustment 2

Annex 1: Air Quality Model Verification

1.1 When using modelling techniques to predict concentrations, it is necessary to make a comparison between the modelling results and monitoring data, to ensure that the model is reproducing actual observations. The accuracy of the future year modelling results are relative to the accuracy of the base year results, therefore greater confidence can be placed in the future year concentrations if good agreement is found for the base year.

1.2 Predicted results from an air quality dispersion model may differ from measured concentrations for a number of reasons, including uncertainties associated with traffic flows and emissions factors, meteorology and limitations inherent to the modelling software. In light of this, and in accordance with advice in LAQM.TG(22)[1], for roads-based air quality assessments it is best-practice to perform a comparison of modelled results with local monitoring data to minimise these modelling uncertainties. This provides a verification factor, by which the output of the ADMS-Roads model is adjusted, to gain greater confidence in the final results. The verification of the modelling output was carried out as prescribed in LAQM.TG(22).

1.3 The first step of which is to consider the performance of the model, prior to any adjustment, by comparing modelled and measured total NO_2 concentrations predicted and gathered at the same locations. Both Cambridge City Council and South Cambridgeshire District Council undertake monitoring of NO_2 via a network of 70 and 32 diffusion tube locations respectively in 2023.

1.4 Only monitoring sites from Cambridge City Council were within the modelled road extent. From these sites, only those representative of modelled sensitive receptor locations and with sufficient data capture were considered suitable for the purposes of model verification. No sites were excluded from verification. Following detailed analysis of each monitoring location a total of 7 monitoring sites were taken forward in the model verification process.

1.5 Where a number of monitoring sites are used to provide an adjustment factor, the accuracy of the adjusted model can be determined using the Root Mean Square Error (RMSE) calculation. The RMSE value should be within ±10% of the national air quality objective of 40 µg/m^3, i.e. 4 µg/m^3, but a RMSE value within ±25% is considered acceptable, i.e. 10 µg/m^3. Similarly model accuracy can also be determined through use of Fractional Bias, which shows the models systematic tendency to under or over predict pollutant concentrations. The Fractional Bias varies between -2 (model is overpredicting) and 2 (model is underpredicting) and should ideally equal 0.

1.6 Table 1 presents a summary of the model performance prior to the bias adjustment. These comparisons show that the model had a tendency to underpredict annual mean NO_2 concentrations at monitoring sites. With the unadjusted results, the RMSE was 6.1 µg/m^3 and the fractional bias was 0.4, indicating that the model is underpredicting.

Table 1. Model Performance Prior to Bias Adjustment

Monitoring Location	Background NO_2 (2023)	Measured NO_2 (µg/m^3)	Modelled NO_2 (µg/m^3)	% Difference (Modelled – Measured / Measured)
DT4	9.5	22.6	13.6	-39.9
DT15	7.5	13.1	9.5	-27.6
DT19	7.9	13.0	10.3	-20.8
DT21	9.5	15.8	11.8	-25.1
DT22	8.2	20.6	11.3	-44.9
DT23	8.2	13.2	10.3	-22.2
DT24	9.5	19.6	12.9	-34.4

1.7 Table 2 presents a summary of the model performance after bias adjustment, and this is demonstrated in Figure A.1. With the adjusted results, the RMSE was lowered to 1.6 µg/m^3 and the fractional bias was

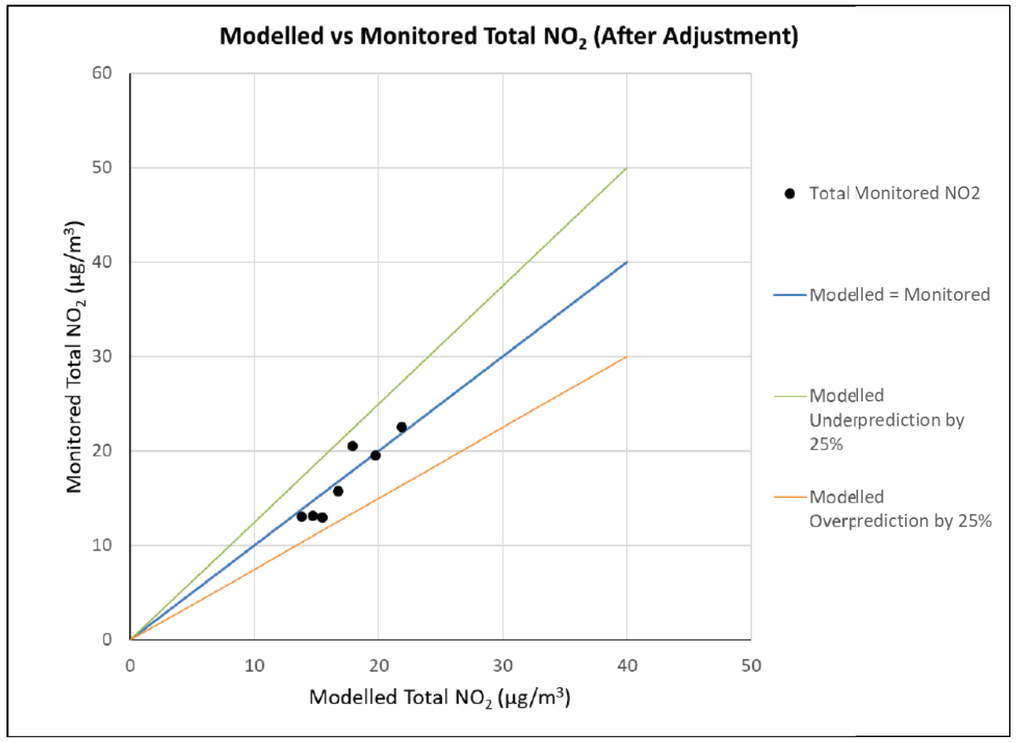
[1] Defra. (2022). *Local Air Quality Management Technical Guidance (TG22).*

<0.1, which indicated good model agreement. Based on the chosen monitoring sites, an adjustment factor of 3.23 was calculated and then applied to the modelled road NO_x, PM_{10} and $PM_{2.5}$ concentrations at receptor locations. The RMSE value for the adjusted model was 1.6 µg/m^3, as such the model is considered robust and suitable for use.

Table 2. Model Performance After Bias Adjustment

Monitoring Location	Background NO_2 (2023)	Measured NO_2 (µg/m^3)	Modelled NO_2 (µg/m^3)	% Difference (Modelled – Measured / Measured)
DT4	9.5	22.6	21.8	-3.4
DT15	7.5	13.1	13.8	5.3
DT19	7.9	13.0	15.4	18.8
DT21	9.5	15.8	16.7	5.8
DT22	8.2	20.6	17.9	-13.1
DT23	8.2	13.2	14.7	11.3
DT24	9.5	19.6	19.7	0.5

Figure A.1. Modelled vs Monitored Total NO_2 After Adjustment



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Appendix: Air Quality

Annex 1: Model Verification

Annex 2: Air Quality Legislation Policy

Annex 3: Dust Risk Assessment

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North West Cambridge Masterplan

Annex 2: Air Quality Legislation, Policy and Guidance

26 June 2025

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Annex 2: Legislation, Policy, and Guidance

1.1 National Air Quality Legislation

1.1.1 Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

1.1 Regulation 5(2)(c) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (1) mandates that the environmental impact assessment (EIA) comprehensively identify, describe, and evaluate the significant direct and indirect effects of the project on air quality, taking into account the specifics of each case. Such assessments ensure that the environmental impact of infrastructure projects is fully considered and that the public is consulted where significant effects are identified.

1.1.2 Air Quality Standards Regulations 2010

1.2 In the United Kingdom, the Air Quality Standards Regulations 2010 (2) (as amended in 2016 (3), 2019 (4), and 2020 (5)) are an important legislative framework governing air quality. These regulations are derived from EU law, specifically the Ambient Air Quality and Cleaner Air for Europe Directive 2008/50/EC (the 'Air Quality Directive') (6). Following the UK's exit from the European Union, these regulations are classified as 'assimilated law' pursuant to the EU (Withdrawal) Act 2018 (7) (as amended in 2023 (8)). This means that relevant directives previously applied directly or indirectly to the UK are still relevant to the environmental assessment within this report. However, the EU will no longer have a role in enforcement, this having passed to the UK Government and the relevant Secretary of State.

1.3 The limit values (LVs) for pollutants defined within these regulations are legally-binding on the UK Government and have been set for the protection of human health and of vegetation. They are considered to apply everywhere (with the exception of the carriageway and central reservation of roads and any locations where the public do not have access).

1.1.3 Environment Act (1995)

1.4 The Environment Act 1995 (9) defines a Local Air Quality Management (LAQM) regime, under which local authorities bear the responsibility to monitor ambient air quality in their areas regularly against set Air Quality Objectives (AQOs). If they identify that the AQOs are unlikely to be met within the specified timescale, they must then designate an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) aimed at ensuring the objectives are eventually met. The boundary of an AQMA is set by the local authority to define the geographical area that is to be subject to the management measures within the AQAP. Consequently, it is not unusual for the boundary of an AQMA to include relevant locations within it where air quality is not at risk of exceeding an AQO.

1.1.4 Air Quality (England) Regulations 2000

1.5 The AQOs of relevance to the LAQM regime were set by the Air Quality (England) Regulations 2000 (10) and Air Quality (England) (Amendment) Regulations 2002 (11). These AQOs are not legally binding on the government as LVs are, but require action on the part of local authorities to address them as part of the LAQM regime, set out in the Environment Act 1995 (9).

1.1.5 Environment Act (2021)

1.6 The Environment Act 2021 (12) amends the Environment Act 1995 (9) and sets a new course for the UK's environmental policy post-Brexit. It includes provisions to establish a set of statutory environmental principles to guide future legislation and policy decisions and ensure environmental governance through an environmental watchdog, the Office for Environmental Protection (OEP).

1.7 Under Part IV of the Act, the government is mandated to develop a National Air Quality Strategy (AQS) which contains clear standards, objectives, and measures to improve ambient air quality, and to

publish a report reviewing the AQS every five years (as a minimum and with yearly updates to Parliament), in the form of the Environmental Improvement Plan.

1.8 The Environment Act 2021 includes a proposal that the government set a range of new environmental targets including an annual mean concentration target and a population exposure reduction target for $PM_{2.5}$. Following through on these requirements, the Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 (13) came into effect, introducing the two targets described above. These legislative targets must be met at relevant monitoring stations by December 31, 2040. Full guidance on how target values should be considered in development control and local air quality control is not yet available.

1.1.6 The Environmental Protection Act (1990)

1.9 The main requirements with respect to dust and odour control are derived from the Environmental Protection Act (14). Part III of the act includes the following descriptions of statutory nuisance:

> *"(b)smoke emitted from premises so as to be prejudicial to health or a nuisance;*
>
> *(c)fumes or gases emitted from premises so as to be prejudicial to health or a nuisance;*
>
> *(d)any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance;"*

1.10 Enforcement of the Act, in regard to nuisance, is currently under the administration of the local authority Environmental Health Department, whose officers are deemed to provide an independent evaluation of nuisance. If the local authority is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of the Environmental Protection Act, which requires those responsible to mitigate or terminate processes, within a defined timescale. The only defence is to show that the process to which the nuisance has been attributed and its operation are being controlled according to best practice measures. Failure to resolve a statutory nuisance can result in legal action and penalties. Local authorities can issue fines and individuals affected by the nuisance can seek compensation or injunctions privately.

1.2 National Policy

1.2.1 Environmental Improvement Plan 2023

1.11 The 25 Year Environment Plan, originally published in 2018, sets out the actions the UK Government will take to help the natural world regain and retain good health.

1.12 The Environment Plan was revised in February 2023 with the publication of the Environmental Improvement Plan 2023 (16). The plan outlines several actions that are being taken to improve air quality, most notably by supporting local authorities, facilitating the rollout of Clean Air Zones, supporting the transition away from petrol and diesel cars, regulating domestic burners, and regulating agricultural emissions.

1.13 Interim targets (deadline 2028) for $PM_{2.5}$ were also announced to demonstrate the trajectory against the long-term legal targets (deadline 2040) set out in The Environmental Targets (Fine Particulate Matter) Regulations 2023.

1.2.2 National Clean Air Strategy

1.14 In 2019, the UK government introduced the Clean Air Strategy 2019 (17), a major component of its broader 25 Year Environment Plan (18), and the government's primary strategy for air quality. This strategy underscored a renewed governmental commitment to air quality improvements and also laid the groundwork for the development of more recent legislative changes as described above.

1.15 In recent years, air quality management has primarily focused on nitrogen dioxide (NO_2), and its principal source in the UK i.e. road traffic. However, the Clean Air Strategy broadens the focus to other areas. This shift in emphasis is part of a longer term goal to reduce the levels of $PM_{2.5}$ in ambient air. It outlined comprehensive measures to combat air pollution, from reducing emissions across various sectors to enhancing the country's monitoring and analytics capabilities. Recognizing that air pollution is a complex problem influenced by a range of factors, including industrial activity, agriculture, and domestic heating, the strategy advocated for a holistic approach to ensure cleaner air.

1.2.3 Air Quality Strategy (AQS) 2023

1.16 Functioning as a framework for local authority delivery of the above plans, a new Air Quality Strategy (AQS) was published in April 2023 (19). This updated strategy is action-oriented, outlining specific roles for local authorities in support of achieving the new national $PM_{2.5}$ targets and other long-term air quality goals. It specifies that local authorities are expected to take action by controlling emissions from sources within their jurisdiction.

1.17 The AQS outlines proposals to tackle emissions from a range of sources. This includes providing clear and effective guidance on how an Air Quality Management Areas (AQMAs), Clean Air Zones (CAZs) and Smoke Control Areas interrelate and how they can be used by local government to tackle pollution.

1.18 The AQS summarises current limit values, air quality objectives, and targets defined in legislation as described above. Of the seven pollutants for which AQOs have been set, national assessments have demonstrated that there is no risk of sulphur dioxide (SO_2), carbon monoxide (CO), benzene, 1,3-butadiene, lead concentrations exceeding the limits due to emissions from traffic anywhere in the UK. The remaining Air Quality Objectives, Limits and Targets for the protection of human health, as summarised in the AQS, are shown in Table 1.

Table 1: Relevant UK AQS Air Quality Objectives, Limit Values and Targets

Pollutant	Averaging Period	Value	Maximum Permitted Exceedances	Target Year
Nitrogen Dioxide (NO_2)	Annual Mean	40 µg/m^3 [a]	None	2005
	Hourly Mean	200 µg/m^3 [a]	18 times per year	2005
Particulate Matter (PM_{10})	Annual Mean	40 µg/m^3 [a]	None	2004
	24-Hour Mean	50 µg/m^3 [a]	35 times per year	2004
Fine Particulate Matter ($PM_{2.5}$)	Annual Mean	20 µg/m^3 [b]	None	2020
		10 µg/m^3 [c]	None	2040
		12 µg/m^3 [d]	None	2028
	Exposure reduction	35% [b]	-	2040
		22% [c]	-	2028

[a] These values are both Limit Values as defined in the Air Quality Standards Regulations and Air Quality Objectives that apply locally under the LAQM framework

[b] These values are Limit Values as defined in the Air Quality Standards Regulations

[c] These values are a legally binding target as set out in the Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

[d] These values are interim targets are set out in the Environmental Improvement Plan 2023

1.2.4 National Planning Policy Framework (NPPF) (2025)

1.19 The National Planning Policy Framework (NPPF) (21) sets out the Government's environmental, economic and social policies and principles for land use planning in England and how these are expected to be applied, providing a framework within which locally-prepared plans for development can be produced. The National Planning Policy Framework was first published in March 2012, and was last updated in February 2025.

1.20 Paragraphs 190, and 192 of the NPPF provide advice on when air quality should be a material consideration in development management decisions.

1.21 Paragraph 180 states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by… e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality…"

1.22 Paragraph 192 states that:

"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

1.3 Regional Policy

1.3.1 Greater Cambridge Air Quality Strategy 2024

1.23 Following the revocation of the Air Quality Management Area (AQMA) in SCDC in January 2022, SCDC developed a local Air Quality Strategy. In April 2024 this local Air Quality Strategy was replaced with a new Greater Cambridge Air Quality Strategy (22), which is a joint strategy with Cambridge City Council. Similarly, upon the revocation of the AQMA in CCC in 2024, the Greater Cambridge Air Quality Strategy replaces the CCC Air Quality Action Plan. The Strategy includes an Action Plan of measures for delivering air quality improvements for delivery within the lifetime of the Strategy. The lifetime of the Strategy is 5 years, from 2024 to 2029.

1.24 The primary objectives of the Strategy are:

1. continue to meet and deliver all legislative and policy requirements associated with air quality
2. continue to improve air quality across Greater Cambridge enhancing the health of those living, working and visiting Greater Cambridge
3. work towards World Health Organisation Air Quality Guideline annual averages as longer term targets with interim targets for delivery within the lifetime of the Strategy (5 years).

1.25 The objectives of the Strategy across Greater Cambridge will be delivered under 4 key priority areas;

1. Regulatory Policies and Development Control
2. Infrastructure Improvements
3. Community Engagement
4. Promotion and Monitoring.

1.4 Local Policy

1.4.1 Cambridge City Council Local Plan 2018

1.26 Cambridge City Council (CCC) adopted their Local Plan (23) in October 2018. This outlines the Council's broad planning strategy to 2031. The following statements were identified as being relevant to the Proposed Development from an air quality perspective:

"*Policy 36: Air quality, odour and dust*

Development will be permitted where it can be demonstrated:

a. that it does not lead to significant adverse effects on health, the environment or amenity from polluting or malodorous emissions, or dust or smoke emissions to air; or

b. where a development is a sensitive end-use, that there will not be any significant adverse effects on health, the environment or amenity arising from existing poor air quality, sources of odour or other emissions to air.

According to the end-use and nature of the area and application, applicants must demonstrate that:

a. there is no adverse effect on air quality in an air quality management area (AQMA);

b. pollution levels within the AQMA will not have a significant adverse effect on the proposed use/users;

c. the development will not lead to the declaration of a new AQMA;

d. the development will not interfere with the implementation of the current Air Quality Action Plan (AQAP);

e. any sources of emissions to air, odours and fugitive dusts generated by the development are adequately mitigated so as not to lead to loss of amenity for existing and future occupants and land uses; and

f. any impacts on the proposed use from existing poor air quality, odour and emissions are appropriately monitored and mitigated by the developer."

1.4.2 South Cambridgeshire District Council Local Plan 2018

1.27 South Cambridgeshire District Council (SCDC) adopted their Local Plan (24) in September 2018. This outlines the Council's broad planning strategy to 2031. The following statements were identified as being relevant to the Proposed Development from an air quality perspective:

"SC/12: Air Quality

1. *Where development proposals would be subject to unacceptable air quality standards or would have an unacceptable impact on air quality standards they will be refused.*
2. *Where emissions from the proposed development are prescribed by EU limit values or national objectives, the applicant will need to assess the impact on local air quality by undertaking an appropriate air quality assessment and detailed modelling exercise having regard to guidance current at the time of the application to show that the national objectives will still be achieved.*
3. *Development will not be permitted where it would adversely affect air quality in an Air Quality Management Area (AQMA); or lead to the declaration of a new AQMA through causing a significant deterioration in local air quality by increasing pollutant levels either directly or indirectly; or if it would expose future occupiers to unacceptable pollutant levels.*
4. *Larger development proposals that require a Transport Assessment and a Travel Plan as set out in Policy TI/2 will be required to produce a site based Low Emission Strategy. This will be a condition of any planning permission given for any proposed development which may result in the deterioration of local air quality and will be required to ensure the implementation of suitable mitigation measures.*
5. *Development will be permitted where:*
    a. *It can be demonstrated that it does not lead to significant adverse effects on health, the environment or amenity from emissions to air; or*
    b. *Where a development is a sensitive end use, that there will not be any significant adverse effects on health, the environment or amenity arising from existing poor air quality.*
6. *Specifically* applicants must demonstrate that:
    a. There is no adverse effect on air quality in an Air Quality Management Area (AQMA) from the development;
    b. Pollution levels within the AQMA will not have a significant adverse effect on the proposed use / users;

    c. The development will not lead to the declaration of a new AQMA;
    d. The development will not interfere with the implementation of and should be consistent with the current Air Quality Action Plan;
    e. The development will not lead to an increase in emissions, degradation of air quality or increase in exposure to pollutants at or above the health based air quality objective;
    f. Any impacts on the proposed use from existing poor air quality, are appropriately mitigated;
    g. The development promotes sustainable transport measures and use of low emission vehicles in order to reduce the air quality impacts of vehicles.
7. Applicants shall, where appropriate, prepare and submit with their application, a relevant assessment, taking into account guidance current at the time of the application."

1.5 Guidance

1.5.1 Local Air Quality Management Technical Guidance (2022) (LAQM.TG22)

1.28 The Department for Environment, Food and Rural Affairs (Defra) provides and maintains guidance and tools to support local authorities in carrying out their duties with respect to LAQM. Although not statutory guidance for assessment purposes, this assessment is carried out is in line with the guiding principles for air quality assessments and with the calculation methods and MS Excel based tools as set out in LAQM.TG22 (26).

1.29 Table 2 summarises the advice provided in LAQM.TG22 on where the AQOs for pollutants considered within this report apply.

Table 2: Examples of Where the Air Quality Objectives Apply

Averaging Period	Objectives Should Apply At	Objectives Should Not Apply At
Annual mean	All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes etc.	Building façades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence Gardens of residential properties Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
24-hour mean	All locations where the annual mean objective would apply, together with hotels. Gardens of residential properties.	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
1-hour mean	All locations where the annual mean and 24-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more. Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer.	Kerbside sites where the public would not be expected to have regular access.

1.5.2 Planning Practice Guidance for Air Quality (2024)

1.30 The PPG (27) is a web-based resource for planning authorities and developers, designed to support the NPPF and make it more accessible. It was launched in March 2014 and updated most recently in December 2024. The most recent update with specific reference to air quality was in November 2019.

1.31 The Air Quality PPG states that:

"Whether air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to have an adverse effect on air quality in areas where it is already known to be poor, particularly if it could affect the implementation of air quality strategies and action plans and/or breach legal obligations

(including those relating to the conservation of habitats and species). Air quality may also be a material consideration if the proposed development would be particularly sensitive to poor air quality in its vicinity."

1.32 The Air Quality PPG states that if air quality is determined to be a relevant consideration, the local planning authority may need to establish:

- *"the 'baseline' local air quality, including what would happen to air quality in the absence of the development;*
- *whether the proposed development could significantly change air quality during the construction and operational phases (and the consequences of this for public health and biodiversity); and*
- *whether occupiers or users of the development could experience poor living conditions or health due to poor air quality."*

1.33 On how detailed an air quality assessment needs to be, the Air Quality PPG states:

"Assessments should be proportionate to the nature and scale of the development proposed and the potential impacts (taking into account existing air quality conditions)"

1.34 On mitigation options, the Air Quality PPG states:

"Mitigation options will need to be locationally specific, will depend on the proposed development and need to be proportionate to the likely impact. It is important that local planning authorities work with applicants to consider appropriate mitigation so as to ensure new development is appropriate for its location and unacceptable risks are prevented."

1.5.3 IAQM Guidance on the assessment of dust from demolition and construction (2024)

1.35 'Guidance on the assessment of dust from demolition and construction' published by the IAQM (28) is adopted for the assessment of dust impacts and the selection of appropriate good practice control measures. This guidance addresses the potential for statutory nuisance by using a more demanding test based on the risk of significant adverse effects on amenity. The guidance provides an approach to the screening of the need for a detailed assessment, and a methodology for carrying out a qualitative assessment of the risk of dust impacts and provides a list of best-practice mitigations measures suited to the assessed risk.

1.5.4 EPUK/IAQM Air Quality Assessment Guidance for Planning

1.36 Non-statutory best practice guidance jointly issued by Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) (29) sets out principles of scoping and conducting air quality assessments, and how the significance of the effects arising from air quality impacts may be determined, using an impact matrix. This approach has been followed to assess air quality effects from the operational phase of the Proposed Scheme.

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Appendix: Air Quality

Annex 1: Model Verification

Annex 2: Air Quality Legislation Policy

Annex 3: Dust Risk Assessment

TRIUM

North West Cambridge Masterplan

Annex 3: Dust Risk Assessment

26 June 2025

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Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
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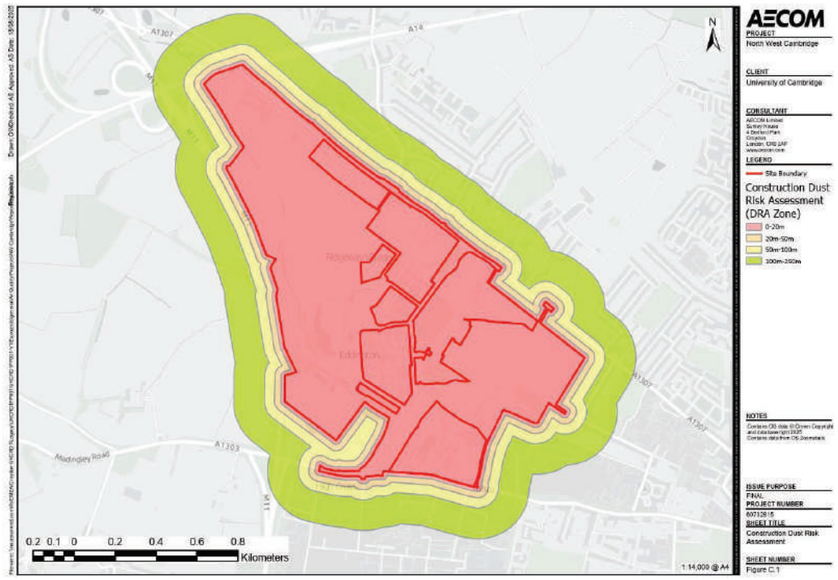
Annex C Dust Risk Assessment

1.1 A 'Dust Risk Assessment' has been undertaken in accordance with IAQM guidance. The assessment outlines the appropriate level of mitigation required at the Site (in accordance with the guidance) to either avoid or reduce potential effects to neighbouring sensitive receptors (property and amenity; human health).

1.2 The assessment considers the potential dust risk across a set of pre-defined zones, up to 250 metres from the Site boundary. These zones are presented in Figure C.1.

1.3 Due to the absence of dust-sensitive designated ecological sites within 1 km of the Site, assessment of potential dust impacts on ecological receptors has been scoped out.

Figure C.1 Construction Dust Risk Assessment (DRA) Zones



Predicted Magnitude of Dust Emission from Construction Activities

1.4 Activities on construction sites with the potential to generate dust and emissions can be categorised into four types of activities: demolition, earthworks, construction and trackout.

1.5 There are minimal existing buildings or structures on the site which are planned to be demolished, as well as brownfield areas which may require partial demolition. The total building volume to be demolished is estimated to be 35,316 tonnes, however, these quantities are indicative at this stage and will be further defined through a Pre-Demolition Audit to be secured as a planning condition. It is not expected that demolition activities will occur above 12 m above ground level. Nevertheless the dust emissions magnitude due to demolition is considered to be **Large** as a conservative approach.

1.6 The total site area of the Proposed Development is 114 ha (1,146,000 m^2). The UK Soil Observatory[1] indicates the soilscape on the site area to be "Lime-rich loamy and clayey soils with impeded drainage", and thus this is considered a potentially dusty soil type. As such, the dust emissions magnitude due to earthworks is considered to be **Large**.

[1] British Geological Survey. UK Soil Observatory (UKSO). Available at: https://mapapps2.bgs.ac.uk/ukso/home.html

1.7 The total building volume to be constructed in not known. However, the illustrative size of the gross external area (GEA) of the Proposed Development is 506,276 m^2, thus the building volume is expected to be significantly larger than 75,000 m^3. ES Volume 1, Chapter 5: Enabling, Demolition and Construction indicates the quantity of concrete to be 296,211 m^3. As such, the dust emission magnitude of the construction phase is considered to be **Large**.

1.8 Chapter 5: Enabling, Demolition and Construction indicates the maximum number of daily Heavy Goods Vehicles (HGV) trips is 65 per day, with the peak expected in 2033. As such, the dust emission magnitude from trackout is considered to be **Large**.

1.9 A summary of the dust emission magnitudes is presented in Table 1.

Table 1. Summary of Potential Dust Emission Magnitudes for Construction Phase Activities

Activity	Potential Dust Emission Magnitude
Demolition	Large
Earthworks	Large
Construction	Large
Trackout	Large

Sensitivity of Site to Dust Emissions

1.10 Within 50 metres of the Site and main roads which will be used during construction, there are over 100 residential buildings which are classified as high sensitivity receptors concerning amenity and human health impacts. In addition, as the development will be phased, early phase receptors have been included in the assessment of construction dust impacts as sensitive receptors, and it has been assumed that large numbers of sensitive receptors be present at the boundary throughout the works.

1.11 Given this and coupled with the area's low existing dust concentration (background PM_{10} concentrations reported in Table 8.8 of Chapter 8, ranging from 12.5 to 14.4 $\mu g/m^3$ in 2023, which is predicted to reduce in future years[2]), the study area is considered to have high sensitivity to dust soiling impacts and medium sensitivity to impacts on human health.

1.12 There is one ecological designation within the Site; the Traveller's Rest Pit Site of Special Scientific Interest ('SSSI'). However, the interest in this SSSI is geological, and thus not sensitive to air quality impacts. Ecological receptors are not considered further in this assessment.

1.13 A summary of the sensitivity of the area is presented in Table 2.

Table 2. Summary of Sensitivity of the Surrounding Area

	Sensitivity of the Surrounding Area			
Area Affected	Demolition	Earthworks	Construction	Track Out
Dust Soiling	High	High	High	High
Human Health	Medium	Medium	Medium	Medium

Summary of Dust Impacts

1.14 Taking into account the identified dust emission magnitude and the sensitivity of the area to dust and PM_{10} impacts, and with reference to the IAQM guidance, the findings of the dust risk assessment are summarised in Table 3.

[2] Department For Environment, Food & Rural Affairs, 2021-based Background Maps, 2021. Available at: https://uk-air.defra.gov.uk/data/laqm-background-home

Table 3. Summary of Dust Risk Impacts

	Risk			
Potential Impact	**Demolition**	**Earthworks**	**Construction**	**Track Out**
Dust Soiling	High	High	High	High
Human Health	High	Medium	Medium	Medium

1.15 The dust risk assessment conservatively classifies the Site as presenting a 'High Risk' of dust soiling impacts during all activities. Regarding human health impacts, the site is categorised as ‘High Risk' for demolition, and ‘Medium Risk’ for earthworks, construction and trackout activities.

1.16 These risk classifications are solely used to select the appropriate schedule of mitigation measures, examples of which are set out in guidance published by the IAQM (IAQM, 2024) and are presented within the Air Quality Chapter. For all but the smallest of sites the use of the high-risk schedule of measures represents good working practice.

1.17 On consideration of the likely effectiveness of these mitigation measures, additional site-specific measures may be identified in the detailed Construction Environmental Management Plan (CEMP) to be prepared by the contractor. The detailed CEMP will include a procedure for dealing with complaints during construction and associated works.

1.18 Assuming all mitigation measures are effectively implemented and monitored, at the level recommended by the Dust Risk Assessment, dust effects resulting from construction activities are anticipated to be not significant.

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Appendix: Noise and Vibration

Annex 1: Legislation, Planning Policy and Other Relevant Standard and Guidance

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ANNEX 1: KEY LEGISLATION, POLICY AND OTHER RELEVANT GUIDANCE AND CONSIDERATIONS

Legislation

Control of Pollution Act 1974

Powers are given to Local Planning Authorities (LPAs) under the Control of Pollution Act 1974 (COPA) for the control of noise from construction sites. Sections 59A, 60 and 61 of COPA 1974 allow LPAs to serve notices imposing conditions on the way in which construction work is conducted. It is a criminal offence to contravene such a notice without a reasonable excuse, which can be avoided provided the work is carried out under a consent issued under Section 61 of the Act. Such consents may be applied for in advance of construction work being carried out.

LPAs can produce Regulations to control noise from plant or machinery under Section 68 of COPA 1974, but the reference is generally to use codes of practice issued under Section 71 to minimise noise. Although breach of a code of practice is not a criminal offence, these may be taken into account in legal proceedings.

Under COPA 1974, a LPA may designate all or part of its area as a noise abatement zone. The consequence of this is that noise levels are recorded and entered into a public register. Noise levels may only exceed pre-defined limits with prior consent from the LPA.

The Environmental Noise (England) Regulations 2006 (as amended 2008, 2009, 2010 and 2018)

The environmental Noise (England) Regulations 2006 implement the Assessment and Management of Environmental Noise Directive 2002/49/EC (END). The END requires:

- The use of harmonised noise indicators and computational measures so that data can be collected and compared in a standardised way;
- Common protocol for noise mapping;
- The drawing up of noise maps;
- Making information available to the public;
- The drawing up of local action plans; and
- Collection of data by the Commission to inform future community policy.

National Planning Policy

The National Planning Policy Framework (NPPF) (2025)

The National Planning Policy Framework (NPPF) sets out the government planning requirements, and supersedes previous guidance notes such as PPG24. No specific noise criteria are set out in the NPPF, or in the Noise Policy Statement for England (NPSE) to which it refers.

The NPPF states:

'*Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:*

- *Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and quality of life;*
- *Identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason…'*

In addition, the following is noted:

'Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed'.

National Planning Practice Guidance (2014)

The National Planning Practice Guidance (NPPG) provides further context to the NPPF and the two documents should be read together. The document provides guidance on how to recognise when noise could be a concern and the factors that influence this, along with outline guidance on noise mitigation through engineering and design, etc.

Noise Policy Statement for England (2010)

The Noise Policy Statement for England (NPSE) sets out the long-term vision of Government noise policy. The NPSE states that its aims are as follows:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and minimise adverse impacts on health and quality of life; and
- Where possible, contribute to the improvement of health and quality of life."

The NPSE adopts established concepts from toxicology that can be applied to noise impacts. The concept details noise levels, at which the effects of an exposure may be classified into a specific category. The classification categories as detailed within the NPSE are as follows:

- No Observed Effect Level (NOEL) - the level below which no effect can be detected. Below this level no detectable effect on health and quality of life due to noise can be established;
- Lowest Observable Adverse Effect Level (LOAEL) - the level above which adverse effects on health and quality of life can be detected; and
- Significant Observed Adverse Effect Level (SOAEL) - the level above which significant adverse effects on health and quality of life occur.

The SOAEL does not have a single objective noise level that is applicable to all sources of noise in all situations and therefore, the SOAEL is likely to be different for different sources, different receptors and at different times of the day.

The first aim of the NPSE is to avoid significant adverse effects on health and quality of life, taking into account the guiding principles of sustainable development. The second aim considers situations where impacts are established between the LOAEL and SOAEL. In such circumstances, all reasonable steps should be taken to mitigate and minimise the effects. However, this does not mean that such adverse effects cannot occur. The third aim seeks to improve health and quality of life, where possible, through the pro-active management of noise, whilst also taking account of the guiding principles of sustainable development.

DEFRA have led a study to identify the SOAEL and LOAEL for a limited range of noise sources. The study was understood to have ended in 2012. However, no guidance from this research has been issued at the time of writing (August 2025).

Sustainable Design and Construction – Supplementary Planning Guidance

The Sustainable Design and Construction Supplementary Planning Guidance (SPG) provides guidance on what measures can be included in the design of buildings to achieve targets set for reductions in environmental emissions and consumption of natural resources in order to achieve sustainable developments.

Section 4.4 of the SPG relates specifically to the control of noise and makes references to the London Plan. The guidance provided on noise includes consideration of the sources of noise that are generated by developments, engineering measures on the control of noise and vibration, consideration of the building layout, administrative measures and design measures that are to be considered in developments. The Sustainable Design and Construction SPG does not contain any specific assessment criteria.

Local Planning Policy

Cambridge City Council – Local Plan 2018

Policy 35 of Cambridge Local Plant relates directly to noise and states:

Development will be permitted where it is demonstrated that:

a) It will not lead to significant adverse effects and impacts, including cumulative effects and construction phase impacts wherever applicable on health and quality of life/amenity from noise and vibration; and

b) Adverse noise effects/impacts can be minimised by appropriate reduction and/or mitigation measures secured through the use of conditions or planning obligations, as appropriate (preventions through high quality acoustic design is preferable to mitigation).

…Noise generating development including industrial, trade or business/commercial uses with associated transport noise sources will be permitted where it can be demonstrated that any nearby noise sensitive uses (as existing or planned) will not be exposed to noise that will have an unacceptable adverse impact on health and quality of life both internally and externally.

Policy 35 follows closely the requirements of Paragraph 198 of the NPPF and the guidance within the NPSE.

Greater Cambridgeshire Sustainable Design and Construction Supplementary Planning Document

The Greater Cambridge Sustainable Design and Construction Supplementary Planning Document supplements the Local Plan by providing additional information for developers with respect to the evaluation of noise impacts.

Appendix 8 provides technical guidance related to noise pollution, and its control.

British Standards and Guidance

The following paragraphs summarise the outline assessment British Standards and guidance documents used to set target criteria for the identification of noise and vibration impacts:

Construction Noise and Vibration

Estimation of noise and vibration generated during each principal phase of the construction works and an assessment of the likely significant effects on surrounding sensitive receptors using the methodology set out in British Standard BS 5228:2009+A1 2014 Code of Practice for Noise and Vibration on Construction and Open Sites (Part 1: Noise, Part 2: Vibration).

Road traffic noise

For the assessment of noise associated with road traffic, reference will be made to the Calculation of Road Traffic Noise (CRTN). Further advice is also given in the Design Manual for Roads and Bridges (DMRB) for road traffic noise assessments. Each of these documents offer a means of predicting noise levels and changes in noise level and assessment of the impact of the changes. Guidance on the impact assessment of traffic noise is provided within the Institute of Environmental Management and Assessment (IEMA) Guidance Note No. 1 Guidelines for the Environmental Assessment of Road Traffic.

Building Services Noise Emissions

For the assessment of building services noise egress, reference will be made to BS 4142:2014+A1 2019: Methods for Rating and Assessing Industrial and Commercial Sound. The standard provides a method of measuring background noise levels and assessing the likelihood of complaint regarding external noise levels. The noise level resulting from plant operation is measured or predicted at a distance of one metre from the facade of the nearest noise sensitive premises. The plant noise level is compared to the existing background noise level in the area, as determined by a noise survey, over the proposed operational hours.

Human Response to Vibration

British Standard BS 6472-1: Guide to Evaluation of Human Exposure to Vibration in Buildings. Part 1: Vibration Sources other than Blasting. BS 6472-1 provides guidance on the measurement and assessment of vibration levels affecting humans in buildings resulting from sources such as road and rail traffic or building services systems. The probability of adverse comment is assessed by considering the vibration dose value (VDV), which quantifies the total exposure to vibration over a specified period.

Sports England Design Guidance Noise – Artificial Grass Pitch (AGP) Acoustics – Planning Implications

Sport England issued guidance on the planning implications that related to Artificial Grass Pitches (AGP). The aims of the guidance note are described to increase awareness of good design, help professionals/clients and users and encourage well designed sports facilities.

IEMA Guidelines for Environmental Noise Impact Assessment, 2014

IEMA Guidelines for Environmental Noise Impact Assessment 2014. The IEMA guidelines set out guidance on significance criteria for noise impact based on the changes in noise levels.

ProPG: for Planning and Noise (2014)

The Professional Practice Guidance on Planning and Noise (ProPG) was introduced to provide guidance on the management of noise within the planning system in England with respect to residential uses.

The document emphasises that good acoustic design should avoid ‘unreasonable’ acoustic conditions and prevent ‘unacceptable’ acoustic conditions both internally (inside dwellings), and externally in spaces intended for amenity. The document highlights that care should be taken not to over-design mitigation and states that:

‘Good acoustic design should provide an integrated solution whereby the optimum acoustic outcome is achieved, without design compromises that will adversely affect living conditions and the quality of life of the inhabitants or other sustainable design objectives and requirements.

This typically involves careful consideration of:

- Checking the feasibility of relocating or reduce noise levels from relevant sources;
- Consider the options for planning the site or building layout;

- Consider the orientation of proposed building(s);
- Select construction types and methods for meeting building performance requirements;
- Examine the effects of noise control measures on ventilation, fire regulation, health and safety cost, CDM etc; and
- Assess the viability of alternative solutions.

Internal and External Ambient Sound Pressure Levels

BS 8233:2014: *Guidance on sound insulation and noise reduction for buildings* provides recommendations on acceptable internal ambient sound pressure levels within different building uses. Recommendations are also provided for acceptable noise levels in residential amenity spaces amongst other things.

Appendix: Noise and Vibration

Annex 1: Legislation, Planning Policy and Other Relevant Standard and Guidance

Annex 2: Glossary

Annex 3: Environmental Noise Survey Report

Annex 4: Construction Plant Assumptions

Annex 5: Enabling, Demolition and Construction Noise Prediction Images

ANNEX 2: GLOSSARY

Term	Description
Sound Pressure Level (dB)	The result of the pressure variations in the air achieved by the sound waves
Sound Power Level (dB)	A measure of the acoustic energy emitted from a source of noise, expressed in decibels
Frequency (Hz)	The number of cycles per second and what provides sounds with their distinctive tones.
Decibel (dB)	A logarithmic unit to express sound levels in reasonable numbers and relative to reference figures, e.g. the lowest sound pressure level that can be detected by humans
Third and Octave Band Centre Frequency (Hz)	For convenience Sound Pressure or Power Levels are often expressed as single whole numbers, though in practice sound comprises multiple frequencies, i.e. tones. A convenient way of analysing the frequency component of a sound is to filter them into octaves or thirds of octaves bands.
'A' weighting	A frequency adjustment applied to sound levels to reflect how the sound is perceived by the human ear up to 85 dB.
Hz	Hertz (Hz) is the unit of frequency
$L_{A90,T}$	The A-weighted sound pressure level exceeded 90% of the measurement time (T) i.e. the quietest 10% of the period.
$L_{Aeq,T}$	The equivalent A-weighted sound pressure level of the measurement time, i.e. the RMS sound level. It is also known as the time-averaged sound pressure level.
$L_{AFmax,T}$	The highest (maximum) A-weighted sound pressure level measured in the time period (T). Sometimes measurements are used with the either the Fast (F) or Slow (S) time weighting.
Peak Particle Velocity (PPV)	A measure of vibration in mm/s (velocity) used to assess likelihood of damage and perceptibility of vibration.
Free-field sound pressure level	The sound pressure level measured at least 3m from the building facade and therefore does not contain reflected sound (apart from ground).
Facade sound pressure	The sound pressure level measured 1-2m from a facade or an acoustically reflective vertical surface. Facade sound pressure levels are 3dB higher than the equivalent free-field sound pressure level.

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Annex 4: Construction Plant Assumptions
Annex 5: Enabling, Demolition and Construction Noise Prediction Images

North West Cambridge

Noise Survey Report

Prepared for:
University of Cambridge

Date:
10 October 2024

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EXECUTIVE SUMMARY

1. Trium Environmental Consulting LLP are appointed to provide acoustic advice for the Proposed Development at Eddington, North West Cambridge.
2. An environmental noise survey was completed on the site between 17 September 2024 and 2 October 2024. The survey comprised long term unattended monitoring at four positions and daytime attended noise measurements.
3. The survey indicates that road traffic is the dominant source of noise across the site, with notable contributions from M11, A14, Huntingdon Road and Madingley Road. The measurement results indicate that the weather, in particular wind direction, has a strong influence on the measured sound levels. The change in wind direction is seen to influence noise from the M11 by up to $L_{Aeq,12h}$ 9 dB.
4. The results from the survey will be used to appraise the site and complete the noise impact assessment for the Proposed Development, including evaluation of site suitability.

INTRODUCTION

1. Trium Environmental LLP are appointed by the University of Cambridge to undertake a noise survey at Eddington, North-West Cambridge.
2. The purpose of the survey is to establish the existing baseline conditions in relation to noise levels at the site, which will be used to evaluate the potential impacts of the Proposed Development on the site and surrounding area.
3. This report presents the survey method and results.

SITE DESCRIPTION

4. The site location in relation to its surroundings is shown in Figure 1.

Figure 1 The Site Location and Measurement Positions

Proposed Development

5. The Proposed Development is likely to comprise the comprehensive phased development to contain up to:
   - 4,200 residential units (Class C3);
   - 1,350 student accommodation units (Sui Generis);
   - 675 co-living units (Sui Generis);
   - 6,500m^2 of senior living use (Class C2);
   - 100,000m^2 of flexible employment floor space (Use Class E(g)(i) / E(g)(ii) / Sui Generis);
   - 6,000m^2 of flexible floorspace, likely to comprise retail, nursery, health and indoor sports (Use Class E(a)-E(f));
   - 45 hectares (ha) of public open space, including children play space, sports pitches, allotments and a sustainable urban drainage;
   - Hard and soft landscaping and
   - Ancillary uses and plant.

Existing Surroundings

6. The existing site is predominately open fields, and located adjacent to existing residential (including an earlier built out phase on the site), residential colleges, educations facilities and commercial properties.
7. The site is bound to the west by the M11 (junction 13 to 14), to the north by A14, to the north-east and east by Huntingdon Road and the south by Madingley Road. Road traffic on the internal roads was also present, though did not significantly contribute in relation to the main roads outside the site.
8. No other sources of environmental noise were noted.

SURVEY RESULTS

9. The noise survey comprised:
   - Unattended noise monitoring at three positions; and
   - Attended noise monitoring at four positions.
10. The measurement positions relative to the site (outlined in red) are shown in Figure 1.
11. Unattended noise measurements were completed at positions 1, 2, 3 and 4. Attended noise measurements were completed at positions 5, 6, 7 and 8.
12. Details of the weather and equipment used are provided in Appendix A.
13. The equipment was installed and collected by Lucas Cox and Philip Owen.

Position 1

14. The unattended measurements at Position 1 were taken over 15 minute periods between 12:50 on 17 September and 21:05 on 22 September 2024.

15. The microphone was positioned 1.5m above the ground and at least 3.0m from vertically reflective surfaces, i.e. free-field conditions.

16. The dominant source of noise was observed to be road traffic, with contributions from Huntingdon Road, M11 and the A14.

17. A photo illustrating the position is provided in Figure 2.

Figure 2 Photograph of Noise Monitoring at Position 1

18. Table 1 summarises the day and night time ambient sound levels measured at Position 1.

19. The time history graphs illustrating the sound pressure levels measured across the survey period are provided in Appendix B.

20. The statistical analysis of the background sound levels is provided in Appendix C.

Table 1 Summary of Ambient Sound Pressure Levels Measured at Position 1

Date	Day (07:00-19:00)	Evening (19:00-23:00)	Night (23:00-07:00)	Day/Evening/Night
	$L_{Aeq,12h}$ (dB)	$L_{Aeq,4h}$ (dB)	$L_{Aeq,8h}$(dB)	L_{DEN} (dB)
17/09/2024	49*	47	48	56*
18/09/2024	51	51	51	57
19/09/2024	52	51	50	57
20/09/2024	51	48	46	54
21/09/2024	50	47	47	54
22/09/2024	51	54*	-	-

** Measurements not completed over entire time period*

21. The representative background sound levels were measured to be $L_{A90,15min}$ 47 dB during the day and $L_{A90,15min}$ 42 dB during the night.

22. The 10th highest maximum sound level during the night ranged between $L_{Afmax,15min}$ 57-59 dB.

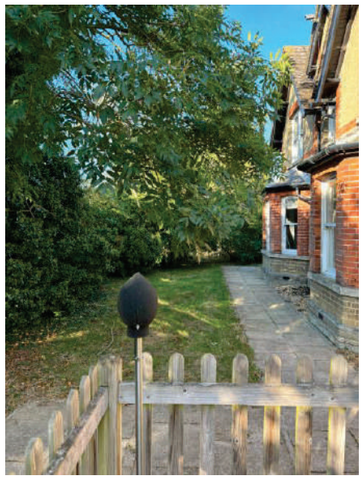
Position 2

23. The unattended measurements at Position 2 were taken over 15 minute periods between 16:55 on 17 September 2024 and 14:25 on 24 September 2024.

24. The dominant source of noise during installation and pick up was distant road traffic.

25. The microphone was positioned approximately 1.5m above the ground, and at least 3.0m from vertically reflective surfaces, i.e. free-field conditions. A photo illustrating the position is provided in Figure 3.

Figure 3 Photograph of Noise Monitoring at Position 2



26. Table 2 summarises the day and night time ambient sound levels measured at Position 2.

27. The time history graphs illustrating the sound pressure levels measured across the survey period at Position 2 are provided in Appendix B.

28. The statistical analysis of the background sound levels at Position 2 are provided in Appendix C.

Table 2 Summary of Ambient Sound Pressure Levels Measured at Position 2

Date	Day (07:00-19:00)	Evening (19:00-23:00)	Night (23:00-07:00)	Day/Evening/Night
	$L_{Aeq,12h}$ (dB)	$L_{Aeq,4h}$ (dB)	$L_{Aeq,8h}$(dB)	L_{DEN} (dB)
17/09/2024	43*	39	42	50*
18/09/2024	46	44	44	51
19/09/2024	47	45	44	51
20/09/2024	46	41	40	48
21/09/2024	41	35	41	47
22/09/2024	44	41	40	47
23/09/2024	52	50	50	56
24/09/2024	53*	-	-	-

** Measurements not completed over entire time period*

29. The representative background sound levels were measured to be $L_{A90,15min}$ 43 dB during the day and $L_{A90,15min}$ 38 dB during the night.

30. The 10th highest maximum sound level during the night ranged between $L_{Afmax,15min}$ 54-59 dB.

Position 3

31. The unattended measurements at Position 2 were taken over 15 minute periods between 12:37 on 6 September 2024 and 08:37 on 13 September 2024.

32. The dominant source of noise was road traffic associated with the M11.

33. The microphone was positioned approximately 1.5m above the ground and at least 3.0m from vertically reflective surfaces, i.e. free-field conditions. A photo illustrating the position is provided in Figure 3.

Figure 4 Photograph of Noise Monitoring at Position 3

34. Table 3 summarises the day and night time ambient sound levels measured at Position 3.

35. The time history graphs illustrating the sound pressure levels measured across the survey period at Position 3 are provided in Appendix B.

36. The statistical analysis of the background sound levels at Position 3 are provided in Appendix C.

Table 3 Summary of Ambient Sound Pressure Levels Measured at Position 3

Date	Day (07:00-19:00)	Evening (19:00-23:00)	Night (23:00-07:00)	Day/Evening/Night
	$L_{Aeq,12h}$ (dB)	$L_{Aeq,4h}$ (dB)	$L_{Aeq,8h}$(dB)	L_{DEN} (dB)
17/09/2024	52*	52	55	62*
18/09/2024	54	56	56	62
19/09/2024	56	56	55	62
20/09/2024	55	55	53	60
21/09/2024	51	47	52	58
22/09/2024	55	50	53	60
23/09/2024	62	59	59	63
24/09/2024	61*	-	-	-

** Measurements not completed over entire time period*

37. The representative background sound levels were measured to be $L_{A90,15min}$ 52 dB during the day and $L_{A90,15min}$ 46 dB during the night.

38. The 10th highest maximum sound level during the night ranged between $L_{Afmax,15min}$ 63-67 dB.

Position 4

39. The unattended measurements at Position 4 were taken over 15 minute periods between 12:00 on 17 September and 08:45 on 24 September 2024.

40. The microphone was positioned 11.5m above the ground (1.5m above the roof), and approximately 3.0m from vertically reflective surfaces, i.e. free-field conditions.

41. The dominant source of noise was observed to be road traffic from the M11.

42. A photo illustrating the position is provided in Figure 5.

Figure 5 Photograph of Noise Monitoring at Position 4

43. Table 4 summarises the day and night time ambient sound levels measured at Position 4.

44. The time history graphs illustrating the sound pressure levels measured across the survey period are provided in Appendix B.

45. The statistical analysis of the background sound levels is provided in Appendix C.

Table 4 Summary of Ambient Sound Pressure Levels Measured at Position 4

Date	Day (07:00-19:00)	Evening (19:00-23:00)	Night (23:00-07:00)	Day/Evening/Night
	$L_{Aeq,12h}$ (dB)	$L_{Aeq,4h}$ (dB)	$L_{Aeq,8h}$(dB)	L_{DEN} (dB)
24/09/24	62*	59	57	66
25/09/24	53	50	54	60
26/09/24	58	59	60	66
27/09/24	62	60	58	66
28/09/24	59	59	53	62
29/09/24	55	51	49	57
30/09/24	61	61	60	67
1/10/24	63*	-	-	-

** Measurements not completed over entire time period*

46. The representative background sound levels were measured to be $L_{A90,15min}$ 59 dB during the day and $L_{A90,15min}$ 40 dB during the night.

47. The 10th highest maximum sound level during the night ranged between $L_{Afmax,15min}$ 64-75 dB.

Position 5

48. The attended measurements at Position 5 were taken over 15 minute periods between 11:25 and 12:25 on 17 September 2024.

49. The dominant noise source was distant road traffic from Huntingdon Road and the M11 during the first three measurements, with a lawn mower in an adjacent garden noted during the fourth measurement.

50. The weather conditions during the measurements were clear and no/little breeze. The local weather reports indicate wind directions in the south and south-easterly direction.

51. The microphone was positioned approximately 1.5m above the ground, and more than 3.0m from vertically reflective surfaces, i.e. free-field conditions. A photo illustrating the position is provided in Figure 6.

52. Table 5 summarises the sound pressure levels measured at Position 5.

Figure 6 Photograph of Noise Monitoring at Position 5

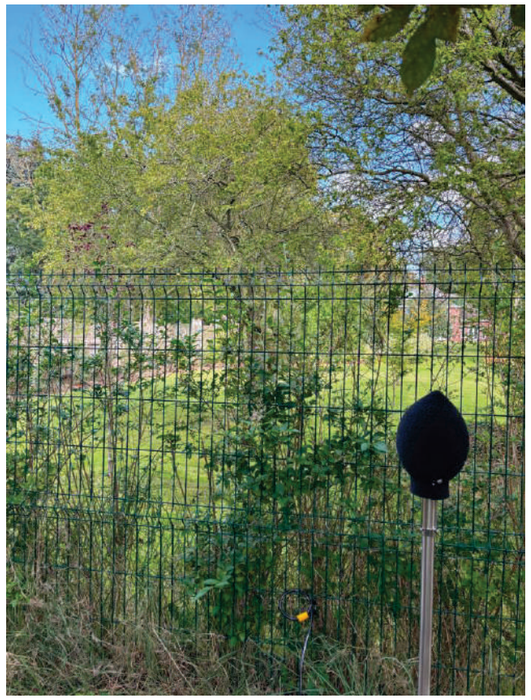


Table 5 Summary of Sound Pressure Levels Measured at Position 5

Date	Time	Sound Pressure Level (dB)		
		$L_{Aeq,15min}$	$L_{A90,15min}$	$L_{AFmax,15min}$
17/09/24	13:15	50	44	66
	13:30	48	46	64
	13:45	47	45	64
	14:00	51	45	75

Position 6

53. The measurements at Position 6 were taken over 15 minute periods between 11:30 and 12:30 on 13 September 2024.

54. The dominant noise source was road traffic on Huntingdon Road. Noise associated with road traffic on the A14 was also present.

55. The weather conditions during the measurements were clear and no/little breeze. The local weather reports indicate wind directions in the south and south-easterly direction.

56. The microphone was positioned approximately 1.5m above the ground and at least 3.0m from other vertically reflective surfaces, i.e. free-field conditions. A photo illustrating the position is provided in Figure 7.

57. Table 6 summarises the sound pressure levels measured at Position 6.

Figure 7 Photograph of Noise Monitoring at Position 6

Table 6 Summary of Sound Pressure Levels Measured at Position 6

Date	Time	Sound Pressure Level (dB)		
		$L_{Aeq,15min}$	$L_{A90,15min}$	$L_{AFmax,15min}$
17/09/24	12:55	72	67	87
	13:10	71	65	84
	13:25	72	67	82
	13:40	71	66	83

Position 7

58. The measurements at Position 7 were taken over 15 minute periods between 12:45 and 13:45 on 13 September 2024.

59. The dominant noise source was road traffic on Madingley Road (A1303).

60. The weather conditions during the measurements were clear and no/little breeze. The local weather reports indicate wind directions in the south and south-easterly direction.

61. The microphone was positioned approximately 1.5m above the ground and at least 3.0m from other vertically reflective surfaces, i.e. free-field conditions. A photo illustrating the position is provided in Figure 8 .

62. Table 7 summarises the sound pressure levels measured at Position 7.

Figure 8 Photograph of Noise Monitoring at Position 7

Table 7 Summary of Sound Pressure Levels Measured at Position 7

Date	Time	Sound Pressure Level (dB)		
		$L_{Aeq,15min}$	$L_{A90,15min}$	$L_{AFmax,15min}$
17/09/24	15:15	69	57	83
	15:30	68	55	80
	15:45	69	55	83
	16:00	69	58	81

Position 8

63. The measurements at Position 8 were taken over 15 minute periods between 12:25 and 13:10 on 3 September 2024.

64. The dominant noise source was road traffic on Queen Street.

65. The weather conditions during the measurements were clear and no/little breeze. The local weather reports indicate wind directions in the south and south-easterly direction.

66. The microphone was positioned approximately 1.5m above the ground and at least 3.0m from other vertically reflective surfaces, i.e. free-field conditions. A photo illustrating the position is provided in Figure 9.

67. Table 8 summarises the sound pressure levels measured at Position 8.

Figure 9 Photograph of Noise Monitoring at Position 8

Table 8 Summary of Sound Pressure Levels Measured at Position 8

Date	Time	Sound Pressure Level (dB)		
		$L_{Aeq,15min}$	$L_{A90,15min}$	$L_{AFmax,15min}$
24/09/24	15:05	70	58	78
	15:20	70	59	78
	15:35	71	59	83
	15:50	70	55	77

CONCLUSIONS

68. The sound levels around the site were primarily affected by road traffic from roads.

69. The results of the survey indicate that weather conditions, in particular wind direction, determines the sound levels experienced across the site. This was subjectively observed during the visits, with noise levels at the unattended noise monitoring locations notably louder when collected. The wind direction during the collection was predominately westerly and the noise from the motorway was clearly audible.

70. The results from the survey will be used to inform the noise impact assessment for the Proposed Development.

APPENDIX A – SURVEY DETAILS

Equipment

A.1 The noise measurements were completed using three NL-53 sound level meters.

A.2 Calibration details for the noise monitoring equipment are provided in Table A.1.

Table A.1 Calibration Information

Position	Equipment	Manufacturer	Calibration Expiry	Calibration Certification
1	NL-53	RION	26/04/26	UCRT24/1654
2	NL-53	RION	26/04/26	UCRT24/1656
3	NL-53	RION	26/04/26	UCRT24/1652
4	NL-53	RION	26/04/26	UCRT24/1654
5	NL-53	RION	26/04/26	UCRT24/1652
6	NL-53	RION	26/04/26	UCRT24/1656
7	NL-53	RION	26/04/26	UCRT24/1652
8	NL-53	RION	26/04/26	UCRT24/1652

A.3 Calibration checks were completed before and after the measurements. No significant deviation occurred.

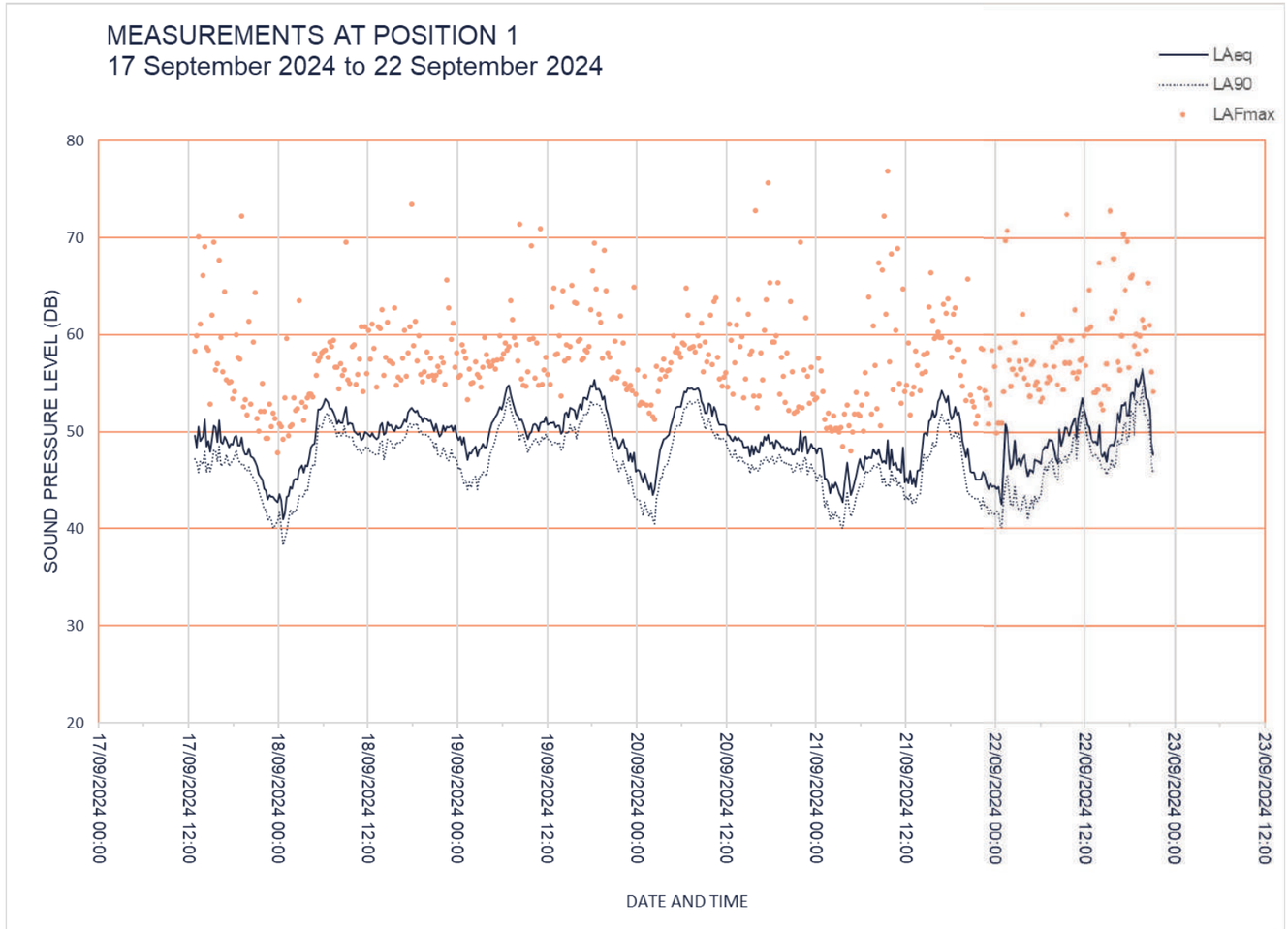
Weather Conditions

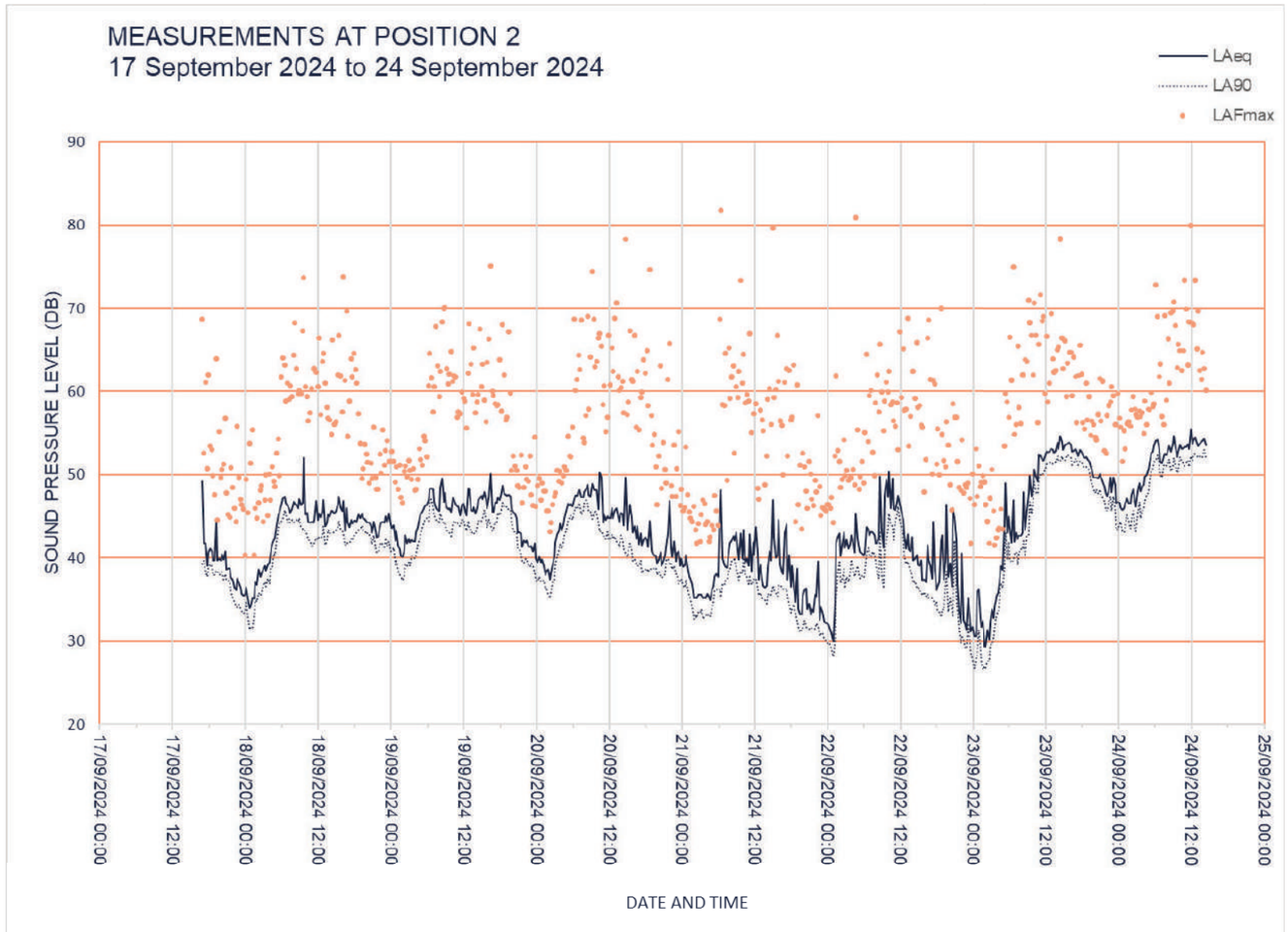
A.4 Weather monitoring was not completed on the site during the survey. Data from a weather stations located at 52.221° N, 0.102° E and Cambridge Airport has been referenced and is provided in Table A.2. This is considered appropriate given the length and type of survey.

Table A.2 Summary of Weather Data

Date	Temperature Range (°C)	Precipitation (mm)	Wind Direction	Average Wind Speed (km/h)
17/09/2024	8-21	0.00	North, NNE and NE	3.4
18/09/2024	14-23	0.00	North, NNE and NE	6.9
19/09/2024	13-24	0.00	North and NE	8.7
20/09/2024	15-25	0.00	North and NE	6.9
21/09/2024	14-26	0.00	North	2.6
22/09/2024	15-22	11.18	North	3.0
23/09/2024	14-18	10.92	South and South West	3.3
24/09/2024	10-17	2.29	NW and NNW	4.6
25/09/2024	9-18	5.08	South and SSE	1.6
26/09/2024	11-18	29.72	South West	1.6
27/09/2024	7-13	8.89	North and NNW	12.6
28/09/2024	4-15	0.00	North	3.8
29/09/2024	5-15	0.51	-	4.5
30/09/2024	11-17	8.38	-	7.3
1/10/2024	12-14	23.88	West	13.2

APPENDIX B – TIME HISTORY MEASUREMENT RESULTS


MEASUREMENTS AT POSITION 1
17 September 2024 to 22 September 2024
LAeq
LA90
LAFmax
SOUND PRESSURE LEVEL (DB)
80
70
60
50
40
30
20
17/09/2024 00:00
17/09/2024 12:00
18/09/2024 00:00
18/09/2024 12:00
19/09/2024 00:00
19/09/2024 12:00
20/09/2024 00:00
20/09/2024 12:00
21/09/2024 00:00
21/09/2024 12:00
22/09/2024 00:00
22/09/2024 12:00
23/09/2024 00:00
23/09/2024 12:00
DATE AND TIME


MEASUREMENTS AT POSITION 2
17 September 2024 to 24 September 2024
LAeq
LA90
LAFmax
SOUND PRESSURE LEVEL (DB)
90
80
70
60
50
40
30
20
17/09/2024 00:00
17/09/2024 12:00
18/09/2024 00:00
18/09/2024 12:00
19/09/2024 00:00
19/09/2024 12:00
20/09/2024 00:00
20/09/2024 12:00
21/09/2024 00:00
21/09/2024 12:00
22/09/2024 00:00
22/09/2024 12:00
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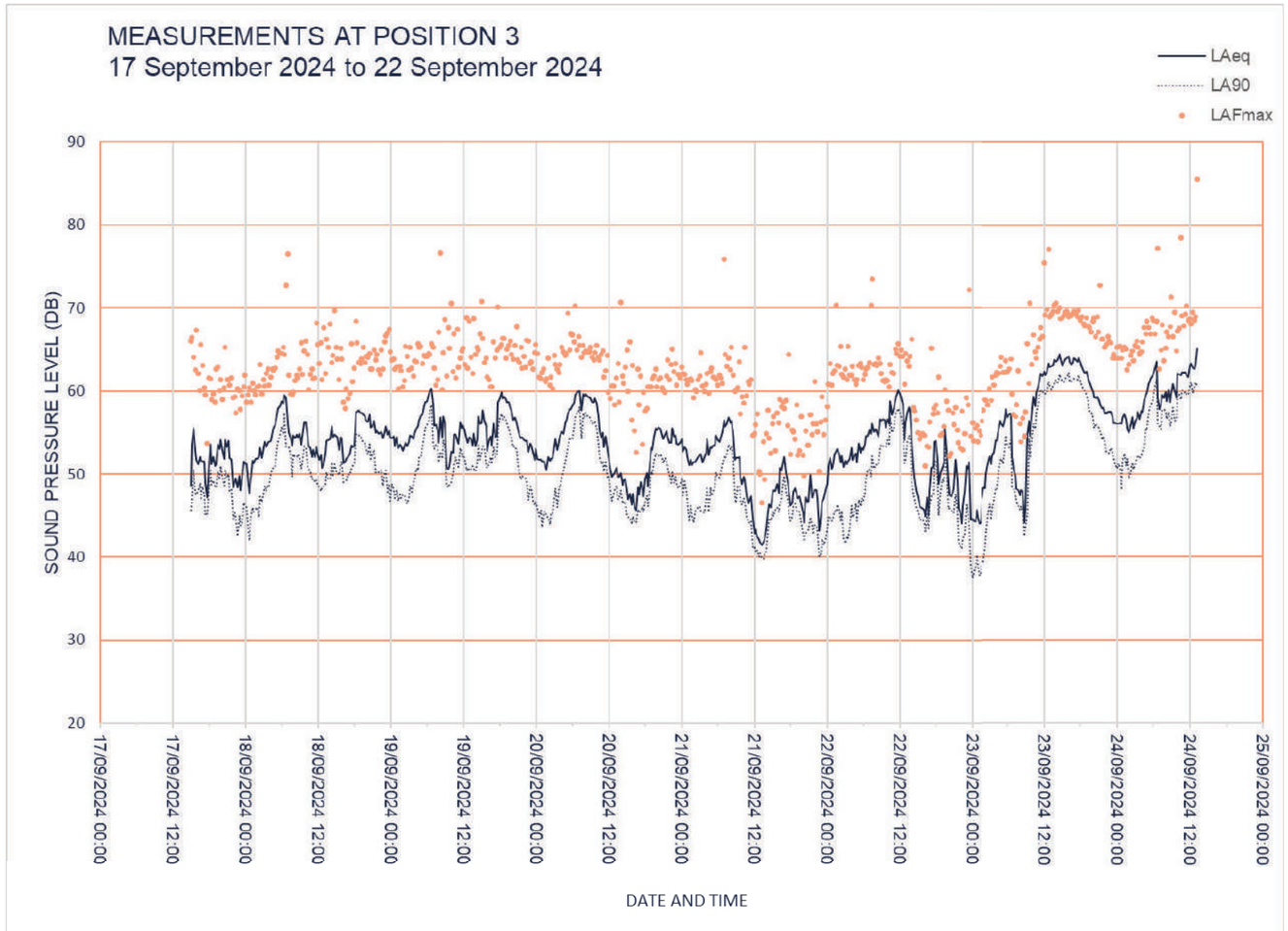
25/09/2024 00:00
DATE AND TIME


MEASUREMENTS AT POSITION 3
17 September 2024 to 22 September 2024
LAeq
LA90
LAFmax
SOUND PRESSURE LEVEL (DB)
90
80
70
60
50
40
30
20
17/09/2024 00:00
17/09/2024 12:00
18/09/2024 00:00
18/09/2024 12:00
19/09/2024 00:00
19/09/2024 12:00
20/09/2024 00:00
20/09/2024 12:00
21/09/2024 00:00
21/09/2024 12:00
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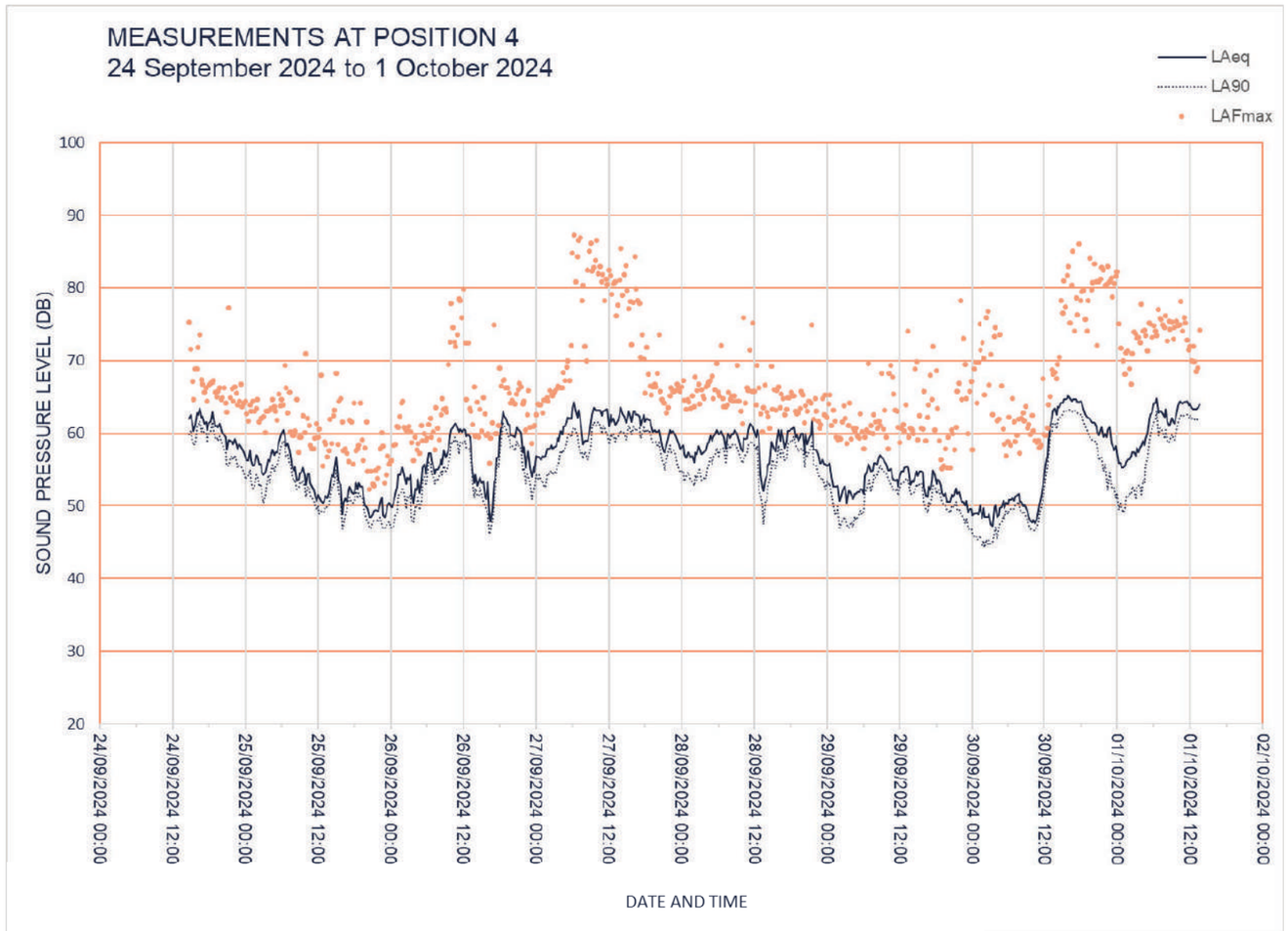
25/09/2024 00:00
DATE AND TIME


MEASUREMENTS AT POSITION 4
24 September 2024 to 1 October 2024
LAeq
LA90
LAFmax
SOUND PRESSURE LEVEL (DB)
100
90
80
70
60
50
40
30
20
24/09/2024 00:00
24/09/2024 12:00
25/09/2024 00:00
25/09/2024 12:00
26/09/2024 00:00
26/09/2024 12:00
27/09/2024 00:00
27/09/2024 12:00
28/09/2024 00:00
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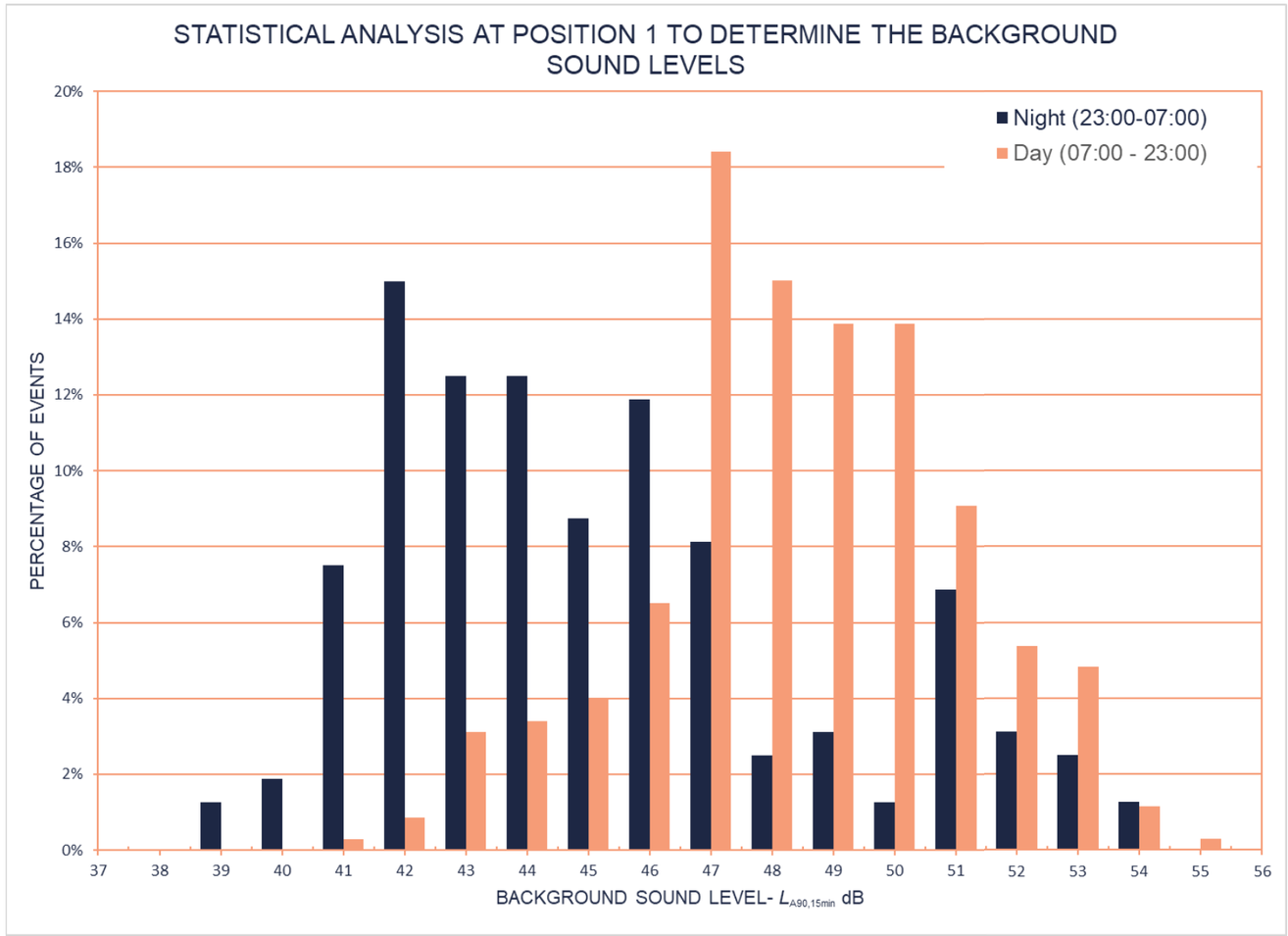
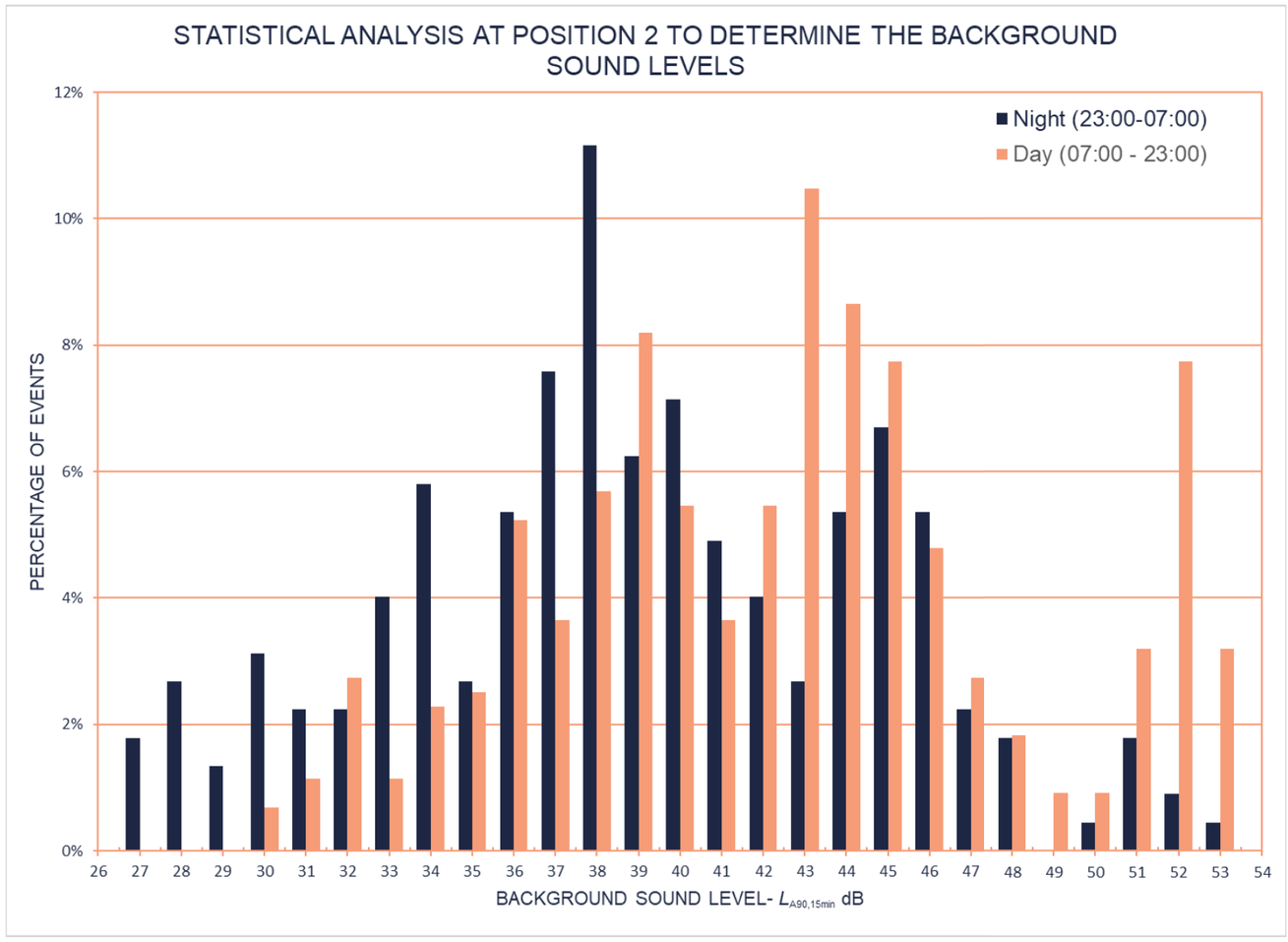
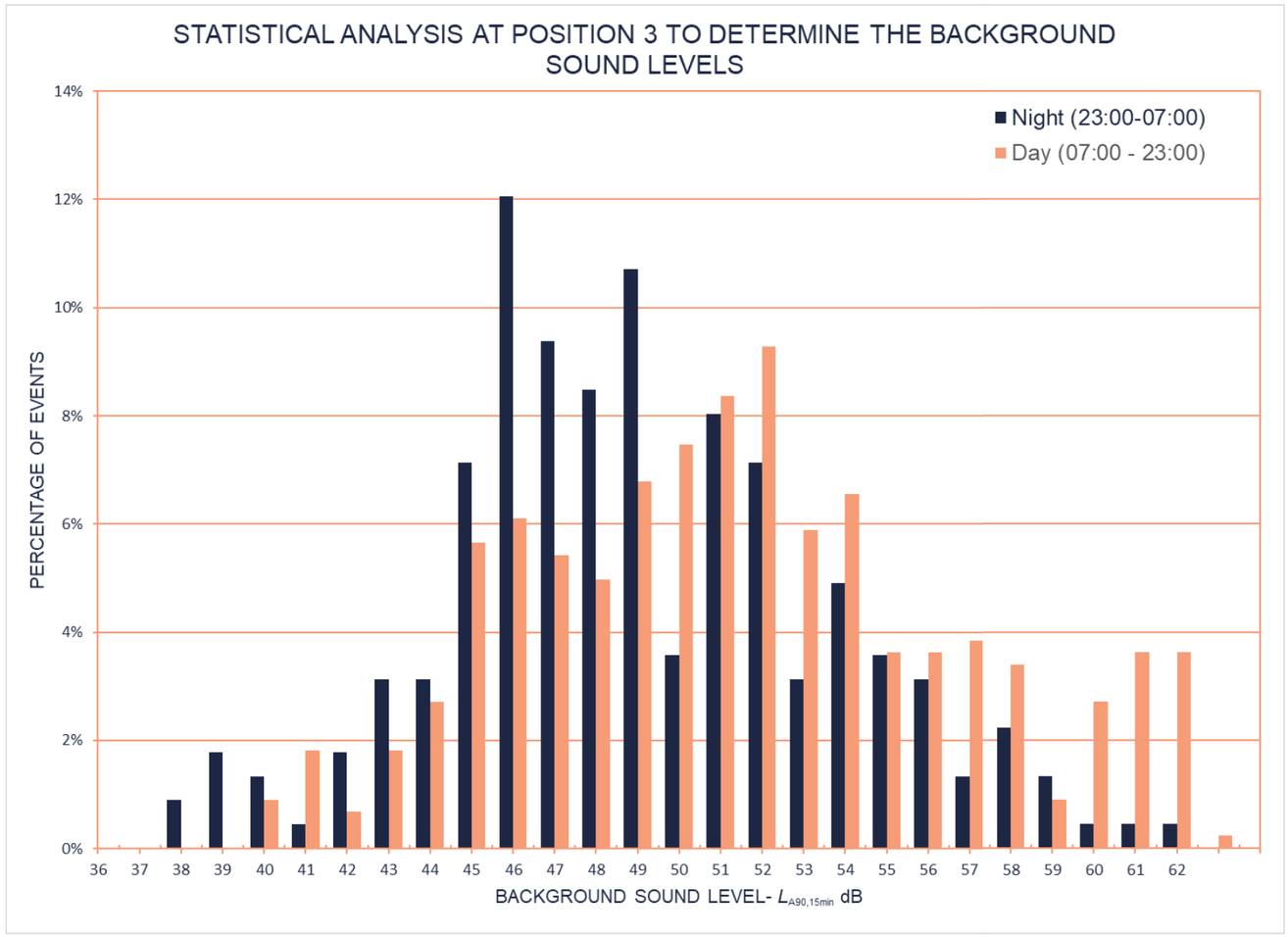
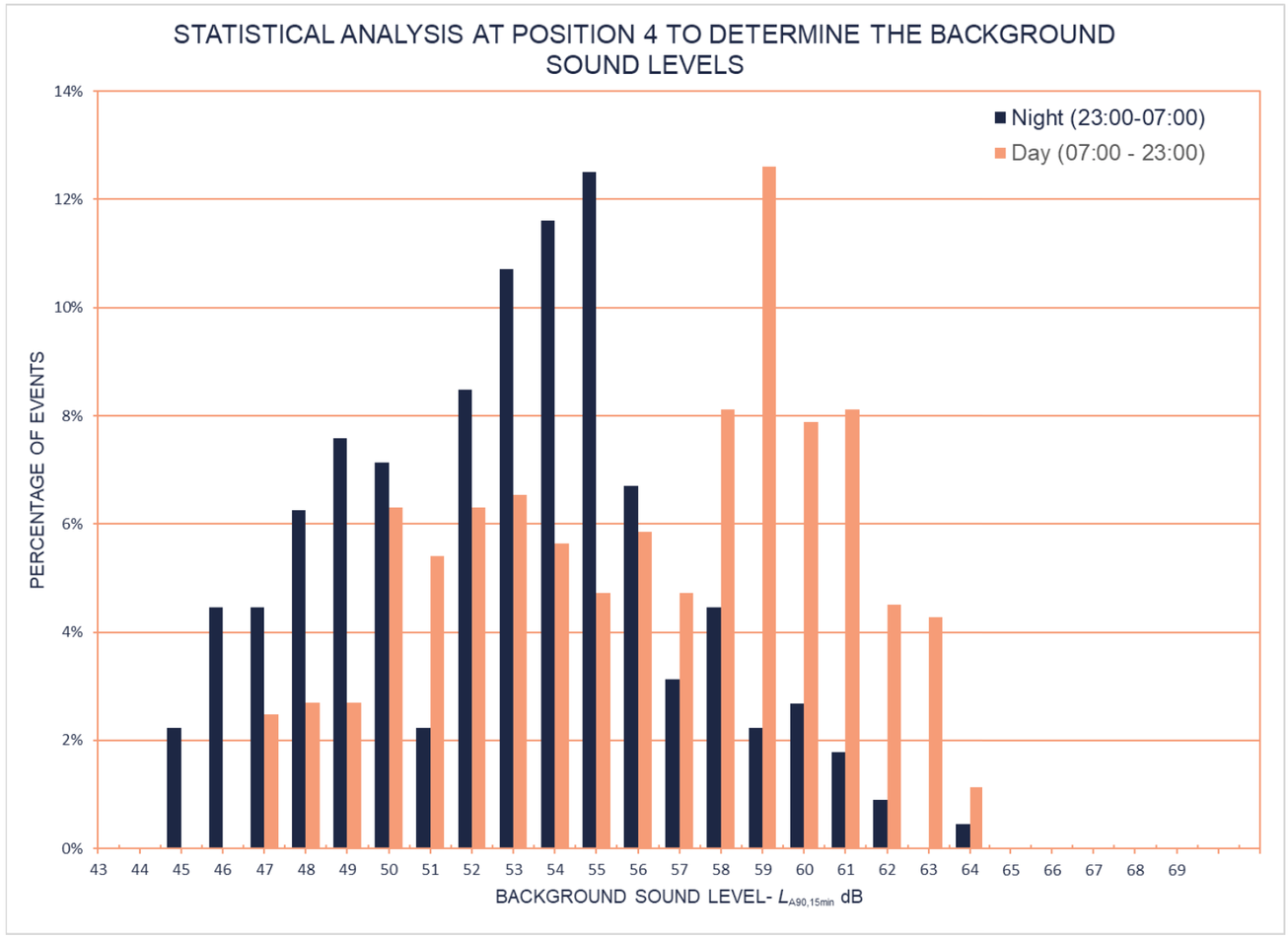
29/09/2024 00:00
29/09/2024 12:00
30/09/2024 00:00
30/09/2024 12:00
01/10/2024 00:00
01/10/2024 12:00
02/10/2024 00:00
DATE AND TIME

APPENDIX C – STATISTICAL ANALYSIS


STATISTICAL ANALYSIS AT POSITION 1 TO DETERMINE THE BACKGROUND SOUND LEVELS
Night (23:00-07:00)
Day (07:00 - 23:00)
PERCENTAGE OF EVENTS
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
BACKGROUND SOUND LEVEL- $L_{A90,15min}$ dB


STATISTICAL ANALYSIS AT POSITION 2 TO DETERMINE THE BACKGROUND SOUND LEVELS
Night (23:00-07:00)
Day (07:00 - 23:00)
PERCENTAGE OF EVENTS
12%
10%
8%
6%
4%
2%
0%
26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54
BACKGROUND SOUND LEVEL- $L_{A90,15min}$ dB


STATISTICAL ANALYSIS AT POSITION 3 TO DETERMINE THE BACKGROUND SOUND LEVELS
Night (23:00-07:00)
Day (07:00 - 23:00)
PERCENTAGE OF EVENTS
14%
12%
10%
8%
6%
4%
2%
0%
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62
BACKGROUND SOUND LEVEL- $L_{A90,15min}$ dB


STATISTICAL ANALYSIS AT POSITION 4 TO DETERMINE THE BACKGROUND SOUND LEVELS
Night (23:00-07:00)
Day (07:00 - 23:00)
PERCENTAGE OF EVENTS
14%
12%
10%
8%
6%
4%
2%
0%
43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69
BACKGROUND SOUND LEVEL- $L_{A90,15min}$ dB

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Project Reference: TEC0535

Appendix: Noise and Vibration

Annex 1: Legislation, Planning Policy and Other Relevant Standard and Guidance
Annex 2: Glossary
Annex 3: Environmental Noise Survey Report
Annex 4: Construction Plant Assumptions
Annex 5: Enabling, Demolition and Construction Noise Prediction Images

ANNEX 4: CONSTRUCTION PLANT ASSUMPTIONS

Approach to Assessment

The construction works associated with Phases 2 to 4 of the Proposed Development are programmed to take place between Q2 2027 and Q3 2037, i.e. 10-11 years total. During this period there will be notable works that take that involve different equipment and will be completed at different locations.

The proposed construction programme and methodologies have been reviewed in order that the reasonable worst-case case scenarios are evaluated. Given the high co-incidence of works, a timeslice approach to the evaluations has been completed. The timeslice approach considers which activities will be taking place at a certain point in time.

The timeslices that have been evaluated are indicated below:

- Timeslice 1 (2027 Q2) – Earthworks Phases 2 and 3, Huntingdon Road Junction, Cartwright Avenue Construction and Plots F2 and F3 (on-plot);
- Timeslice 2 (2029 Q3) – Plots F1, E1 and E2 (on-plot);
- Timeslice 3 (2031 Q1) – D1, D2 and C1 (on-plot);
- Timeslice 4 (2031 Q4) – Earthworks Phase 4 and Demolition Plot A (N.B. noisy construction works at plots D1, D2 and C1 expected to have ended);
- Timeslice 5 (2032 Q3) – Plot J (on-plot); and
- Timeslice 6 (2033 Q3) – Plots B2, A, H2 and H3 (on-plot).

The timeslices assume that the construction of the pumping stations will not generate significant noise and vibration at receptors in comparison to the other activities that would take place at the same time.

Haul Road

Cartwright Avenue will be used as the haul road during Phases 2 and 3. Most construction vehicles will access Cartwright Avenue from the Huntingdon Road Junction, with the exception being during the construction of Plots F2 and F3, when vehicles will access from the south on Loverose Way.

Garrod Street will be used as a haul road during the Phase 4 works.

outlines the assumed number of HGVs and on each haul road route for each identified timeslice.

Table 1 Haul Road Routes

Timeslice	Route	Peak Daily Flow (Total)	Other Assumptions
1	Loverose Way	19	All traffic via Loverose Way
2	Cartwight Avenue	28	All traffic via Cartright Avenue/Huntingdon Road
3	Cartwight Avenue	45	All traffic via Cartright Avenue/Huntingdon Road
4	Cartwight Avenue and Garrord Street	45	30 via Cartright Avenue/Huntingdon Road and 15 via Garrord Street
5	Cartwight Avenue and Garrord Street	46	30 via Cartright Avenue/Huntingdon Road and 16 via Garrord Street
6	Cartwight Avenue and Garrord Street	65	All via Garrod Street

The vehicle speeds have been assumed to be 25 km/h when travelling on the roads.

The pass by maximum sound pressure level of a single vehicle has been assumed to be L_{Amax} 82 dB, i.e. the average for all lorry movements on access road (BS 5228-1 ref C.11-4 to C.11-20).

New Junction and Roads

The construction plant for the construction of new junctions and roads is summarised in Table 2.

Table 2 New Junction and Roads Plant Assumptions

Plant	BS 5228-1 Reference	Number Per Location	A-weighted Sound Pressure Level (dB) at 10m	% On-Time
Wheeled backhoe loader	C.4-66	1	69	25
Tracked excavator	C.5-18	1	80	25
Bulldozer	C.5-15	1	83	25
Grader	C.6-31	1	86	25

For Timeslice 1 there will be two sets of plant. For simplicity it has been assumed there will be a set located at the Huntingdon Road Junction, with the second set located at the junction with Turing Way.

Enabling Earthworks

The enabling earthworks involves the removal of the Phase 1 stockpiles, stripping of top soil and grading of the land.

On Phases 2 and 3, the majority of the work will be concentrated on removing the Phase 1 stockpiles and repositioning (where feasible) along the western edge. For the purposes of calculation, it has been assumed that a tracked excavator and a dozer will work on a Phase 1 stockpile and another on the western edge. Dumper Trucks will run between the Phase 1 stockpile and the western edge. Compaction works will take place on the western edge.

The Construction Plant Assumptions for the enabling earthworks associated with Timeslice 1 is presented in Table 3.

Table 3 Enabling Earthworks Plant Assumptions (Phases 2 and 3)

Plant	BS 5228-1 Reference	Number	A-weighted Sound Pressure Level (dB) at 10m	% On-Time
Tracked Excavator	C.2-14 to 25	2	75*	50
Dozer	C.2-10 to 13	2	80*	50
Dumper Trucks**	C.4-3 to 4	2 trips per hour	76*	50
Hydraulic vibratory compactor	C.2-42	1	78	50
average value* * Drive-by maximum sound pressure level LAmax*				

On Phase 4, the majority of the work will concentrate on stripping of top soil and grading.

It has been assumed that a tracked excavator and dozer will be located at apposing sides (north and south) of Phase 4. The dumper trucks will run each of side of the Phase 4 to the Garrod Street junction, where it will be removed from the site.

Construction Plant Assumptions for the enabling earthworks associated with Timeslice 4 is presented in Table 4.

Table 4 Enabling Earthworks Plant Assumptions (Phase 4)

Plant	BS 5228-1 Reference	Number Per Side of Phase	A-weighted Sound Pressure Level (dB) at 10m	% On-Time
Tracked Excavator	C.2-14 to 25	1	75*	50
Dozer	C.2-10 to 13	1	80*	50
Dumper Trucks**	C.4-3 to 4	1 trip per hour	76*	50
average value* * Drive-by maximum sound pressure level LAmax*				

Construction Works – On Plot

The on-plot construction evaluations have been limited to the potentially nosiest period, i.e. foundations and substructure. Subsequent activities, such as superstructure works are less likely to generate noise/vibration that results in significant impacts.

The equipment assumed with the construction of each plot is outlined in Table 5.

Table 5 Construction Plant Assumptions of On-Plot Construction

Plant	BS 5228-1 Reference	Number Per Plot	A-weighted Sound Pressure Level (dB) at 10m	% On-Time
Mobile Cranes	C.3-28	2	70	50
Piling Rigs (CFA)	C.3-21	1	79	50
Concrete Pump	C-3.25	1	78	50
Tracked excavators	C.1-5	2	72	50
Water Pump	C.2-46	2	65	50

The assumptions will be applied to each Timeslice where on-plot construction works are identified. For the purposes of calculation it will be assumed that the sound associated with the on-plot construction will generally emanate from the centre of each plot.

The above assumptions apply for on a per plot basis, e.g. Timeslice 2 would apply Table 5 for Plots F1, E1 and E2. The only exception is for Plot J, where three sets of equipment have been assumed.

Demolition Works

The equipment assumed with the demolition of buildings on Plot A is outlined in Table 6. This will only apply to Timeslice 4.

Table 6 Construction Plant Assumptions for Demolition

Plant	BS 5228-1 Reference	Number	A-weighted Sound Pressure Level (dB) at 10m	% On-Time
Mobile cranes	C.4-50	1	71	50
Tracked excavators with breakers	C.1-9	1	90	25
Mini excavators (bob cats)	C.2-8	2	68	50
Concrete crushers	C.1-14	1	86	25

Appendix: Noise and Vibration

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ANNEX 5: DEMOLITION, ENABLING AND CONSTRUCTION NOISE PREDICTION IMAGES

Annex 5 presents the images from the modelling completed to evaluate the effects during the demolition/construction.

Figure 1 Timeslice 1 – (2027 Q2)

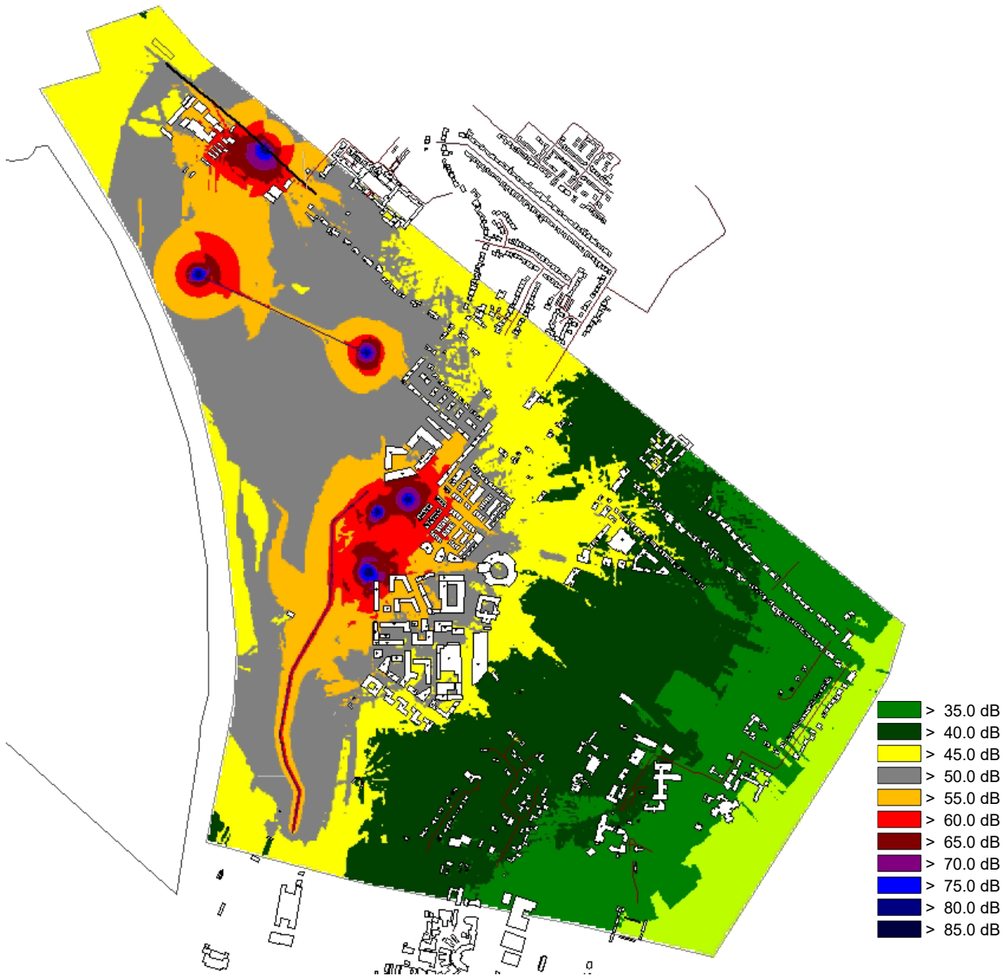


Figure 2 Timeslice 2 – (2029 Q3)

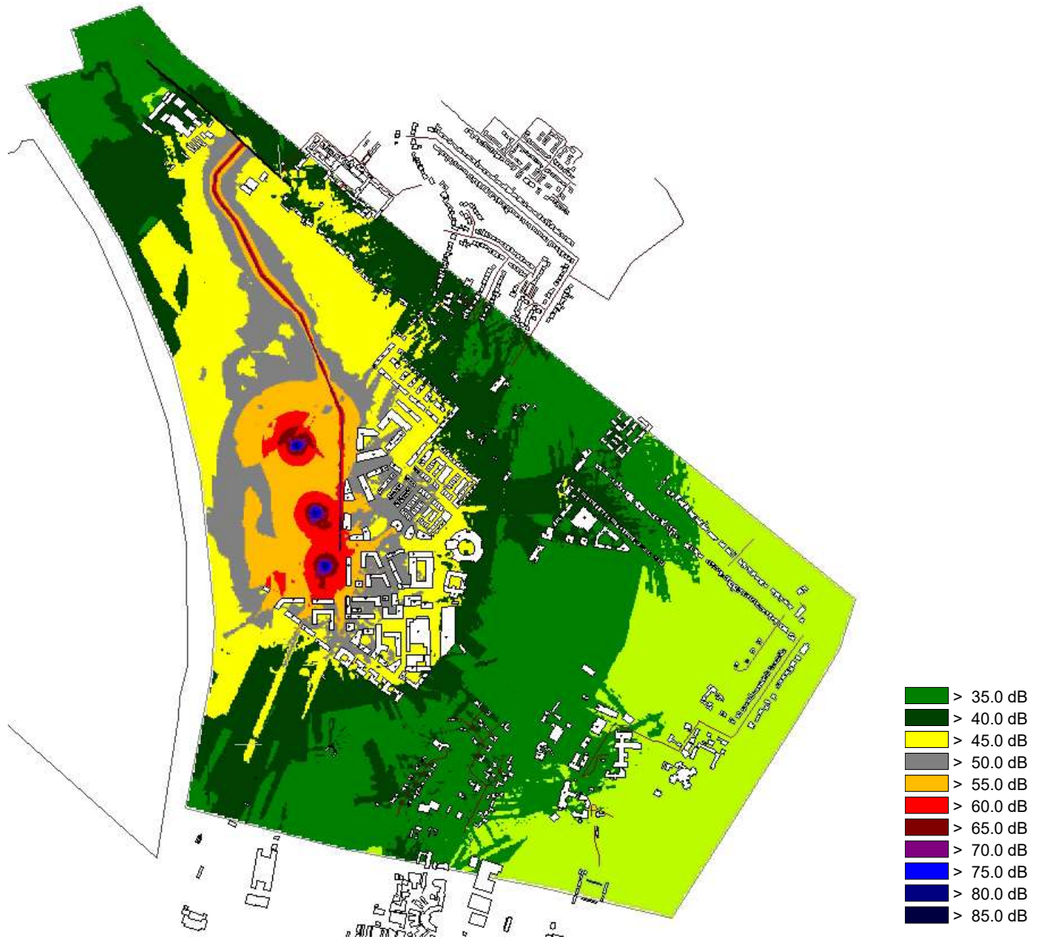


Figure 3 Timeslice 3 – (2031 Q1)

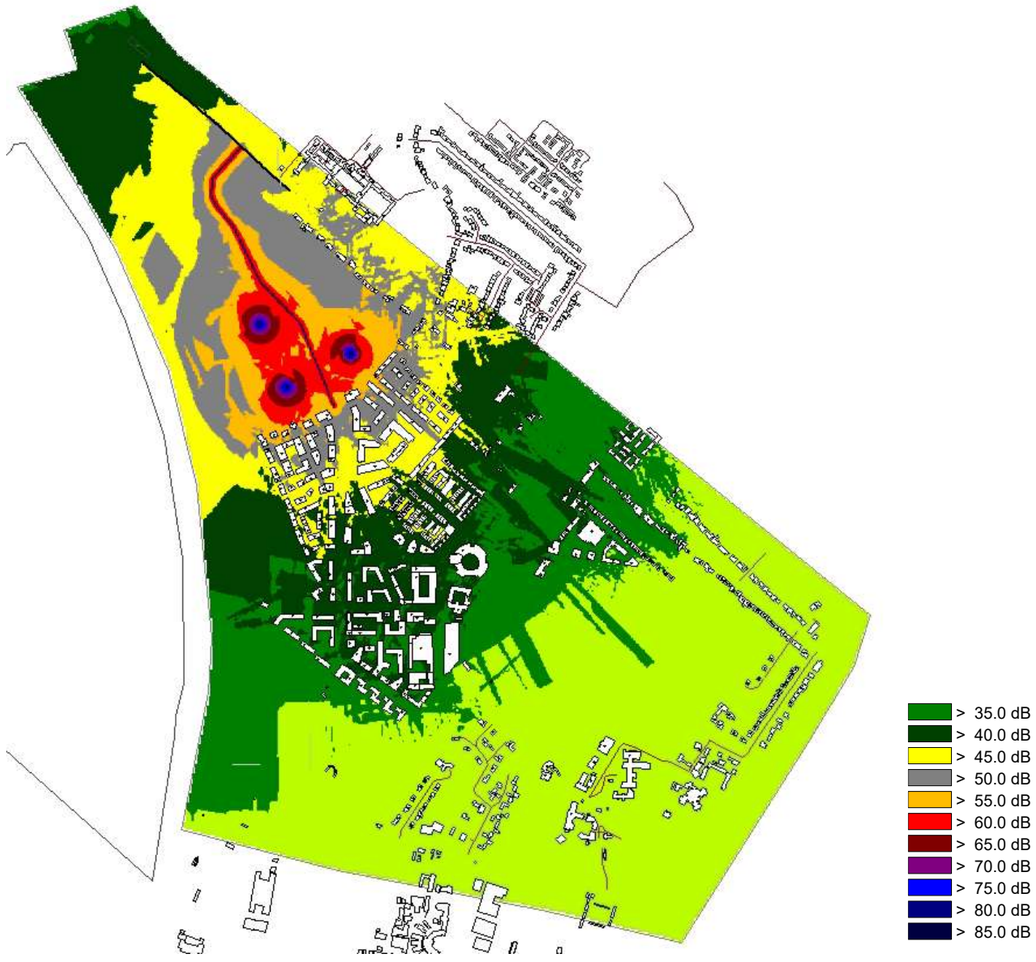


Figure 4 Timeslice 4 – (2031 Q4)

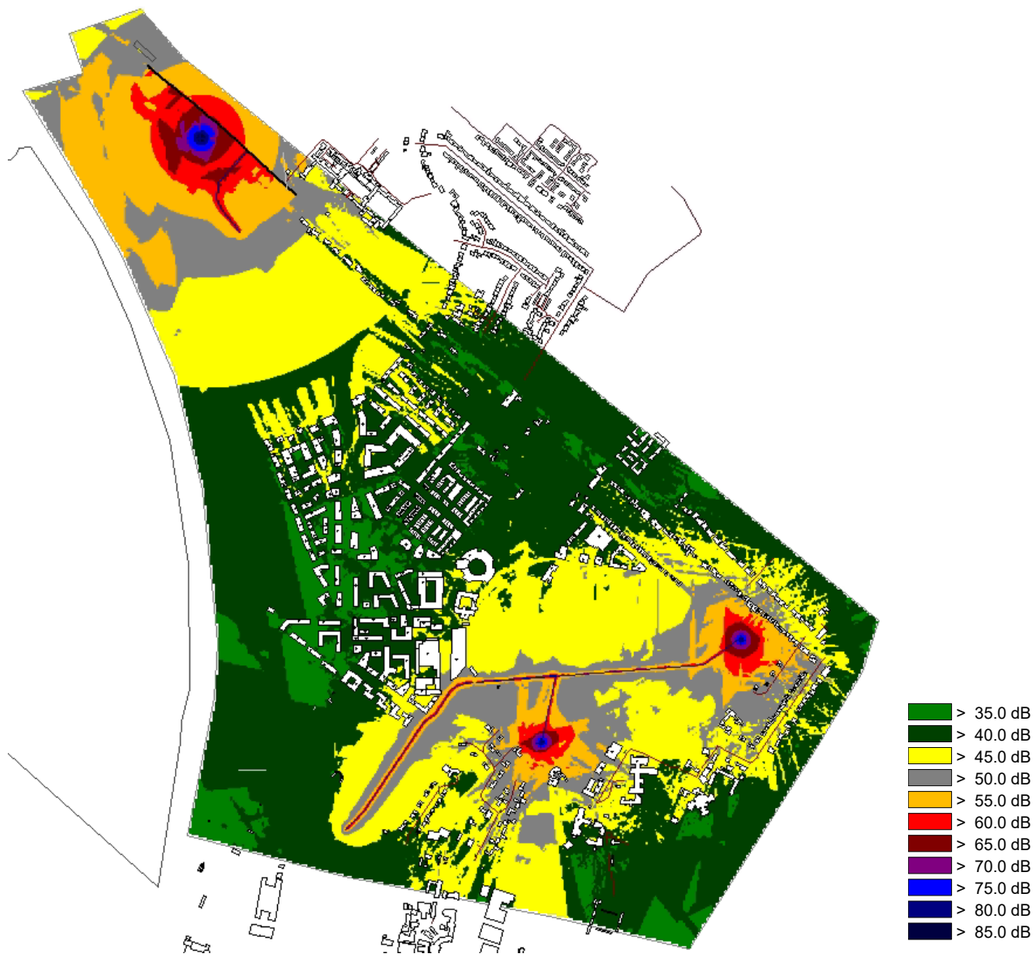


Figure 5 Timeslice 5 – (2032 Q3)

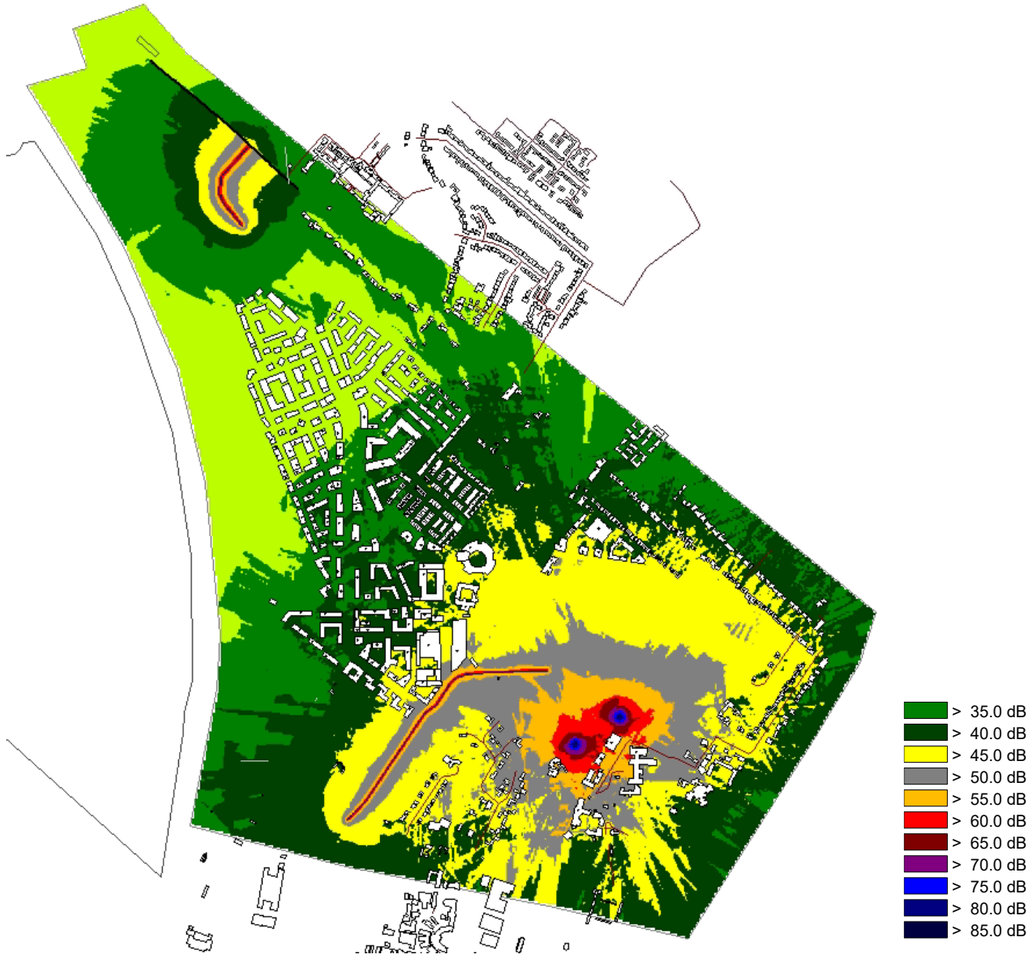
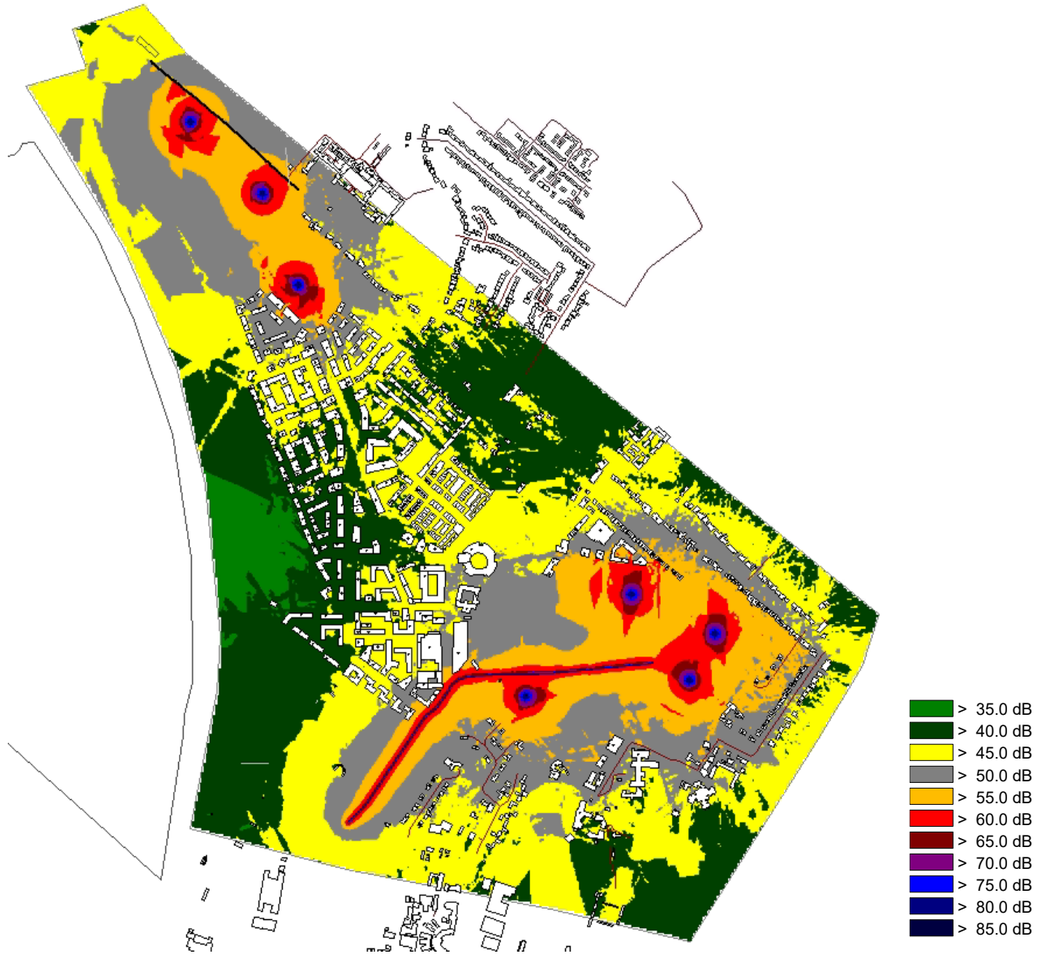


Figure 6 Timeslice 6 – (2033 Q3)



Appendix: Built Heritage

Annex 1: Built Heritage Technical Appendix

TRIUM

Appendix: Built Heritage

Annex 1: Built Heritage Technical Appendix

TRIUM

Stantec

Heritage Assessment

North West Cambridge Masterplan

August 2025

Prepared for:
University of Cambridge

Prepared by:
Lorraine King

Project Number:
333101549

Revision	Description	Author	Date	Quality Check	Date	Independent Review	Date
01	Draft	TP	Oct 2025	LK	Oct 2025	LK	Oct 2025
02	Draft	LK	Apr 2025	HS	Apr 2025	HC	Apr 2025
03	Draft	LK	July 2025	HS	July 2025	HC	July 2025
04	Final	LK	Aug 2025	HS	Aug 2025	HC	Aug 2025

The conclusions in the Report titled **Heritage Assessment** are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

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Prepared by:

Signature

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Reviewed by:

Signature

Hannah Sharp

Printed Name

Approved by:

Signature

Harry Clarke

Printed Name

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Appendices

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Appendix C Gazetteer

1 Introduction

1.1 Project Background

1.1.1 The Heritage Team at Stantec UK Ltd has been instructed by the University of Cambridge to prepare a Heritage Assessment to support the submission of an Outline Planning Application (the "OPA") in relation to Land between Huntingdon Road, Madingley Road, and M11, Eddington, North West Cambridge, Cambridgeshire (the "Site").

1.1.2 The description of development (Proposed Development) is as follows:

"Outline Planning Application (all matters reserved except for means of access to the public highway) for a phased mixed use development, including demolition of existing buildings and structures, such development comprising:

- *Living Uses, comprising residential floorspace (Class C3/C4, up to 3,800 dwellings), student accommodation (Sui Generis), Co-living (Sui Generis) and Senior Living (Class C2).*
- *Flexible Employment Floorspace (Class E(g) / Sui Generis research uses).*
- *Academic Floorspace (Class F1); and*
- *Floorspace for supporting retail, nursery, health and indoor sports and recreation uses (Class E (a) – E (f)).*
- *Public open space, public realm, sports facilities, amenity space, outdoor play, allotments and hard and soft landscaping works alongside supporting facilities.*
- *Car and cycle parking, formation of new pedestrian, cyclist and vehicular accesses and means of access and circulation routes within the site.*
- *Highway works.*
- *Site clearance, preparation and enabling works.*
- *Supporting infrastructure, plant, drainage, utility, earthworks and engineering works.*

1.1.3 The Site (**Figure 1, Appendix A**) is located on the north-western edge of the City of Cambridge, to the south and west of the village of Girton. The Site is bound by.

- a small portion of the A14 to the north, and Girton College, residential properties and agricultural fields which front onto Huntingdon Road (A1307) to the north and north-east.
- residential properties located along Huntingdon Road, Ascension Parish Burial Ground, Trinity Hall (University of Cambridge student accommodation) and Trinity Hall sports grounds to the east of the site.
- Madingley Road Park and Ride, Madingley Road (A1303), and residential properties and buildings associated with the University of Cambridge to the south; and
- the M11 motorway to the west, beyond which lies agricultural fields.

1.1.4 Cambridge City Centre is located approximately 2km to the south-east of the Site at its nearest point. The Site forms part of the emerging settlement of Eddington

1.2 Purpose, Scope, and Aims

Purpose and Aims

1.2.1 This document will set out a brief history of the site and its surroundings together with a statement of significance of those heritage assets with the potential to be affected by the

proposals. It will go on to consider the potential impacts of the proposed works within the legislative and policy context.

1.2.2 The assessment of significance follows the heritage interest-led approach set out in the NPPF, comprising archaeological, architectural, artistic, and historic interest. This has been guided by the definitions provided in the updated 'Planning Policy Guidance' (updated July 2019). The assessment of significance is informed by Historic England's Good Practice Advice in Planning (GPA) 'Note 2: Managing Significance in Decision Taking in the Historic Environment' (2015) and 'Advice Note 12: Statements of Heritage Significance - Analysing Significance in Heritage Assets' (2019) which provide general advice on assessing significance to ensure heritage statements meet the requirements of the NPPF.

1.2.3 The aim of this report is to assess the impact of the development and to provide recommendations to mitigate any adverse effects, if required, as part of the OPA to develop the Site. The aim is achieved through the following objectives:

- Identify the presence of any known or potential heritage receptors that may be affected by the proposals.
- Describe the importance of such receptors, in accordance with the NPPF, considering factors which may have compromised receptor survival.
- Determine the contribution that setting makes to the importance of any sensitive (i.e., designated) heritage receptors.
- Assess the impacts upon the importance of the receptors arising from the proposals.
- Assess the impact of the development on how designated heritage receptors are understood and experienced through changes to their setting; and
- Provide recommendations for further mitigation where required, aimed at reducing or removing completely any adverse effects.

1.2.4 This report does not consider the archaeological resource in relation to the Site. Archaeology was scoped out of the Environmental Statement as confirmed in the Council's Scoping Opinion.

Data Sources

1.2.6 To determine the historic environment potential of the site and its surroundings, a broad range of standard documentary and cartographic sources were examined to determine the likely nature, extent, preservation, and significance of any known heritage assets that may be present. **Table 1.1** below provides a summary of the key data sources consulted.

Table 1.1 Key Data Sources

Source	Data	Comment
Historic England	National Heritage List (NHL) with information on statutorily designated heritage assets	Statutory designations (scheduled monuments; statutorily listed buildings; registered parks and gardens; historic battlefields).
Local County Council	Historic Environment Record (HER)	Primary repository of archaeological information. Includes information from past investigations, local knowledge, find spots, and documentary and cartographic sources.
Historic England	National Record of the Historic Environment (NRHE)	National database maintained by Historic England. Not as comprehensive as the HER but can occasionally contain additional information. Accessible via Pastscape website. This was

		consulted for the Site and its immediate vicinity only.
Local Planning Authority	Conservation area appraisals	An area of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance.
Local Planning Authority	Locally listed buildings	Building of local importance designated by the local planning authority due to architectural and/or historic significance and a positive contributor to the character of an area. Whilst not statutorily protected, a building's inclusion on the list means that it is a material consideration in the planning process.
British Geological Survey (BGS)	Solid and drift geology digital map; online BGS geological borehole record data.	Sub-surface deposition, including buried geology and topography, can provide an indication of potential for early human settlement, and potential depth of archaeological remains.
Local County Council Record Office	Historic maps (e.g. tithe, enclosure, estate), published journals and local history	Baseline information on the historic environment.

1.2.7 To produce this report a site visit was carried out in October 2024. Walkovers of the Site and environs were completed, to confirm the topography and existing land use, the nature of the existing buildings and monuments, identify any visible designated heritage assets (e.g., structures, buildings) and assess factors which may have affected the survival or condition of any known or potential assets. The visit also extended beyond the Site for the purposes of scoping designated heritage assets and their inter-visibility with the proposed development area, as per Historic England guidance, and for the settings assessment itself.

Study Area

1.2.8 A study area of 750m from the boundary of the site has been applied for designated heritage assets and 250m for non-designated heritage assets. **Figure 2 of Appendix A** shows all designated heritage assets within the 750m study area. There are no heritage assets located within the site boundary; however, there are a large number of assets within the study area.

1.2.9 A review of the receptors within a wider study area, up to 1.5km, was undertaken following comments received in the Council's Scoping Opinion. All receptors within this area are shown on **Figure 3, Appendix A**. Following the site visit, it was determined that those receptors, such as Castle Mound and other highly graded Listed Buildings to the east the Site, within the City Centre, did not have any associative links with the site and as a result of the intervening built form, landscape features and topography, that they would not experience any change to their townscape setting that would affect their heritage sensitivity.

1.2.10 The study area assessed is considered appropriate and proportionate in response to the scale and nature of the Proposed Development, the landscape character of the site and its surroundings, combined with the interest of the receptors. This was confirmed in the Scoping Opinion and follows the approach consistent with best practice guidance.

1.3 Legislative and Policy Framework

1.3.1 The full heritage local and national planning policy is set out in **Appendix B**; a summary is provided below.

Legislation

1.3.2 Scheduled Monuments are afforded statutory protection under the Ancient Monuments and Archaeological Areas Act 1979. The setting of scheduled monuments is protected through local and national planning policy.

1.3.3 Listed Buildings and Conservation Areas are afforded statutory protection under the provisions of the Planning (Listed Buildings and Conservation Areas) Act 1990. Section 66 requires the decision maker to have special regard to the desirability of preserving the heritage significance of listed buildings and any contribution made by their setting when exercising their planning functions. Section 72 requires that the decision maker must pay special attention to the desirability of preserving or enhancing the character or appearance of conservation areas. The setting of conservation areas is protected through local and national planning policy.

1.3.4 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires applications for planning permission to be determined in accordance with the development plan unless material considerations indicate otherwise.

National Planning Policy

1.3.5 The National Planning Policy Framework 2024 (NPPF) sets out the Government Planning Policy, with Chapter 16 providing policy guidance for conserving and enhancing the historic environment. The guidance recognises the importance of preserving heritage assets in a manner appropriate to their significance and guides that any harm or loss to their significance should require clear and convincing justification.

1.3.6 Paragraphs 214 and 215 set out two decision making tests where proposals would lead to substantial and less than substantial harm, respectively, to designated heritage assets. Paragraph 214 guides that substantial harm to or loss of significance should not be permitted unless that harm is necessary to deliver substantial public benefits that would outweigh the harm or loss, or other criteria are met. Paragraph 215 guides that where a development proposal would result in less than substantial harm, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

1.3.7 The effect of an application on the significance of a non-designated heritage asset is considered at paragraph 216. It notes that in weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

1.3.8 Implementation of the NPPF is supported by the Planning Practice Guidance (PPG).[1]

Local Planning Policy

1.3.9 The Site is located across the administrative boundary of South Cambridgeshire District Council ("SCDC") and Cambridge City Council ("CCC") which are therefore the Local Planning Authorities ("LPAs") for the Site.

1.3.10 The Development Framework comprises the Cambridge Local Plan, adopted in October 2018 and the South Cambridgeshire Local Plan, adopted in September 2018. The Plans set out the relevant planning strategy and policies for the plan period.

1.3.11 The relevant heritage policies are:

[1] MHCLG: Planning Practice Guidance (2014, amended 2019)

Cambridge Local Plan

- Policy 55: Responding to context
- Policy 61: Conservation and enhancement of Cambridge's historic environment
- Policy 62: Local heritage assets

South Cambridgeshire Local Plan

- Policy NH/14: Heritage Assets

1.3.12 In addition to the Local Plan, the 2009 North West Cambridge Action Plan also forms part of the statutory development plan. This document provides specific policies and proposals to enable development of the Site by the University of Cambridge.

1.3.13 The relevant heritage policy is:

- Policy NW2: Development Principles (Part 3.r.)

1.3.14 The Greater Cambridge Shared Planning Service (GCSPS) has begun to prepare a joint Local Plan for Cambridge City Council and South Cambridgeshire District Council. A Regulation 18: 'Preferred Options' consultation was undertaken in 2021.

1.3.15 A further Draft Plan Consultation is planned for Autumn/Winter 2025 with a Proposed Submission Plan Consultation (Regulation 19) scheduled for Summer / Autumn 2026 with Submission to the SoS for examination by the end of 2026. The new Local Plan is therefore unlikely to be adopted by the time the NWCM Outline Planning Application is determined

1.3.16 In addition, the following documents have been consulted as part of this assessment:

- Cambridge Suburbs and Approaches: Huntingdon Road (March 2009)
- Conduit Head Road Conservation Area Appraisal (January 2024)
- West Cambridge Conservation Area Appraisal (May 2011)
- Storey's Way Conservation Area Appraisal (April 2008)
- Howes Place Conservation Area Appraisal (January 2024)

Best Practice Guidance

1.3.17 Historic England's Advice Note 1 'Conservation Area Appraisal, Designation and Management' (2019, Second Edition)[2] supports the management of change in a way that conserves and enhances the character and appearance of historic areas through conservation area appraisal, designation, and management.

1.3.18 Historic England's Advice Note 12 'Statements of Heritage Significance: Analysing Significance in Heritage Assets' (2019)[3] provides general guidance on assessing significance as part of a staged approach to decision-making.

[2] Historic England: Advice Note 1 Conservation Area Appraisal, Designation and Management (2019)
[3] Historic England: Advice Note 12 Statements of Heritage Significance: Analysing Significance in Heritage Assets (2019)

1.3.19 BS7913:2013 – Guide to the conservation of historic buildings[4] sets out general information, advice, and guidance on the principles of the conservation of historic buildings and their settings.

1.3.20 The Good Practice Advice (GPA) notes published by Historic England provide advice to local planning authorities, planning and other consultants, owners, applicants, and other interested parties to support decision-making when managing change to the historic environment through the planning system.

1.3.21 GPA2 'Managing Significance in Decision Taking in the Historic Environment' (2015)[5] provides good practice principles to assist local authorities, planning and other consultants, owners, applicants, and other interested parties in implementing historic environment policy in the NPPF and the PPG. In particular, the document sets out useful information on assessing the significance of heritage assets, using appropriate expertise, historic environment records, recording and furthering understanding, neglect and unauthorised works, marketing and design and distinctiveness.

1.3.22 GPA3 'The Setting of Heritage Assets' (2017)[6] sets out guidance on managing change within the settings of heritage assets, including archaeological remains and historic buildings, sites, areas, and landscapes. It gives general advice on understanding setting, and how it may contribute to the significance of heritage assets and allow that significance to be appreciated, as well as advice on how views contribute to setting. The suggested staged approach to taking decisions on setting can also be used to assess the contribution of views to the significance of heritage assets. The guidance has been written for local planning authorities and those proposing change to heritage assets.

1.4 Assessment Methodology

1.4.1 There are no published guidelines outlining a general methodology for the preparation of the assessment of likely significant effects on built heritage under the EIA Regulations. There are however several published documents that guide methodology in the assessment and evaluation of development impacts, alongside the best practice guidance and advice notes published by Historic England.

- UNESCO Guidance and Toolkit for Impact Assessments in a World Heritage Context (2022);[7]
- IEMA's Principles of Cultural Heritage Impact Assessment (2021);[8]

1.4.2 Guidance from these documents has evolved to inform best practice for EIA assessment methodology.

Significance of Effect Criteria

1.4.3 The thresholds for "significant effects" on built heritage receptors are determined by considering the sensitivity of heritage receptors alongside the magnitude of impact that will be experienced. Effects that are graded as being Major or Moderate are considered significant with respect to the EIA Regulations. Effects that are graded as Minor to Neutral constitute effects that are not considered significant.

1.4.4 The sensitivity of a built heritage receptor is determined by its designated status and desk-based research to inform a professional judgement in relation to its heritage interest, accounting for the likely nature, date, extent, survival, condition, rarity, and group value.

[4] BS7913:2013 – Guide to the conservation of historic buildings (2013)
[5] Historic England: GPA2 Managing Significance in Decision Taking in the Historic Environment (2015)
[6] Historic England: GPA3 The Setting of Heritage Assets (2017)
[7] UNESCO Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (2022)
[8] IEMA Principles of Cultural Heritage (2021)

1.4.5 The sensitivity criteria ("significance" in the context of NPPF terminology) are based upon the value of the receptor. Significance defined in Annex 2 of the NPPF as:

> **"The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic, or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting."**

1.4.6 The PPG (2014, updated 2019) provides the following interpretation of archaeological, architectural, artistic, or historic interest (Paragraph: 006 Reference ID: 18a-006-20190723):

> **Archaeological interest:** As defined in the Glossary to the National Planning Policy Framework, there will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point**.**
>
> **Architectural and artistic interest:** These are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skill, like sculpture.
>
> **Historic interest:** An interest in past lives and events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity."

1.4.7 Setting is defined in Annex 2 of the NPPF as:

> **"The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral."**

1.4.8 The methodology for appraising sensitivity is an exercise of professional judgement informed by an evidence base, comprising desk-top review of primary and secondary source material, together with a visit to the Site and the surrounding area. Source material consulted as part of this exercise include historic Ordnance Survey plans, archival records, and interrogation of historic photographs on online sources including 'Britain from Above.'[9]

1.4.9 The assessment of setting has been undertaken with reference to the assessment steps set out in Historic England's guidance document GPAP3 'The Setting of Heritage Assets'. This sets out a staged approach to taking decisions on setting as follows:

- **Step 1**: Identifying the heritage assets affected and their settings.
- **Step 2**: Assessing whether, how and to what degree these settings make a contribution to the significance of the heritage asset(s).
- **Step 3:** Assessing the effect of the Proposed Development on the significance of the asset(s).
- **Step 4:** Maximising enhancement and minimising harm; and

[9] Britain from Above available online at https://britainfromabove.org.uk/

- **Step 5:** Making and documenting the decision and monitoring outcomes.

1.4.10 Steps 1 and 2 are relevant to establishing the baseline condition; steps 3, and 4 deal with assessing the impact of the change and measures for mitigating any identified impact which will be considered as part of the ES Chapter.

1.4.11 Each heritage receptor is ascribed a value in accordance with a five-point scale as shown in **Table 1.2** below:

Table 1.2: Criteria for Establishing Sensitivity of Heritage Assets (adapted from ICOMOS)

Sensitivity (value)	Asset Categories
High	• Remains of inscribed international importance, such as World Heritage Sites. • Grade I and Grade II* Listed Buildings. • Grade I and Grade II* Registered Parks and Gardens. • Scheduled Monuments. • Registered Battlefields. • Conservation Areas containing important buildings; and • Undesignated archaeological assets of clear national or international importance.
Medium	• Grade II listed Buildings. • Conservation Areas. • Grade II Registered Parks and Gardens. • Undesignated buildings, monuments, sites, or landscapes that can be demonstrated to have heritage value equivalent to the designation criteria; and • Designated or undesignated archaeological remains or sites that have regional interest.
Low	• Locally Listed Buildings as recorded on a local authority list. • Undesignated buildings, monuments, sites, or landscapes that can be demonstrated to have heritage value equivalent to the local listing criteria; and • Archaeological remains of limited value but with a potential to have interest at a local level.
Very Low	• Buildings, monuments, sites, or landscapes identified as being of negligible or no historic, evidential, aesthetic, or communal interest; and • Archaeological resources that have little or no surviving archaeological interest.

1.4.12 An impact can be characterised in terms of timing, scale, duration, and reversibility. These can be described as short, medium, or long-term, permanent, or temporary and can be positive or negative.

1.4.13 A direct impact on a heritage receptor is likely to result from changes to the physical fabric of the asset. An indirect impact is likely to result from changes to the receptor's setting.

1.4.14 In considering the potential magnitude of an impact, a professional judgement has been made about the receptor's susceptibility to change as a result of the Development. **Table 2.2** below sets out criteria that has been used to determine the magnitude of an impact, which can vary from 'Major to 'No change'.

Table 1.3: Criteria for Establishing Magnitude of Impact

Magnitude of Impact	Criteria for Assessing Impact
Major	• Change such that the significance of the asset is totally altered or destroyed. • Comprehensive change to setting
Moderate	• Change to the asset, such that it is significantly modified. • Change to the setting such that it is significantly modified.
Minor	• Change to the asset, such that the asset is slightly different. • Change to the setting.
Negligible	• Little change to the fabric or setting that would materially harm significance, approximating to a 'no change' situation.
No Change	• No change to fabric or setting that would harm significance.

1.4.15 The assessment to determine the significance of the effect uses a matrix that considers the sensitivity of the receptor against the magnitude of impact from the Development. The significance of effect is determined by the interaction of the receptor's sensitivity to change and the magnitude of impact (change) (**Table 1.4**). Effects that are graded as **Major** or **Moderate** are considered '**significant'** with respect to the EIA regulations. Effects can be adverse, beneficial, or neutral.

Table 1.4: Significance of Effects Matrix

		Magnitude of Impact				
		No change	**Negligible**	**Minor**	**Moderate**	**Major**
Sensitivity	**High**	No Effect	Minor Adverse/ Beneficial	Moderate Adverse/ Beneficial	Major Adverse/ Beneficial	Major Adverse/ Beneficial
	Medium	No Effect	Minor Adverse/ Beneficial	Minor Adverse/ Beneficial	Moderate Adverse/ Beneficial	Major Adverse/ Beneficial
	Low	No Effect	Negligible	Minor Adverse/ Beneficial Negligible	Minor Adverse/ Beneficial	Moderate Adverse/ Beneficial
	Not significant	No Effect	Negligible	Negligible	Negligible	Minor Adverse/ Beneficial

EIA "Significant Effects" versus NPPF "harm"

1.4.16 The degree of impact on a heritage receptor within the NPPF falls into three categories: substantial harm, less than substantial harm, and no harm. There are more categories of impact used in the EIA assessment methodology in the ES Built Heritage Chapter than that used for the NPPF. In this sense, the EIA is more nuanced and would result in a greater range of outcomes in terms of the degree of impact.

1.4.17 EIA grades impact as neutral, negligible, minor adverse/beneficial, moderate adverse/beneficial, and major adverse/beneficial. For the purposes of this assessment, impact that is assessed as beneficial is disregarded, as a positive effect would not be considered harmful in NPPF terms.

1.4.18 The 'less than substantial harm' category under the NPPF applies to a much broader range of impact, which could fall at the lower or upper ends of 'less than substantial harm.'

The NPPF categories of harm and the EIA categories do not align with each other, so it is important that both assessments are carried out.

1.5 Site Visit

1.5.1 The assessment included a site visit undertaken in 2024 in order to determine the topography of the Site and existing land use, the nature of the existing buildings, identify those assets which are likely to experience an impact and assess factors which may impact their significance. The site visit also extended beyond the Site for the purposes of scoping heritage assets, particularly in relation to understanding any relationship or intervisibility with the Proposed Development, as required by Historic England guidance.

1.6 Assumptions and Limitations

1.6.1 The following assumptions and limitations apply to this assessment:

- The baseline assessment has been based on information readily available at the time of undertaking the assessment.
- The baseline assessment relies on the accuracy of secondary source data. There is always some degree of uncertainty in relation to these sources.
- During the site visit, weather conditions, the time of day and seasonal factors influenced the visual assessment and photographic record of the environment; and
- Access to private properties has not been obtained.

2 Built Heritage Baseline Appraisal

2.1 Introduction

2.1.1 The following section provides a summary of the historical development of the Site and its environs, compiled from sources listed in the references section in addition to assessment following site visit. This report will only reference those built heritage receptors that are directly relevant to the discussion.

2.1.2 Understanding the history and context of the relevant heritage receptors is important to establishing their setting and the contribution that their setting makes to their sensitivity. Historic England guidance on setting advises that while this matter is primarily a visual assessment, there are other factors, such as historical associations and relationships that define settings and contribute to a receptor's sensitivity (significance).

2.2 Historic Background

2.2.1 Whilst this assessment does not consider the archaeological potential of the Site, a desk-top review of the Historic Environment Record (HER) has been undertaken, and entries have been referenced in this section where they are relevant to understanding the wider historic environment context.

Prehistoric period (900,000 BC–AD 43)

2.2.2 The Palaeolithic period saw alternating warm and cold phases with intermittent occupation. There is evidence of Bronze Age settlement within the area with the discovery of a farmstead at Fitzwilliam College (CB15416). There is also evidence in the city of occupation throughout the Iron Age with the remains of a settlement on Castle Hill dating from the 1st century BC.

2.2.3 Previous archaeological investigations across the wider site have found evidence confirming continuous settlement in the area throughout the later Bronze and Iron Age, including roundhouses, pit-wells and granary settings. By the late Iron Age three farmsteads are known to have existed[10]. These farming communities appear to have existed throughout the Late Bronze and Iron Ages, with several farmsteads continuing into the Roman period[11].

Romano-British period (AD43 – AD410)

2.2.4 During the Roman period, Cambridge was a small settlement known as Duroliponte, which means 'Fort at the Bridge'. Originally constructed as a military outpost, it soon transitioned to a civilian settlement. The Roman road 'Via Devana' ran to the north of the Site, along what is now Huntingdon Road. There is also evidence of a high-status residence within the wider Site, as well as four cemeteries.[12]

Medieval period (AD410 – AD1540)

2.2.5 Though evidence for the Anglo-Saxon period is more limited in comparison to later and earlier eras, Anglo-Saxon remains associated with a cemetery (HER ref: 1859483) were recorded during the construction of Girton College in the 19th century, indicating settlement in the area.

2.2.6 The medieval settlement of Howes, located alongside Huntingdon Road, is first recorded in 1219. It has traditionally been situated at the present location of Howes Place, in close proximity to the site[13]. The village likely benefitted from trade coming into Cambridge along

[10] eddington-cambridge.co.uk/wp-content/uploaPds/archaeology_nwc_booklet_autumn_2017.pdf
[11] eddington-cambridge.co.uk/wp-content/uploaPds/archaeology_nwc_booklet_autumn_2017.pdf
[12] eddington-cambridge.co.uk/wp-content/uploads/archaeology_nwc_booklet_autumn_2017.pdf
[13] *CCCAFU_reportB81.pdf*

Huntingdon Road and may have housed drovers before they entered the city[14]. However, records of it cease after 1600 and it is believed to have been abandoned in the 16th century[15]. Historically the site fell partly within the historic parishes of Girton and Madingley.

Post-Medieval and Modern periods (AD1540 – present)

2.2.7 From the 16th century to the mid-19th century, the Cotton family gradually acquired the majority of both the Girton and Madingley parishes, including land within the site[16]. Girton College, on the north side of Huntingdon Road, was first constructed in the 1870s and then continued to expand into the 20th century. Several trenches have been discovered on the Site, and it likely these were involved with training during the First World War, when New Zealand troops were stationed in the area[17]. From the end of the 19th century Cambridge has expanded both around and into the Site, either through residential development or the construction of facilities associated with the University.

Map Regression (see Appendix C where provided)

2.2.8 At the time of the 1841 Tithe Map (not reproduced) most of the parish of Girton, including much of the land within the Site, was under the ownership of Sir St Vincent Cotton. The majority of the land was in agricultural use, although a gravel pit and Washpit Brook also appears, although not labelled at this time. In relation to Madingley, only a small area of the site is shown on the Tithe Map. The land is recorded as a plantation and is today known as Pheasant Plantation. This area is also within the ownership of Sir St Vincent Cotton. The south-eastern section of the Site lies within the parish of Cambridge St Giles for which no Tithe Map is available. At this time, the Site was rural in character with some individual houses shown to the north of Huntingdon Road. However, the area in this period is located well outside the city limits of Cambridge.

2.2.9 Spalding's Map of Cambridge of 1888 does not extend as far west as the site. However, it shows that by this time the centre of Cambridge as being defined by the colleges and their associated grounds and gardens. Large areas of open space extend east and west from the centre and the wider area appears as open land, most likely in agricultural use.

2.2.10 The First Edition Ordnance Survey (OS) Map of 1888 records only minor changes to the site and its surroundings since 1842. The site appears as undeveloped land, most likely in agricultural use. To the east of the site, The Observatory is shown, accessed off Madingley Road and set within formal grounds. Gravel Hill Farm is located at the eastern extent of the Site; set around a central courtyard the farm sits within a large plot with private gardens to the north. Trinity Conduit Head is annotated to the southeast and features a series of small ponds. Huntingdon Road by this time is well established, although development is confined in the most part on the periphery of the city. Built form is relatively sparse to the north of Huntingdon Road; but Howe House is shown, annotated as being 'on the site of How House'. The property is set back from the road, set within a large formal garden with what appears to be a lodge house at the entrance to the driveway.

2.2.11 Girton College is shown as an H-shaped building, again set within a formal landscape which includes a lodge to the south of the main building. A cemetery and gravel pit are annotated to the southeast of the college. Opposite the College, Howhill Farm is recorded. This appears to consist of a large courtyard complex of presumably agricultural outbuildings, though there is no identification of specific structures. The buildings shown are all long rectangular structures set around a central courtyard and accessed from Huntingdon Road to the north. Several trackways lead southwards towards a series of small, wooded areas.

2.2.12 Washpit Brook is labelled and flows through the site. It is partially lined by trees. The Site is divided into a series of fields, the boundaries of which are generally shown as being heavily

[14] eddington-cambridge.co.uk/wp-content/uploads/archaeology_nwc_booklet_autumn_2017.pdf
[15] Girton: Introduction | British History Online
[16] Girton: Manors | British History Online
[17] archaeology_nwc_booklet_autumn_2017.pdf

planted. The 1903 OS Map reveals only minor changes to the Site and its surroundings. The courtyard complex at Howhill Farm appears unchanged, aside from a long wing extending south-west. The woodland to the south appears extant while that to the east is no longer recorded. A new section of woodland appears to the north. Aside from Girton College there remains little additional development to the north of Huntingdon Road. Girton College itself however has expanded considerably by this time to the east, including the gardens, which now extend to Girton Road. The 1903 OS Map shows the southern section of the Site as being in agricultural use at this time. There are several smaller plots adjacent to Huntingdon Road, including a nursery with associated structures opposite Howe House. Further south along Huntingdon Road is a public house labelled Traveller's Rest, today part of Cambridge North Premier Inn. The Site, on its southern boundary, included Gravel Hill Farm which included a courtyard complex of agricultural buildings with rectangular footprints, with an opening facing west and labelled 'P', possibly for pump. Opposite this entrance was a group of several other buildings, mostly probably also agricultural but also possibly the farmhouse, characterised by its irregular footprint. To the east of the farm were several gravel pits.

2.2.14 To the west of the Site the landscape is also agricultural. Between the Site and Madingley Road a number of properties and buildings are recorded, which includes several houses as well as the Mischief Public House and the University Observatory. To the north the cemetery of St. Giles and St. Peter is recorded, accessed off Huntingdon Road, and a large residence labelled Wychfield is located to the east. Opposite Wychfield, to the north of Huntingdon Road, a residential estate is recorded, marking the start of the expansion of Cambridge. However, the land surrounding the Site remains largely rural in character.

2.2.15 The 1927 OS Map shows little change in the site and the surrounding area. To the south of Howhill Farm two buildings have been constructed. These are likely houses still extant today, Howelands and Girton Gate. Further north, also adjacent to Huntingdon Road, a plantation has been created in the current location of the A14. Some additional structures have been erected in the grounds of Girton College, particularly to the northern end of the Site. Opposite the college, along Girton Road, there has been extensive residential development, with the entire eastern side of the road now lined with houses. Several additional structures have been erected in the plots south of Huntingdon Road opposite Howe House.

2.2.16 To the north of Huntingdon Road there has been some residential development as well as the construction of the National Institute of Agricultural Botany building, which remains extant. Close to the southern boundary of the site, Gravel Hill Farm is now labelled University Farm. The courtyard of the farming complex has now been largely infilled though the original buildings are still largely similar. The buildings opposite are largely similar, though what may be the farmhouse has now been extended to the north-west and north-east. The stables have also been extended to the south-west and south-east.

2.2.17 To the east of University Farm the Poultry Nutrition Institute Farm has been created. This consists of several largely rectangular structures to the north of University Farm in addition to possibly several pens further east. To the south of University Farm, the footprint of Madingley Rise remains unaltered. To the west of University Farm Conduit Head Road has been laid out. Two properties close to the site boundary have been constructed, Grithow Field and Conduit Head. Beyond the south-east boundary of the Site, adjacent to the cemetery of St. Giles and St. Peter, Storey's Way and its associated residential development has been constructed.

2.2.18 The 1946 OS Map shows limited change within the majority of the Site, which has remained in the most part as open agricultural land. Residential development has intensified in the area surrounding the Site, with houses now lining the south side of Huntingdon Road. University Farm appears to have been extended with several additional buildings being constructed to the north. The meteorological station is still shown, having first appeared on the 1927 map. To the east of the University Farm, the Poultry Nutrition Institute Farm has expanded and now consists of several mostly rectangular structures to the west of Storey's Way in addition to a large rectangular structure north of University Farm replacing most of the earlier buildings.

2.2.19 Subsequent 20th century mapping shows limited changes within the Site and its immediate surroundings. Changes include the reconfiguration of sites such as University Farm, and

Howe Hill Farm, but these are generally minor in nature. By the 1973 OS map, agricultural buildings to the north, on the current site of the Barcroft Centre, have been entirely replaced by a significantly larger complex labelled Animal Research Station. Bunker's Hill Farm has been demolished and replaced by housing, still extant. To the north of Huntingdon Road there has been an intensification of residential development.

2.2.20 To the south of the Site, residential development has intensified along Conduit Head Road, and to the west Lansdowne Road has been created with associated residential development. Development has increased around the University Observatory, likely connected to the University of Cambridge, and Churchill College is recorded south of Storey's Way. Residential development has also increased south of Madingley Road, and south of Conduit Head Road the University of Cambridge School of Veterinary Medicine has been constructed. By this stage the area surrounding the Site is no longer forms the rural setting of Cambridge but rather forms part of the suburban expansion of the city. By 1980 the M11 had been constructed to the west of the Site, forming its western boundary.

3 Sensitivity of Built Heritage Receptors

3.1 Scoping

3.1.1 In accordance with Step 1 of the methodology recommended by the Historic England guidance GPA 3, built heritage receptors (assets), both designated and non-designated, within the wider environs of the Site have been through a scoping exercise.

3.1.2 The initial assessment utilised modern and historic mapping, aerial photography, Google Earth, National Heritage List, and the HER, to identify which receptors within the study area may experience an impact from the Proposed Development.

3.1.3 Following the site walkover, the majority of built heritage receptors within the study area have been scoped out of this assessment. This is as a result of the separation distance, intervening vegetation and built form which surrounds the Site, including existing residential areas. In addition to this, the Site holds no historical or functional connection with these receptors. As such, it is considered that the Site does not form part of the setting of these receptors, nor does it make any meaningful contribution to their heritage sensitivity and they have not been taken forward for assessment.

3.1.4 For completeness, a full list of all built heritage receptors within the study area has been provided in the Gazetteer of heritage receptors (**Appendix D**). This sets out a brief summary of their heritage sensitivity, alongside a commentary of the scoping assessment for completeness.

Designated Heritage Receptors

3.1.5 A desk-top review of the Site and its environs identified 125 designated heritage receptors within a 750m study area from the site boundary, including several Grade II* listed buildings and six conservation areas. These are shown on **Figure 3, Appendix A**.

3.1.6 Following the initial scoping and confirmed by the site walkover, the designated heritage receptors noted at **Table 3.1** have been scoped into this assessment and are likely to experience an impact as a result of the Development.

3.1.7 The resulting impact arising from the Proposed Development and significance of the effects is set out in **Table 4.1**. The receptors have been grouped by their geographical location and historic connections.

Table 3.1: Designated Built Heritage Receptors Scoped into Assessment

Receptor Name	Grade	Historic England List Entry No
Girton College	II*	1331334
Lodge, Girton College	II	1127293
Schlumberger Gould Research Centre and attached perimeter wall to the north	II*	1438644
Northumberland dome at the Observatory	II	1126157
The Observatory	II	1126156
Chapel, Churchill College	II	1331925
Research Flats, Churchill College	II	1331924
American Cemetery	Grade I Registered Park and Garden	1001573
West Cambridge Conservation Area	Conservation Area	N/A
Histon Road Cemetery	Grade II* Registered Park and Garden	1001569

Receptor Name	Grade	Historic England List Entry No
Conduit Head Conservation Area	Conservation Area	N/A
Shawms	II*	1268363
Spring House	II	1380900
Willow House	II*	1331936
Salix	II	1227614
White House	II	1126037
Storey's Way Conservation Area	Conservation Area	N/A
29 Storey's Way	II	1331882
30 Storey's Way	II	1343647
48 Storey's Way	II	1126090
Garden of 48 Storey's Way	Grade II Registered Park and Garden	1422759
54 Storey's Way	II	1126091
56 Storey's Way	II	1068856
Howes Place	Conservation Area (Jan 24)	N/A

Non-designated Heritage Receptors

4.1.6 The Greater Cambridge Shared Planning Local List has been reviewed and a 250m study area applied. This is considered appropriate and has been agreed with the LPAs given the lower level of significance of non-designated heritage assets as well as the fact that the majority of these assets are located within an urban townscape setting and most will not experience any meaningful change to their setting. There are no locally listed buildings within the site boundary. There are several locally listed buildings within the study area. Those non-designated assets scoped into the assessment are noted in **Table 3.2** below.

Table 3.2: Non-designated Built Heritage Receptors Scoped into Assessment

Receptor Name	Local List Reference
136 Huntingdon Road	BLI 0174
138 Huntingdon Road	BLI 0175
141 Huntingdon Road ('Wayside', Storey's Way)	BLI 0176
143-145 Huntingdon Road	BLI 0177
162 Huntingdon Road	BLI 0178
171 Huntingdon Road	BLI 0179
173 Huntingdon Road	BLI 0180
183 Huntingdon Road	BL1 0181
Conduit Rise, Conduit Head Road	BLI 0089
Clements End, Conduit Head Road	BLI 0088
25 Storey's Way	BLI 0398
34 Storey's Way	BLI 0399
44 Storey's Way	BLI 0400
52 Storey's Way	BLI 0401
Mortuary Chapel of All Souls, All Souls Lane	BLI 0004
National Institute of Agricultural Botany (NIAB), Huntingdon Road	BLI 0171
Nos. 1-14 Howes Place	BLI

3.2 Significance/Sensitivity Assessment

Designated Heritage Receptors

3.2.1 Where assets are located within the same street, or form part of a group (i.e. college campus) they have been assessed as a group .

Girton College and Girton Lodge

3.2.2 As a Grade II* listed building Girton College is of high heritage sensitivity and as Grade II, the lodge is of medium sensitivity. Girton College was one of the first women's colleges established in Cambridge, marking a significance milestone in the advancement of female education. First founded in 1869 in Hitchin, the college's present site was acquired in 1872 and opened in 1873. Significant figures involved with the college's foundation include Emily Davies and Barabara Bodichon, both prominent campaigners for women's rights in the 19th century. Notable alumni of the college include Queen Margrethe II of Denmark, Arianna Huffington, Lady Hale (former President of the Supreme Court of the United Kingdom), Lady Higgins (former President of the International Court of Justice) as well as members of the Japanese Imperial Family and Yawnghwe Royal Family of Burma. The college's associations both within Britain and beyond add to its cultural and social interest.

3.2.3 Girton college building is listed at Grade II* and was designed by Alfred Waterhouse. The building holds architectural and artistic interest through its design and quality. Waterhouse was one of the most prominent architects of the 19th century, also designing the Natural History Museum in South Kensington, Manchester Town Hall, Manchester Assize Courts, Rochdale Town Hall, Whitehall Court in Westminster, the Prudential Assurance Building on Holborn and Eaton Hall amongst others. Waterhouse is known for combining red brick with terracotta in his designs, as seen at Girton College. His design here also combines Neo-Gothic with Tudor Revival in a traditional collegiate courtyard layout and is clearly intended to emulate the historic institutions of the University of Cambridge. It also holds historic interest through its associations with the Waterhouse family, having been constructed in 1873 with later additions of 1876, 1883 and 1886. In the 1890s and 1900s Waterhouse's son Paul designed Cloister Court and part of Woodland Court, while in the 1930s his grandson Michael designed the library and completed Woodlands Court. There is also an association with Sir Gilbert Scott who consulted on the alterations in the early 20th century.

3.2.4 Girton Lodge dates from the latter half of the 19th century and is listed at Grade II. There are no details in the documentary record relating to the architect of the lodge; however, it is designed in a similar architectural style to the main buildings. The lodge sits adjacent to Huntingdon Road, albeit set back from the road. The building's significance is derived from its architectural and historic interest as forming part of the campus of Girton College.

3.2.5 The immediate surroundings of the college are defined by its substantial grounds. Covering over 50 acres, the gardens at Girton make a positive contribution to the significance of the asset, by cultivating an atmosphere of isolated tranquillity, intended to facilitate academic pursuits. Historically the college's location was chosen to discourage the attention of male students in the city towards the women residents, reflective of the 19th century attitudes towards female propriety. The immediate setting of the college remains largely similar at the time of its construction.

3.2.6 The college grounds are surrounded by mature planting. When it was first constructed in the 1870s, the wider setting of the college beyond the immediate grounds was entirely rural and agricultural in character. However, over the course of the 19th and 20th centuries, the expansion of Cambridge has significantly altered this wider setting. The area surrounding the college is now largely suburban in nature and whilst the land to the north remains open and undeveloped, the college is now located within the city limits.

3.2.7 The Site is located to the south of the college and historically formed part of the landholdings of Sir St Vincent Cotton, alongside the site of the college. Sir Cotton was forced to sell much of his estate in the mid-century to pay for his debts, which is recorded in the 1872 Licence for

the College[18], while the sale of the freehold of the initial college site in 1881 is recorded as J.G. Barlow and others[19]. The college would later expand south-east, to the junction of Girton and Huntingdon Road. The college minutes record negotiations with Sir Cotton for this plot being undertaken in 1871[20], though it appears that the transaction was still not complete by the time of the 1888 OS Map. As both the Site and the receptor formed part of the historic manor of Girton, with Sir Cotton himself selling part of the estate directly, there exists an associative relationship between the two. Changes over the past two centuries however, including the breakup of the estate as well as urban encroachment from Cambridge, have eroded this relationship. Both the Site and Girton College are currently owned by the University of Cambridge, and today, as a result of physical and functional changes, including the fragmentation of the original estate, the development of new infrastructure, and the shift in land use, there is no visible or functional indication of the historic associative relationship between the two.

West Cambridge Conservation Area

3.2.8 The West Cambridge Conservation Area is a receptor of medium sensitivity. It was first designated in March 1972 with later extensions in 1984 and 2011. The adopted Conservation Area Appraisal summaries the special interest of the Conservation Area as being derived from:

"Today the Conservation Area is notable for its spacious residential streets, lined with large mainly detached houses of the late 19th or early 20th centuries. Many of these are built in red brick with occasional tile hanging in the Arts and Crafts style then popular and some are exceptional architecturally. Old Newnham, to the south of the Conservation Area, has a number of older buildings on smaller scale plots, which are also important to its character. The domestic scale of these buildings contrasts with the much larger University buildings which have been built from the same period onwards, with several late 19th century Colleges (Newnham, Selwyn, Ridley Hall) being located just off Grange Road. Later, 2 between Burrell's Walk and West Road, the 1920s Clare College Memorial Court and the 1930s University Library were added. The Library has been extended more recently to become the largest building in the Conservation Area. Since the 1950s the development of the Sidgwick Site, between West Road and Sidgwick Avenue, has provided a large complex of very individual University buildings, mostly designed by prestigious architects. Further University and College buildings have been added along, or just off, Grange Road, such as Robinson College (1980s) and, more recently, the Centre for Mathematical Sciences, Wilberforce Road.

Despite the differences in form, scale, and materials between the original residential properties and the much larger University and College buildings, the very high quality of nearly all of the structures means that the area retains a spatial cohesion. There are virtually no commercial buildings in the Conservation Area, the predominant uses being either residential or educational. Most importantly, an attractive setting is provided for these buildings by the many large green spaces, hedges and areas of woodland, which remain in the Conservation Area. Some of these are part of planned historic gardens which once surrounded detached 19th century buildings, and which now serve a new purpose by complimenting the many modern buildings within the Conservation Area. The College playing fields, adjacent Green Belt and the open spaces are important contributions to the character of the Conservation Area. These green, open spaces have an important relationship with the blocks of buildings. The areas also provide the setting for views into and out of the City Centre, as they are part of the transition from country to city and vice versa."

3.2.9 The Conservation Area is divided into a series of character areas, the closest of which to the Site is Character Area 1: Huntingdon Road to Madingley Road. The Appraisal notes the key characteristics of this area as being:

- Location on two major arterial routes into Cambridge.

[18] Girton College Archives GCGB 1/8/1
[19] Ibid. GCGB 1/8/1
[20] Ibid. GCGB 2/1/2

- Five large 20th century Colleges (Fitzwilliam, Murray Edwards (formerly New Hall), St Edmund's, Lucy Cavendish and Churchill) to the north.

- Department of Earth Sciences and the Cambridge Observatory to the west, centred on the listed Observatory with its adjoining dome, which is concealed from the road by thick woodland.

- Residential uses mainly to the south along Madingley Road, with large, detached family houses with spacious gardens dating to the early to mid-20th century; and

- The large open green space to the west of the main building of Churchill College is extremely visible and makes an important contribution to the character of the area.

3.2.10 The setting of the Conservation Area is defined primarily by the suburban expansion of Cambridge from the 19th and early-20h century, as well as the large, landscaped grounds associate with the collegiate campuses that occupy this part of Cambridge. The Site is located to the west and north of the Conservation Area and is physically and visually separated by existing landscape features and built form. The Site at its closest point would likely be considered to form part of the townscape setting of the Conservation Area, but the remainder of the Site is located at some distance. There is no associative or functional relationship between the Site and the Conservation Area, such that the Site is not considered to make any contribution to the heritage significance of the Conservation Area. ***Schlumberger Gould Research Centre & attached perimeter wall to the north***

3.2.12 As a Grade II* Listed Building the Schlumberger Gould Research Centre is a receptor of high sensitivity. The heritage interest of the Listed Building is derived from its significance from its architectural and aesthetic interest. The listing description states:

> *"The Schlumberger Gould Research Centre in Cambridge, built in 1985 for the oil industry research company, Schlumberger, to the designs of Sir Michael Hopkins (Michael Hopkins and Partners, now Hopkins Architects), is listed at Grade II* for the following principal reasons:*
>
> - *Architectural interest: it is a particularly important building of the early 1980s by Sir Michael Hopkins, one of Britain's foremost contemporary architects, and embodies innovative features and characteristics of the British High-Tech Movement.*
>
> - *Technological interest: it is a highly innovative industrial building using new materials, technology and design solutions, built for a forward thinking client that demanded a fully flexible and highly prestigious building which promoted the company and reflected the advanced design and technology of its products.*
>
> - *Historic interest: its strong historic association with Schlumberger, an internationally significant player in the history of oil exploration.*
>
> - *Degree of survival: despite some minor alterations to the interior, the building has survived remarkably intact, significantly contributing to its high degree of special interest".*

3.2.13 It goes on to note:

> *"The Schlumberger brief incorporated a development in two phases. The second phase, completed in 1992, is too young to be considered for listing at this time (2016). The initial phase, of 5600 m2, was designed to house a drilling testing station, a pumping station, laboratories, offices, computer rooms, library, meeting spaces and a canteen/restaurant. The brief asked for a design that was 'creative yet functional, attractive but not flashy' (Architectural Review, February 1984), and stressed the need for good connectivity and communication between the*

> *different activities and departments. A requirement for good natural lighting was specified for the Test Station resulting in the use of a Teflon-coated fibreglass membrane, the first for a major roof covering in the United Kingdom. The Test Station equipment is designed to replicate real drilling conditions with a high pressure chamber and drilling 'pits' included in the design, wherein pressures of 10,000 psi and drilling temperatures of 170o C can be achieved. With such extremes safety was a significant consideration. The north wall was designed to blow out in case of an explosion and, no doubt, the fabric roof covering, provided and manufactured by Stromeyer and engineered by Ove Arup and Partners, not only provided the required lighting but would if needed enable explosive pressures to escape upwards.*
>
> *The side ranges, housing laboratories, computer rooms, meeting spaces, the library and offices, use a single-storey post and truss structure clad in glass and profiled steel sheeting, a development of the system developed by the Hopkins's for their own home in Hampstead (Listed at Grade II*). Work began in September 1983, and the company began to fully occupy the building in early 1985. An initial proposal for fabric canopies to provide brise soleil was rejected, and Schlumberger opted instead for external blinds to regulate temperatures for their staff in the side ranges. The temperature control under the membrane proved to be a challenge too, and the comfort level in the Winter Garden is not always easily maintained.*
>
> *Since the building has been occupied, original structures in the service yard became obsolete and have been removed".*

3.2.14 The designation also specifically excludes specific elements including *"…the testing pits and high pressure chamber, the floor, the testing machinery, and the gantry crane in the Test Station; as well as the partition walls, and fixed furnishings and fittings in the side ranges, are not of special architectural or historic interest. Also, not of special architectural or historic interest are the metal fences and gates attached to the perimeter wall of the service yard to the north".*

3.2.15 The receptors immediate setting is defined by its extensive grounds with a car park to the north, accessed from High Cross to the west. To the south is a large-scale modern extension which is specifically excluded from the listing but is a prominent feature within the immediate setting of the Listed Building. The building forms part of the wider university campus to the south of Madingley Road, the character of which is defined by large-scale laboratory and research buildings. The M11 is to the west and forms a strong physical and visual break between the city limits and the surrounding countryside. The asset's setting may be described as urban fringe, with the neighbouring academic institutions contributing to its significance as other examples of research facilities, likely in association with the University of Cambridge.

3.2.16 The Site is located at some distance to the north of the receptor and there is no known functional or associative relationship between the two. Given the separation distance and the intervening built form, landscape features, and topography it is not considered that the Site forms part of the setting of the receptor, nor does it make any contribution to its heritage interest.

The Observatory and Northumberland Dome

3.2.17 The heritage interest of these two receptors is intrinsically linked, as such they have been considered as a group.

3.2.18 Listed at Grade II the Observatory and Northumberland Dome are receptors of medium sensitivity.

3.2.19 The Observatory was established in 1822 to the designs of John Clement Mead, is two storeys built of ashlar in the Neo-Greek architectural style. The heritage interest of the building

is derived from its architectural and historic interest as a result of its contributions to science and education.

3.2.20 Founded by the University of Cambridge, the observatory and the dome have played a key role in the development of astronomy in the UK. The Northumberland Dome is located to the south of the Observatory and dates from c.1838. The dome houses the Northumberland Telescope, which at its time of installation it was one of the largest refracting telescopes in the world.

3.2.21 The receptors hold architectural, cultural, and historic interest as a result of their 19th century classical designs. Whilst the dome has been reconstructed, the form and materials preserve its historic character and do not diminish its interest. The Observatory has key associations with several notable astronomers including John Couch Adams and Arthur Eddington which add to the heritage interest of the receptors as well as forming part of the University's public outreach programme.

3.2.22 The setting of these receptors is defined by the surrounding semi-rural landscape. Located on the western edge of the city, the observatory and dome are located within a well-defined plot, surrounded by mature trees, gardens and low-rise development. The area along Madingley Road has a strong academic character. Whilst historically the dome would have featured as a landmark feature on the skyline, today it is entirely surrounded by mature trees which give a sense of enclosure, obscuring views from the surrounding townscape.

3.2.23 The Site is located to the northwest of the receptors and is not appreciable as a result of the intervening built form and landscape features. The Site is not considered to make any contribution to the heritage interest of the receptors, other than forming part of its wider townscape setting.

Chapel, Churchill College

3.2.24 As a Grade II Listed Building, the chapel is a receptor of medium sensitivity. Built between 1961 and 1968 to the designs of Sheppard Robson and Partners the chapel is a modern interpretation of a Byzantine basilica. The building holds architectural interest as a result of its unique design and key architectural features such as the timber roof, central lantern and the large concrete members externally which five the building a monumental presence despite its small size.

3.2.25 The building is reflective of the liturgical revolution that occurred in the mid-20th century which is evident in the square plan of the internal worship space. At the time of the chapels' foundation, there was an intense divide in the college as to whether the construction of a chapel was appropriate, as such it was determined that it would be built on land at the edge of the college campus.

3.2.26 The chapel also holds group value with the nearby Grade II listed Research Flats.

3.2.27 The chapel is located to the western extent of the college site and for the reasons set out above, this means that the building is both visually and physically separate from the main college buildings. The building is set within an area of open ground, backing on to the sports fields to the south. Several large mature trees are positioned around the chapel, providing an element of screening from the surrounding footpaths. Built form to the north comprises of the brutalist Churchill College Flats with the large pyramidal atrium of the Moller Institute being a focal point.

3.2.28 The Site is located to the northwest of the receptor and is both physically and visually separate. As a result of this separation, combined with the intervening built form and landscape features, the Site is not considered to form part of the setting of the receptor, nor does it contribute to its heritage interest.

Research Flats, Churchill College

3.2.29 As a Grade II Listed Building, the research flats are a receptor of medium sensitivity. Constructed between 1959-60, also to the designs of Sheppard Robson Architects. The flats are of brown brick with flat roofs"[21].

3.2.30 The heritage interest of the building is derived from its architectural interest as part of the original masterplan for Churchill College. The building is of the distinctive modernist architectural style that defines the Churchill campus, using brick and concrete in a modular layout. Constructed to provide accommodation for graduate students and visiting academics, the receptor is also of historic interest as part of the original phases of development for the college, which is considered as a pioneer in modern architecture. It holds group value with the adjacent chapel which is contemporary in date and was designed by the same architect.

3.2.31 The receptor is accessed off Churchill Road and forms part of the cohesive townscape of the college's 50-acre site, being located on the edge of the open space allowing for views to the south across the college sports pitches.

3.2.32 The immediate setting of the receptor is defined by its designed landscape which makes a positive contribution to its heritage interest. Each unit features an outdoor terrace and to each elevation is a formal landscaped area bisected by footpaths providing access to the individual flats.

3.2.33 The Site is located to the northwest of the receptor and is both physically and visually separate. As a result of this separation, combined with the intervening built form and landscape features, the Site is not considered to form part of the setting of the receptor, nor does it contribute to its heritage interest.

American Military Cemetery RPG

3.2.34 As a Grade I RPG the American Military Cemetery is a receptor of high sensitivity. It is included on the Register of Parks and Gardens of Special Historic Interest for the following reasons:

- *A unique example of a Post-War Military Cemetery (mid-1950s) of the highest design quality and social importance.*
- *It commemorates the lives of all US servicemen who perished in Britain in World War II and contains the remains of over 3800 war dead.*
- *The landscape design was by Olmsted Brothers, an internationally renowned landscape firm which created a striking and moving formal design applied to a commemorative landscape, dominated by monumental architecture including a chapel, wall of remembrance and flagpole.*
- *The uniformity of the individual headstones and their formal arrangement in a regular pattern across a large area set on lawn contributes an exceptional character, equalled in England by the military cemetery at Brookwood.*
- *The cemetery survives in excellent condition with components including a variety of high quality structures and a memorial chapel.*

3.2.35 The asset's immediate setting is defined by its rural surroundings which contributes to its heritage interest given that its location was chosen to serve as a peaceful location for quiet contemplation and commemoration of the dead. However, the construction of the A428 c.450m to the north-west and the M11 1.35km to the east has resulted in noise intrusion which undermines this tranquillity and peaceful setting of the receptor. To the west of the cemetery is

[21] RESEARCH FLATS, CHURCHILL COLLEGE, Non Civil Parish - 1331924 | Historic England

heavy woodland planting along the boundary with Madingley Road, which obscures views outwards.

3.2.36 The Site is located to the northeast, beyond the M11 and as a result of the visual and physical separation it does not form part of the setting of this receptor. There are limited views outwards from towards the Site from within the cemetery; however, given the distances between them, it is not considered that the Site makes any meaningful contribution to the heritage interest of this receptor.

Histon Road Cemetery RPG

3.2.37 As a Grade II* RPG Histon Road Cemetery is a receptor of high sensitivity. The designation description gives the reasons for designation as being:

- An early (1843) garden cemetery, designed for a provincial city.
- The cemetery was laid out by the author and designer who was most influential on mid-late C19 cemetery design, J.C. Loudon (d.1843).
- The cemetery embodies Loudon's most important ideas on cemetery design and is an early example of the grid pattern layout adopted for many later cemeteries.
- The only example of a cemetery by Loudon which was executed without modification to his design.
- The layout survives intact with elements including boundary wall, lodge and gateway, path system, and monuments although its chapel has been demolished.

3.2.38 Opened in 1842, Histon Cemetery was established as a Nonconformist burial ground during a period of rapid urban expansion and growing public health concerns. Loudon's innovative design, featuring a grid layout and a focus on order, hygiene, and aesthetics, became a model for later cemeteries across Britain. The cemetery also reflects the social history of Cambridge, serving as the final resting place for over 8,000 individuals, many of whom were local residents.

3.2.39 The setting of the cemetery is defined by Histon Road to the west and Victoria Road to the south and the surrounding townscape is defined by low-rise residential terraced properties. The cemetery features several large, mature trees which give it a sense of enclosure, and the area is welcome green space within the otherwise suburban townscape.

3.2.40 The Site is located c.730m to the west of the receptor and is both physically and visually separate by virtue of the intervening built form. The Site does not form part of the setting of the cemetery, nor does it contribute to its heritage interest.

Conduit Head Road Conservation Area

3.2.41 As a result of their close associative relationship, the heritage significance of the Conservation Area and associated Listed Buildings (as described below) are closely related.

3.2.42 The Conduit Head Road Conservation Area is a receptor of medium sensitivity. The Conservation Area was first designated in 1984 and the latest appraisal dates from January 2024. The appraisal contains the following summary of the asset's special interest:

"*Conduit Head Road Conservation Area comprises a 20th century residential development, built between 1914 and the 1990s. The buildings are generally large, detached properties, set in sizeable, mature gardens. The area developed in a piecemeal fashion, displaying a variety of different architectural styles. A number of Modernist houses, built in the 1930s and 1960s, are of particular note. These buildings provide a high quality and progressive architectural character in the area.*

The Conservation Area retains a significant amount of mature vegetation. This, coupled with the dog-legged and quiet nature of the private road itself, acts to provide a sense of enclosure and seclusion in the area, with few long views available and the majority of buildings screened from the road."

3.2.43 The setting of the Conduit Conservation Area is defined by the suburban expansion of Cambridge, including Phase 1 of the wider North West Cambridge proposals. Whilst historically the Conservation Area was located in an open rural setting; today, the surrounding area has undergone extensive change, resulting in a more urbanised setting within which the Conservation Area provides a tranquil and verdant relief.

3.2.44 The Site is located to the north of the receptor with the north boundary of the Conservation Area being adjacent to the Site. The remainder of the Site is located to the west of the receptor and is physically and visually separate. There is no functional or associative relationship between the receptor and the Site, and although historically the land would have formed part of the rural agricultural setting that surrounded the city, the 20th century expansion and development of the nearby colleges has resulted in this setting becoming urbanised.

3.2.45 Whilst the area of the Site to the north forms part of the wider townscape that surrounds the Conservation Area, as a result of the extensive planting to the property boundaries, the Site is not readily appreciable from within the boundary and is considered to make a limited contribution to its heritage interest. The remainder of the Site to the west does not make any contribution to the significance of the Conservation Area.

Willow House

3.2.46 As a Grade II* listed building, Willow House is a receptor of high sensitivity. The receptor derives from its architectural and historic interest as an early example of modernist architecture, heavily influenced by the work of Le Corbusier.

3.2.47 The property holds architectural interest as a result of its association with George Checkley, to who's design the building was constructed in 1932. The property is two-storeys, built of concrete with white render. As is common for the architectural style, the building includes a strong emphasis on light and space. Commissioned by Dr. McCombie (Kings College), the house was part of a wave of modernist homes that began to appear in the city in the early 20th century. Previous alterations have resulted in several changes to the internal layout, splitting the property into two dwellings; however, more recently work has been undertaken to try and undo some of the unsympathetic alterations, such that they have not diminished the architectural quality of the building.

3.2.48 The building forms a group with the White House and Salix, given their similar date. The White House was also designed by Checkley.

Salix

3.2.49 As a Grade II Listed Building, Salix is a receptor of medium sensitivity. Its heritage interest is derived from its architectural innovation, historical associations, and its contribution to a unique enclave of early 20th-century modernist design.

3.2.50 The house was constructed between 1933-34 and includes several period features indicative of its architectural style. This includes flat roofs and terraces, corner windows with metal framed glazing, and a cantilevered canopy over the entrance door. These features aid in our appreciation of the modernist architectural response. It holds historic interest through its association with Dr Mark Oliphant, who was a prominent Austrian physicist as well as it links to the development of college residential architecture.

3.2.51 The building holds group value with Salix and White House, which are similar in date and are designed using similar architectural design principles.

White House

3.2.52 The White House, as Grade II listed, is a receptor of medium sensitivity. The heritage interest of the property is derived from its architectural and historic interest as one of the earliest Modernist houses in Britain and the first of its kind in Cambridge.

3.2.53 Designed by George Checkley as his private dwelling, the architectural design is characteristic of the modernist style, featuring flat roofs and steel framed windows. The building is rectangular in plan, and it embodies modernist ideals of functionalism and simplicity. The receptors association with Checkley adds to its historic interest as does its associative relationship with other modernist buildings from the same period.

Setting of Willow House, Salix, and White House

3.2.54 The immediate setting of these Listed Buildings (Willow House, Salix and White House) is defined by their domestic gardens. In the most part the properties are well screened from Conduit Head Road by the mature trees and planting along their boundaries, which are characteristic of the surrounding streetscape. The wider setting of the receptors comprises the Conduit Head Conservation Area and the properties are positive features that make a positive contribution to the character and appearance of the Conservation Area.

3.2.55 There is no functional or associative relationship between the Site and these receptors, which are physically and visually separate. The extensive mature planting which are characteristic of the townscape, combined with the intervening built form and separation distance means that the Site simply forms part of the wider townscape setting of these receptors and does not make any meaningful contribution to their heritage interest.

Shawms

3.2.56 As a Grade II* Listed Building, Shawms is a receptor of high sensitivity, and its heritage interest is derived from its architectural and aesthetic interest as an example of the Modern Movement style. Designed by Margaret Justin Blanco White in 1938, the building exemplifies modernist architecture during the interwar period, showcasing clean lines, functional design, and a strong emphasis on light and space. Originally designed to be constructed in reinforced concrete; however, due to shortages of materials White amended the design to use timber in the construction. As a result, Shawms is therefore one of only a few timber-clad modernist houses of this period in the UK. The property retains many of its original features, adding to its architectural interest.

3.2.57 The building also holds historic interest through its association with Blanco White who was a notable female architect and is considered a pioneer of the time.

3.2.58 The immediate setting of Shawms is defined by its large residential garden which extends to the south of the property. The garden is largely enclosed by mature trees and planting, creating a sense of containment and limiting any appreciation of the property from within the surrounding area. The wider setting is defined by the Conduit Head Conservation Area. The Conservation Area comprises large, detached houses, many of which are designed in the Modernist style, set within generous gardens. The streets are defined by generous vegetation, greenery and trees. To the west is a single field which has been retained as open space within the wider North West Cambridge development. This field is identified as containing ridge and furrow which is visible as extant earthworks.

3.2.59 Beyond this is the nearly complete Phase 1 development at Eddington. The area surrounding this receptor has undergone extensive change throughout the 21st century, with the urban expansion of Cambridge resulting in the receptor now being located in a distinctly urban townscape setting.

3.2.60 The Site is located to the north of the receptor and there is no known associative or functional relationship between the two. The Site forms part of the wider setting of the receptor, which

has already experienced significant change; however, it is not considered to make any meaningful contribution to its sensitivity.

Spring House

3.2.61 As a Grade II Listed Building, Spring House is a receptor of medium sensitivity. The heritage interest of the property is derived from its architectural and historic interest. Designed by Colin St John Wilson in the Modern style. John Wilson is best known for designing the British Library. Spring House was constructed between 1965 and 1967 as an Artist's House and Studio and is an early example of his domestic work.

3.2.62 Spring House is of architectural interest as a result of its design, which embraces Modernist ideals. The building avoids the characteristic starkness of high modernism and incorporates natural materials and textures to create softer and more intimate spaces. The concrete Roman tile roofs add an element of sculptural quality, creating a unique architectural approach. The list description notes that *"The elevational to front and side reminiscent of Aalto's Saynatsalo Town Hall, Finland (1950-2), particularly in the treatment of the broad stack".* The design also enshrines the principles of Modernism with the external spaces being just as important as the internal.

3.2.63 The setting of the Listed Building is defined by its large residential garden which extends to the east. The garden is largely enclosed by mature trees and planting, creating a sense of containment and limiting any appreciation of the property from within the surrounding area. The wider setting is defined by the Conduit Head Conservation Area. The Conservation Area comprises large, detached houses, many of which are designed in the Modernist style, set within generous gardens. The streets are defined by generous vegetation, greenery and trees.

3.2.64 To the east is an area of mature woodland with modern development to the southeast at Bradrushe Fields, beyond which is the Institute of Energy and Environmental Flows.

3.2.65 The Site is located to the north of the receptor and there is no known associative or functional relationship between the two. The Site forms part of the wider setting of the receptor, which has already experienced significant change; however, it is not considered to make any meaningful contribution to its sensitivity.

Storey's Way Conservation Area

3.2.66 The heritage sensitivity of the Storey's Way Conservation Area is medium. Designated in 1984, the Conservation Area Appraisal was adopted in April 2008. The Conservation Area Appraisal describes the special interest of the Conservation Area as being derived from:

> *"…the fine detached family houses with their spacious gardens (as defined by the original L-shaped plot of about 42 acres which was allotted to the Trustees of Storey's Charity by the Enclosure Award of 1805), and mature planting, which are interspersed with parts of the collegiate grounds of Fitzwilliam and Churchill Colleges.*
>
> *The area includes seven Listed Buildings and eight Buildings of Local Interest. Virtually all were built between 1912 and 1924 (the chapel in All Souls Lane however, dates back to 1875) and represent fine examples of the architecture of that period. In addition, many of the trees are subject to Tree Preservation Orders".*

3.2.67 It identifies three distinct character areas which includes the central area, colleges and grounds, and the Ascension Parish Burial Ground. The Conservation Area covers an area of early 20th century residential development

3.2.68 As Grade II Listed Buildings the receptors at Storey Way are of medium sensitivity. Given their close proximity and associations with Ballie Scott, the properties have been considered

together. The heritage sensitivity of the receptors is set out in their listing descriptions, noted below:

29 Storey's Way

- *Design: it is a good example of the finely crafted Neo-Georgian style that Baillie Scott adopted later in his career.*
- *Architectural interest: it has a well-proportioned composition enlivened by subtle variations in plane, towering chimney stacks, and delicate Georgian-inspired detailing.*
- *Interior: this displays the same high level of design and craftsmanship in an elegant Georgian style, and the survival of the configuration and fittings of the service area further enhances the special interest of the house.*
- *Architect: Baillie Scott is one of the most accomplished and prolific architects of the late C19/ early C20 and has around sixty listed buildings to his name.*
- *Context: the house forms part of an exceptional suburban development in West Cambridge which encompasses the work of some of the most notable architects of the day.*
- *Group value: it is one of an important cluster of five listed Baillie Scott houses in Storey's Way with which it has considerable group value.*

30 Storey's Way

- *Design: as one of Baillie Scott's smaller houses, it aptly demonstrates his belief that such dwellings should be designed as a 'roomy cottage' rather than 'a mansion in miniature'.*
- *Architectural interest: inspired by the architect's love of old buildings which lull and soothe the spirit, the low sweep of the roof with its tall chimney stacks and profusion of gabled dormers conveys a sense of shelter and warmth, and the plan form provides an easeful fluidity of living space.*
- *Materials: the essential nature of the building materials are drawn out by thoughtful handling, so that the plaster on the walls retains its characteristic texture of subtle modifications, and the flowers and foliage on the modelled plasterwork of the fireplaces (one of the loveliest features in the house) give the impression of having 'been coaxed from their white bed'.*
- *Architect: Baillie Scott is one of the most accomplished and prolific architects of the Arts and Crafts Movement and has around sixty listed buildings to his name.*
- *Context: the house forms part of an exceptional suburban development in West Cambridge which encompasses the work of some of the most notable architects of the day.*
- *Group value: it is one of an important cluster of five listed Baillie Scott houses in Storey's Way with which it has considerable group value.*

48 Storey's Way and Garden of 48 Storey's Way RPG

3.2.69 As Grade II Listed Building and Grade II RPG the receptors are of medium heritage sensitivity. Given their close associative relationship, they have been considered as a group. No.48 Storey's Way derives its significance from its architectural and artistic interest as a 1913 Arts and Crafts house designed by M. H. Baillie Scott.

3.2.70 The list description states that the receptor was designated for the following reasons:

- *Architect: Baillie Scott is one of the most accomplished and prolific architects of the Arts and Crafts Movement and has around sixty listed buildings to his name.*
- *Architectural interest: it is one of Baillie Scott's most accomplished works, comparable in interest to his highly graded pieces, and is masterly in its composition, plan form, detailing and craftsmanship.*
- *Planning: the plan form represents the culmination of the architect's ideas about layout and function, providing a fluid living space and a distinctive spatial quality in which views and vistas are created along the axes.*
- *Interior: this is meticulously detailed and beautifully crafted.*
- *Materials: high quality building materials are used throughout, their essential nature drawn out by thoughtful handling.*
- *Intactness: the decorative elements and joinery have survived with a high level of intactness, as has the original plan form which has been subject to only minor modification in the service area.*
- *Context: the house forms part of an exceptional suburban development in West Cambridge which encompasses the work of some of the most notable architects of the day.*
- *Group value: it has group value with the garden, which is being recommended for registration, and is one of an important cluster of five listed Baillie Scott houses in Storey's Way.*

3.2.71 The Grade II RPG at No.48 Storey's Way dates from 1913 and was also designed by M.H. Baille Scott. It is included on the Register of Parks and Gardens of Special Historic Interest for the following reasons:

Designer: it is by one of the most accomplished and prolific designers of the Arts and Crafts Movement whose work is well represented on the List

Design interest: it is a highly significant work that embodies Baillie Scott's fundamental ideas about garden design and a unified approach to planning. The design of the garden is carefully integrated with that of the house to create an open and dynamic relationship between the inside and outside space, and demonstrates the serious thought he gave to small, everyday gardens that involved a realistic amount of maintenance for their owners.

Intactness: the layout has remained in almost its complete original state and retains nearly all the features seen in early photographs.

Rarity: it is not only a rare and important survival of a suburban Arts and Crafts garden but is the only known example of a garden of this scale by Baillie Scott to have survived in anything like its original condition.

Group value: the garden and house form an ensemble of exceptional importance as one of the best examples of Baillie Scott's seminal and influential work. The garden has considerable group value with the house which is listed at Grade II and is part of an important cluster of five listed Baillie Scott houses in Storey's Way.*

Context: the garden forms part of an exceptional suburban development in West Cambridge which encompasses the work of some of the most notable architects of the day.

54 and 56 Storey's Way

3.2.72 As Grade II listed buildings these are receptors of medium sensitivity. Nos. 54 and 56 Storey's Way hold architectural and historic interest as high-quality examples of early 20th century domestic architecture. No.54 was designed by renowned architect M.H. Baillie Scott and is designed in the Neo-Georgian style with distinctive features. No.56, also designed by Scott is in the Picturesque style and it is thought that Scott resided in the property. Together the buildings represent the aspirations of early 20th century suburban development in Cambridge.

Setting of Storey's Way Conservation Area and Associated Listed Buildings

3.2.73 The immediate setting of the Listed Buildings at Storey's Way is defined by their generous plots with mature gardens, often screened by hedges or boundary walls, contributing to the verdant, semi-rural character of the surrounding streets. Properties are set back from the main road with large front and rear gardens which give the are a semi-rural character.

3.2.74 The wider setting is defined by the Storey's Way Conservation Area which includes significant areas of green space such as the playing fields of Trinity Hall and Churchill College, the Ascension Parish Burial Ground, the wooded areas of the old University Botany Field Station and the fields of the University farm. The receptors are not visible within long or medium distance views from the wider townscape, given the low scale of the development and they all make a positive contribution to the significance of the Conservation Area.

3.2.75 The setting of the Conservation Area is characterised by the institutional and residential development associated with the early 20th century suburban expansion of the city and the nearby colleges. It is defined by its architectural richness and the integration of built form into the surrounding high-quality landscape.

3.2.76 The Site is located to the west of the receptors and is visually separate as a result of the mature landscape planting that along the existing property boundaries. As a result, the Site is not considered to form part of the setting of the Listed Buildings, nor does it contribute to their heritage interest. The Site does form part of the townscape setting of the Conservation Area, but given its enclosed nature it is not considered to make any meaningful contribution to its heritage significance.

Howes Place Conservation Area

3.2.77 The Howes Place Conservation Area was designated in January 2024 and is a receptor of medium sensitivity. The adopted Conservation Area Appraisal contains the following summary of the asset's special interest:

3.2.78 "*This area is a 1921 architect designed development of 14 houses and a boiler laundry house (which was later converted to two residential flats – Nos. 6A and 6B) and a 3 storey institutional building. Later additions to Howes Place, Nos. 16-18, have been sympathetically integrated into this original plan using the original formal landscaping. In addition to the formal landscaping of rows of pleached limes and beech and other neatly trimmed hedges, the number of mature trees and hedges, which lie to the rear of the Howes Place properties, in NIAB's grounds and on the field and property boundaries in the area, are significant. They reinforce the ties between the function of NIAB and the landscape in general*."

3.2.79 The area is characterised by early 20th century development and the site was originally chosen due to its location outside the city, meaning it was ideal for the growing of plants and testing at the National Institute of Agricultural Botany. Whilst today, the area forms part of the suburbs of Cambridge, the horticultural character remains discernible through the remaining formal landscaping found in the Conservation Area.

3.2.80 The Site is located to the south of the Conservation Area, beyond the residential properties along Huntingdon Road. However, there is no apparent functional or associative relationship between the two. The Site forms part of the wider townscape setting of the Conservation Area; however, as a result of the intervening bult form, landscape features, and topography the Site is not considered to make any meaningful contribution to the heritage interest of the receptor.

Non-Designated Heritage Assets

3.2.81 As Locally Listed Buildings, all of the receptors considered in this section are of low sensitivity. The buildings are identified on the CCCs Local List; however, no information is provided as to their reasons for inclusion. For the purposes of this assessment, the properties have been grouped together based on their position along the street which is considered to be a robust approach.

Nos 136, 138, 141, 143-145 Huntingdon Road

3.2.82 A brief description of the properties is set out in the Cambridge Suburbs and Approaches: Huntingdon Road[22] document, which are reproduced below:

- No 136: *"No. 136 and 136A, a large, detached house in the Norman Shaw Old English style, Building of Local Interest, now made into two semi-detached properties, with a well-detailed side extension to no.136A".*
- No 138: *"No.138, Neale House, a large gabled brick house with a timber framed gable over the entrance, Building of Local Interest".*
- No 141: *"On the opposite side of Storey's Way, no.141 'Wayside' (W.D. Collins, 1912, Building of Local Interest) shows the influence of C. F. A. Voysey in the use of roughcast and tapering forms".*

3.2.83 No details are provided in relation to No.143-145; however, the property is a semi-detached pair, contemporary with the surrounding residential development and forms part of the 20th century residential expansion in the early 20th century.

3.2.84 The immediate setting of these receptors is defined by their domestic garden, with numerous mature trees located along their boundaries. The wider setting is defined by Huntingdon Road, with similar detached and semi-detached properties of the same age constituting their surroundings. This area developed as part of Cambridge's urban and suburban expansion in the 20th century, and the setting is defined by a suburban townscape character.

3.2.85 Historically the properties along Huntingdon Road would have been set within a rural landscape, outside the extent of the city. However, the construction of research facilities associated with the University of Cambridge to the south has encroached upon this setting, as had the recent construction of the North West Cambridge scheme at Eddington nearby, eroding the original rural character of this area.

3.2.86 The Site is located immediately to the south of the receptors and is one of only a few areas of surviving open land that would have historically defined its setting. However, there does not appear to be any functional or associative relationship between the Site and receptors. Whilst the Site forms part of the townscape setting of these properties, it is considered to make little, if any, contribution to their heritage interest.

162 Huntingdon Road

3.2.87 Within the Cambridge Suburbs and Approaches: Huntingdon Road document, a brief description of the property is provided:

[22] Cambridge Suburbs and Approaches

"No.162, L-shaped on plan, the porch in the angle with a steep swept copper roof, and with an adjoining tall corbelled and canted oriel window. The main roofs are clad with glazed pantiles, a detail extended to the attached contemporary garage. Building of Local Interest."

3.2.88 The property holds architectural and historic interest as part of the early 20th century development of Cambridge. It forms a group with the properties to the south and is of a similar architectural style to the surrounding streetscene.

171, 173, and 183 Huntingdon Road

3.2.89 Within the Cambridge Suburbs and Approaches: Huntingdon Road document, a brief description of each property is provided:

"*No.183, a design of North European character, with a prominent pantiled mansard roof, contemporary attached garage at the front, and entrance placed on the diagonal between house and garage. The building is little altered and is on the local list*."

"*No. 173, Kapitza House, circa 1930, by H. C. Hughes for Dr Peter Kapitza and showing the influence of avantgarde continental developments. This too is a Building of Local Interest but has had its windows replaced*."

"*No. 171, built in 1931 by H. C. Hughes for Dr Alden Wright, with an original built-in garage. This, combined with the building's simple form and clean lines, and distinctive tall corner window, gave it a modern, functional, aesthetic. The building is Building of Local Interest. Unfortunately, the original windows have been replaced with UPVC and the garage incorporated into the ground floor accommodation*."

3.2.90 The heritage sensitivity of the receptors is derived from their architectural and aesthetic interest as part of the early 20th century expansion of the city. Nos.171 and 173 also hold historic value as a result of their association with prominent architect H.C. Hughes. Hughes was inspired by the Arts and Crafts Movement and designed buildings reminiscent of that style during the inter-war period. He was also responsible for the design of several other buildings within Cambridge from this period, including Fen Court at Peterhouse College and Salix (Conduit Head Road). No.171 also possesses historic interest through its association with Peter Kapitza, a renowned Soviet physicist whose research focussed on low-temperature physics.

Conduit Rise and Clements End

3.2.91 The properties are described in the Conduit Head Rise Conservation Area as:

- Conduit Rise: "*Conduit Rise was built by Harry Redfern. Constructed in an Arts and Crafts style, it is located behind a tall painted brick wall and is of two storeys plus attic. The walls are rendered and painted white, with a heavily pitched tile roof above and some weatherboarding to gable ends. A number of chimney stacks form a prominent part of the roofline. These are built in pale yellow and red brick with red brick detailing to the top. The windows are timber framed casements*."

3.2.92 The receptor derives its significance from its architectural and historic interest as a good example of an 19th century Arts and Crafts style dwelling, as well as through its association with the architect Harry Redfern. Redfern was appointed to commissions for both the Universities of Oxford and Cambridge, designing laboratories for both institutions and also undertaking restoration work. He also undertook ecclesiastical work, such as at St. Michaels in Abingdon, in addition to serving as chief architect for the Home Office State Management Scheme, designing New Model Inns.

- Clements End: *"Of two storeys with a hipped tiled roof, the building is rendered and painted pale pink. The main façade fronts on to the road. Symmetrically arranged, it is*

of three bays. The central bay projects forward beneath a plain parapet, with a Georgian-style door with semi-circular fanlight to the ground floor, and a central window flanked by a single window to either side to the first floor. The right and left bays each contains a single window to both the ground and first floors. All windows are timber casements. The south elevation contains a square bay window carried from the ground to first floors."

3.2.93 The receptor derives its significance from its architectural and historic interest through its association with the architect Harold Tomlinson. Working primarily in Cambridge, Tomlinson designed the ADC Theatre as well as the first Cambridge Airport building in the 1930s.

3.2.94 The immediate setting of the receptors is defined by their private gardens which features mature landscaping and contribute to the heritage interest by maintaining a sense of privacy and enclosure which was characteristic of the surrounding properties. The wider setting to the south-west and south-east is characterised by the large, detached houses along Conduit Head Road, each including substantial gardens and planting. These properties are located within the Conduit Head Conservation Area and the adjacent properties exemplifies the original suburban setting of the receptors. To the north-west, separated by a field, Phase One of the North West Cambridge development is encroaching up on the setting of the Conservation Area.

3.2.95 The Site is located to the northeast of the receptors with the north boundary of the Conservation Area being adjacent to the Site. There is no functional or associative relationship between the receptors and the Site, and although historically the land would have formed part of the rural agricultural setting that surrounded the city, the 20th century expansion has resulted in this setting becoming urbanised. Whilst the Site forms part of the wider townscape that surrounds the receptors, as a result of the extensive planting to the property boundaries, the Site is not readily appreciable from within the and does not make any contribution to their heritage interest.

Nos. 25, 34, 44, and 52 Storey's Way

3.2.96 The Storey's Way Conservation Area Appraisal describes the buildings as follows:

3.2.97 No.25 Storey's Way was built in 1924 and is part of the early 20th century expansion of Cambridge. Designed by H C Hughes, the building is characteristic of other properties of this period. It is described as *"…a single storeyed plastered brick property, with a mansard roof, a late example of the 'Cottage Orne' style. There are two chimneystacks at either end of the ridged roof. There are multi-paned casement windows on the first floor".*

3.2.98 No. 34 dates from 1923 and was designed by Prof. F Blackman as his own private residence. It is described as *"It is a large two storeyed property with a grand entrance porch, and symmetrical front with bay windows. There is a hipped tiled roof with brick chimneystacks and beneath, decorative pargetted walls and unusual drainpipes, which are decorated with the date and letters 'EFBFP'. There is a formal garden in front of the house, which is laid out with terraces, stonewalls and paths, and beyond the house, a thatched summerhouse. There is an orchard in the rear section of the garden backing on to the cemetery".*

3.2.99 Nos.44 and 52 are slightly earlier in date (1913) but are characteristic of the architectural style of the surrounding area. The are described as:

- No. 44: *"It is a large two storeyed property with a grand entrance porch, and symmetrical front with bay windows. There is a hipped tiled roof with brick chimneystacks and beneath, decorative pargetted walls and unusual drainpipes, which are decorated with the date and letters 'EFBFP'. There is a formal garden in front of the house, which is laid out with terraces, stonewalls and paths, and beyond the house, a thatched summerhouse. There is an orchard in the rear section of the garden backing on to the cemetery"*

- No.52: "*Robert Bennett and Wilson Bidwell of Letchworth designed this two storeyed brick house. There are casement windows with modern glazing bars, and lintels, which are formed from tiles, set edge on. The entrance door on the ground floor is recessed, and consists of panels with three window lights"*

3.2.100 These receptors are located within the Storey's Way Conservation Area which defines their immediate setting. Set within large plots with well-established gardens, the properties form a group with many of the other residential properties that characterise the Conservation Area.

3.2.101 The setting of the Conservation Area and these receptors is characterised by the institutional and residential development associated with the early 20th century suburban expansion of the city and the nearby colleges. It is defined by its architectural richness and the integration of built form into the surrounding high-quality landscape.

3.2.102 The Site is located to the west of the receptors at its closest point with the remainder of the Site being located at some distance to the west. The majority of the Site is both physically and visually separate. As noted previously, the receptors within the Conservation Area are not appreciable from within the wider townscape as a result of the extensive mature planting within the Conservation Area. As a result, the Site is not considered to form part of the setting of the receptors, nor does it contribute to its heritage interest.

Mortuary Chapel of All Souls, All Souls Lane

3.2.103 The heritage sensitivity of this receptor is derived from its architectural and historic interest as a fine example of mid-Victorian Gothic architecture to the designs of W.M. Fawcett. The chapel was built in the late 19th century to serve the St Giles and St Peter's Burial Ground, and it remained in use as a mortuary chapel until the late 1990s.

3.2.104 The building holds historic interest through its links with Fawcett, who was appointed to numerous prominent commissions within Cambridge, including with the University. Some of his work includes the New Museums, Hughes Hall, additions and alterations to Kings College, Emmanuel College, Peterhouse College, and the restoration of Queen's College. As well as this, the chapel is also associated with several prominent figures of the time, including the philosophers Ludwig Wittgenstein and George Edward Moore as well as members of the Darwin family who are interred in the associated grounds[23].

3.2.105 The structure is a good example of 19th century Gothic Revival architecture, with features such as a plate tracery rose window, trefoil lancet windows, a small belfry, buttresses, and a scissor brace roof truss. Materials include flint elevations with stone dressings. The roof was retiled c.2000 while insertion of rooflights at the same time has somewhat harmed its significance[24].

3.2.106 The immediate setting of the receptor is its associated burial ground The mature planting and sense of peaceful isolation contributes to the function of the building as a place of peaceful contemplation of the dead. The burial ground has a functional association with the receptor and contributes to its heritage interest, being a remnant of the original function of the building.

3.2.107 In its wider setting, urban encroachment has resulted in the receptor being surrounded by modern residential development. The suburbanisation of the surrounding townscape has resulted in a loss of its historic tranquil setting.

3.2.108 The Site is located to the northwest of the receptor and is both physically and visually separate. As a result of this separation, combined with the intervening built form and landscape features, the Site is not considered to form part of the setting of the receptor, nor does it contribute to its heritage interest.

[23] Luke Jacob All Souls Chapel Cambridge.pdf

[24] Luke Jacob All Souls Chapel Cambridge.pdf

National Institute of Agricultural Botany (NIAB) and Nos.1-14 Howes Place

3.2.109 These receptors are located within the Howes Place Conservation Area. The Conservation Area Appraisal provides an overview of the properties architectural and historic interest of these receptors.

- Nos. 1-14: *"Nos. 1 to 12, 14 and 15 Howes Place were constructed to wrap around a central green, set back from the street, with Nos. 3 and 4 Howes Place and Nos. 9 and 10 Howes Place each forming an 'H' plan to negotiate the corners. Nos. 14 and15 Howes Place form a further 'H'-shape but are not included within the Conservation Area. It may have been originally planned to repeat the same pattern of development on the opposite side of the street.*

  The Royal Visit, on 18th October 1921, included a tour of Howes Place which had a Laundry House in the middle which originally supplied the houses with heating and hot water from a central boiler. It appears that Nos. 6A and 6B were the Laundry House, as the building has a central location and is of a different design and plan form from the other properties. At the time of the visit, three houses were occupied by officers' widows, and one house was of a special plan intended for seriously disabled officers.

  The houses are built as two-storey semi-detached properties joined by linking 2 metre high gated, brick walls. They were constructed in the pseudo 18th century polite architectural style with vertical sliding sashes, and symmetrically similar to the former NIAB Headquarters building, however, these buildings have tiled hipped roofs with sprocket eaves…"

- NIAB: *"The 'E'-shaped plan of the building is enclosed on the south western side with walls and gate piers forming a gravelled courtyard. The building is of pseudo 18th century polite architectural style with vertical sliding sashes in a symmetrical form. Constructed of white brick under a hipped mansard plain 9 tiled roof of two and a half-storey, with a three-storey entrance, Pevsner had in 1970 already recognised the architectural importance of NIAB: "1921 by Morley Horder. An extension by JBF Cowper & Poole (1955) is of no architectural interest, though the red-brick stores and boiler house of 1963 are. Aluminium curtain-walling on a brick ground floor." This building has recently been converted to provide 68 residential dwellings.*

3.2.110 *The extensions and additions to the rear of the building are only visible where they are close to the property boundary on Howes Place or Lawrence Weaver Road. The 1955 extension is not of particular architectural interest and is thought to negatively affect the character as well as the visual link between Nos. 14 and 15 Howes Place on the western side of the street…"*

3.2.111 The setting of these receptors is defined by the Howes Place Conservation Area, the character of which is derived from its planned layout of mock 18th-century houses, designed in the early 20th century by architect Percy Morley Horder. Properties are set within generous plots bounded by mature trees and hedgerows which contribute to the leafy and verdant character.

3.2.112 The Site is located to the south, beyond the residential properties along Huntingdon Road. However, there is no apparent functional or associative relationship between the two. The Site forms part of the wider townscape setting of these receptors; however, as a result of the intervening bult form, landscape features, and topography the Site is not considered to make any meaningful contribution to the heritage interest of these receptors.

4 Significance of Effect

4.1 Introduction

4.1.1 The following section sets out a proportionate assessment of impact on built heritage receptors that would be affected either directly or indirectly by the Development.

4.1.2 This section is intended to inform the potential for significant effects to heritage receptors that may arise because of the Development. This assessment therefore appraises the worst-case scenario.

4.2 Significance of Effects

4.2.1 The assessment in **Table 4.1** below sets out the assessment of impact arising from the Development on the built heritage receptors.

4.2.2 Due to the separation distance between the Site and the majority of the receptors within the study area, combined with the townscape character, topography, intervening built form and landscape features, the majority of the built heritage receptors that have been scoped into this baseline assessment will not experience any meaningful change to their setting, that would result in any impact on their sensitivity.

4.2.3 The assessment in **Table 4.1** identifies that the following receptors have the potential to experience a significant effect as a result of the Proposed Development:

- Conduit Head Road Conservation Area

4.2.4 Where an effect is identified, unless stated as beneficial this should be considered an adverse impact.

4.3 Assessment against Policy

4.3.1 It is accepted that the Development would result in a degree of change to the setting of the Conduit Head Road Conservation Area through the introduction of built form immediately to the north of the receptor. The submitted parameter plans, and illustrative Masterplan demonstrate how the Development can be built out to minimise any impact on the identified heritage receptors.

4.3.2 As noted in the methodology, where receptors have been assessed as experiencing a negligible or minor adverse significance of effect; this impact, when applying the policy tests at paragraphs 214 and 215 of the NPPF, is considered to fall within the category of less than substantial harm.

4.3.3 The potential impact on Conduit Head Road Conservation Area is identified to be a moderate adverse significance of effect. In NPPF terms, this impact is also considered to be less than substantial harm.

4.3.4 As such, paragraph 215 of the NPPF is engaged in respect of all designated heritage assets where there is a negligible, minor or moderate adverse effect in EIA terms and any harm must be weighed against the public benefits secured by the proposals. These benefits can be environmental, economic, and/or social benefits, and can include direct heritage benefits such as enhancement to the setting(s) of heritage assets.

4.3.5 The impacts identified in this assessment have been appraised against the worst-case scenario. There is potential for these impacts to be reduced through additional mitigation measures secured at the reserved matters stage. It is envisaged that through the detailed design of the Proposed Development including architectural treatment, materiality, layout, and landscape design. This would ensure that the scheme delivered a high-quality development

that responds positively to the local character of the surrounding area and that any impact to the sensitivity of the Conservation Area could be reduced to a minor adverse significance of effect. Such an impact would likely continue to fall within the category of less than substantial harm in NPPF terms.

4.3.6 Where the Proposed Development has been assessed as having potential to cause adverse impacts to designated heritage receptors, i.e. where the significance of effect is concluded to be negligible / minor / moderate effects (**Table 4.1**), these effects would fall within the bracket of less than substantial harm when considered in NPPF terms. As such, the harm must be weighed against the public benefits of the Proposed Development (paragraph 215).

4.3.7 In regard to non-designated heritage receptors, where adverse effects are concluded in Table 4.1. This would be considered harmful, and in accordance with paragraph 216 of the NPPF, a balanced judgement must be made, having regard to the scale of harm and the sensitivity of the receptor.

4.3.8 The public benefits of the Proposed Development are considered to outweigh any identified heritage harm, and are set out in the accompanying Planning Statement.

Table 4.1 Built Heritage Effects

Heritage Receptor	Sensitivity	Construction Phase			Operational Phase		
		Description	Magnitude of impact	Significance of Effect	Description	Magnitude of impact	Significance of Effect
Girton College	High	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Minor	The receptor will be retained, and any impact arising from the operational phase will arise from the presence of new built form, access, infrastructure, and landscaping, which will bring about a change within the setting of the receptor. The Site makes a limited contribution to the interest of the receptor, which is set back within its plot and is well screened from Huntingdon Road. Historically the Site formed part of the land holdings of the Cotton family; however, any such links are no longer discernible, and the Site simply forms part of the wider townscape setting of the receptor. The submitted parameter plans show careful consideration to the layout, scale, and landscaping in order to limit any potential impact. Built form is located to the south of Huntingdon Road, beyond the existing row of residential properties. Those buildings of greater scale are located centrally within the Site in order to help minimise visual impact. Glimpsed view of the roofline of the College is possible across the Site, from the M11 to the south. However, these views are not designed, and the building does not appear as a landmark within these views, and they do not contribute to our appreciation of the collegiate character of the receptor in its campus setting. Overall, the resulting impact on the sensitivity of the receptor will be reduced as a result of the separation distance, intervening mature landscaping and topography of the Site.	Negligible	Minor
Lodge, Girton College	Medium	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase.	Minor	Minor	The receptor will be retained, and any impact arising from the operational phase will arise from the presence of new built form, access, infrastructure, and landscaping, which will bring about a change within the setting of the receptor. The Site makes a limited contribution to the interest of the receptor, which is located along Huntingdon	Minor	Minor

		The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.			Road, opposite existing residential development. Historically the Site formed part of the land holdings of the Cotton family; however, any such links are no longer discernible, and the Site simply forms part of the wider townscape setting of the receptor. The submitted parameter plans show careful consideration to the layout, scale, and landscaping in order to limit any potential impact. Built form is located to the south of Huntingdon Road, beyond the existing residential properties and to the northwest of the receptor. Those buildings of greater scale are located centrally within the Site in order to help minimise visual impact. Overall, the resulting impact on the sensitivity of the receptor will be reduced as a result of the separation distance, intervening mature landscaping and topography of the Site.		
Schlumberger Gould Research Centre and attached perimeter wall to the north	High	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	No change	No Effect	The receptor will be retained and is located c.263m to the south of the Site. The closest built form to the receptor is proposed at c.500m. Given the separation distance from the Site, combined with the existing landscape features and built form, the Proposed Development will not result in any meaningful change to the setting of the receptor, such that there would be no impact on its heritage sensitivity.	No Change	No Effect
Northumberland Dome at the Observatory	Medium	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	No Effect	The receptor will be retained and is located c.170m southeast of the Site. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 4 to 5 storeys. The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, which would cause a low level of harm to its sensitivity.	Minor	Minor
The Observatory	Medium	The receptor is to be retained and there is potential for indirect	Negligible	Negligible	The receptor will be retained and is located c.170m southeast of the Site. The parameter plans show that	Minor	Minor

		impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.			the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 4 to 5 storeys. The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a minor change to the wider townscape setting of the receptor		
Chapel, Churchill College	Medium	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	No change	No Effect	The receptor will be retained and is located c.135m southeast of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 4 to 5 storeys. The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is due to the topography, intervening built form and landscape features.	Negligible	Minor
Research Flats, Churchill College	Medium	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	No change	No Effect	The receptor will be retained and is located c.135m southeast of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 4 to 5 storeys. The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is due to the topography, intervening built form and landscape features.	Negligible	Minor
American Military Cemetery RPG	High	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and	No change	No Effect	The receptor is located c.1.5km to the west of the Site at its closest point. The Site does not form part of the setting of the receptor, nor does it contribute to its heritage sensitivity. The Proposed Development would not result in any change that would impact the sensitivity of the receptor as a result of the extent of separation, including the M11 and the intervening landscape	No change	No Effect

		topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.			features which mean the Site is not appreciable from within the cemetery.		
136 Huntingdon Road	Low	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	Negligible	Negligible	The receptor will be retained and is located c.190m northeast of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is due to the topography, intervening built form and landscape features.	Negligible	Negligible
138 Huntingdon Road	Low	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	Negligible	Negligible	The receptor will be retained and is located c.190m northeast of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is due to the topography, intervening built form and landscape features.	Negligible	Negligible
141 Huntingdon Road (Wayside)	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Minor	Minor	The receptor will be retained and is located c.130m northeast of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is primarily due to the intervening boundary	Minor	Minor

					planting which in the most part screens the Site from the receptor.		
143-145 Huntingdon Road	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Minor	Minor	The receptor will be retained and is located c.90m northeast of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Minor	Minor
162 Huntingdon Road	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Minor	Minor	The receptor will be retained and is located c.100m northeast of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is due to the separation distance; the Site is to the south of existing built form opposite the receptor combined with the intervening mature planting which in the most part screens the Site from the receptor.	Minor	Minor
171 Huntingdon Road	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Minor	Minor	The receptor will be retained and is located c.50m northeast of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is primarily due to the intervening boundary	Minor	Minor

					planting which in the most part screens the Site from the receptor.		
173 Huntingdon Road	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Minor	Minor	The receptor will be retained and is located c.50m northeast of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Minor	Minor
183 Huntingdon Road	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Minor	Minor	The receptor will be retained and is located c.50m northeast of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Minor	Minor
West Cambridge Conservation Area	Medium	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	Minor	Minor	The Conservation Area boundary is located immediately south and southeast of the eastern extent of the Site, in the area proposed for academic floorspace, student accommodation, and co-living. The building heights parameter plan shows a maximum height of 5 storeys immediately adjacent to the Conservation Area boundary. The character of the Conservation Area in this location is defined by large academic buildings of between 3 and 4 storeys to the south of Madingley Road.	Negligible	Minor

					The Site forms part of the townscape setting of the receptor but is not considered to make any meaningful contribution to its heritage sensitivity. It is therefore considered that the introduction of development of a similar nature and scale would be appropriate within the setting of this receptor and combined with the existing mature boundary planting, the Proposed Development would result in a negligible impact to the sensitivity of this receptor through a change to its townscape setting.		
Histon Road Cemetery RPG	High	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	No change	No effect	The receptor is located c.750m to the east of the Site at its closest point. The Site does not form part of the setting of the receptor, nor does it contribute to its heritage sensitivity. The Proposed Development would not result in any change that would impact the sensitivity of the receptor as a result of the extent of separation distance and intervening built form, topography and landscape features.	No change	No effect
CONDUIT HEAD CONSERVATION AREA							
Conduit Head Road Conservation Area	Medium	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Minor	The Conservation Area boundary is located immediately to the south of the eastern portion of the Site, in the area proposed for academic floorspace, student accommodation, and co-living. The building heights parameter plan shows a maximum height of 4 storeys immediately adjacent to the Conservation Area boundary. The character of the Conservation Area is that of low-rise residential development in the modernist architectural style set within large verdant plots and streets. The Site forms part of the townscape setting of the receptor but is not considered to make any meaningful contribution to its heritage sensitivity. Given the proximity of the Site to the receptor and the maximum parameters proposed in this part of the Site, there is potential for the development to result in an adverse impact to the receptor through the	Moderate	Moderate

					introduction of built form of greater scale and density within its immediate setting.		
Shawms	High	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Minor	The receptor will be retained and is located c.50m southwest of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity. This is primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Minor
Spring House	Medium	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Minor	Minor	The receptor will be retained and is located c.50m south of the Site at its closest point. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Minor
Willow House	High	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	Negligible	Minor	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Minor

Salix	Medium	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	Negligible	Minor	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Minor
White House	Medium	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	Negligible	Minor	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Minor
Conduit Rise	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Negligible	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Negligible
Clements End	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its	Negligible	Negligible	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3 storeys	Negligible	Negligible

		setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.			The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.		
STOREY'S WAY CONSERVATION AREA							
Storey's Way Conservation Area	Medium	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Minor	Minor	The Conservation Area is located immediately to the east of the eastern extent of the Site. The building heights parameter plan shows built form of between 3 and 5 storeys in this part of the Site. Those areas of greatest scale have been positioned centrally within this part of the Site in order ensure that built form steps down towards the existing residential development to the north and east. The Site forms part of the townscape setting of the Conservation Area; however, it makes only a limited contribution to its heritage sensitivity. Given the proximity of the Site to the receptor, there is potential for the development to impact the receptor through the introduction of built form within its immediate setting. However, in the most part the development would be screened by the existing mature planting that surrounds the Conservation Area, helping to limit any adverse impact.	Minor	Minor
Mortuary Chapel of All Souls	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Minor	Minor	The receptor will be retained and is located c.40m east of the Site. The parameter plans show that the area at closest proximity to the receptor is proposed for mixed residential accommodation and co-living at a maximum height of 3 storeys. The Site forms part of the setting of the chapel, with the undeveloped land contributing to a sense of peacefulness and tranquillity. The Proposed Development will result in the introduction of built form within close proximity to the receptor; further urbanising its townscape setting which is considered harmful.	Minor	Minor
25 Storey's Way	Low	The receptor is to be retained and there is potential for indirect	Negligible	Negligible	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed	Negligible	Negligible

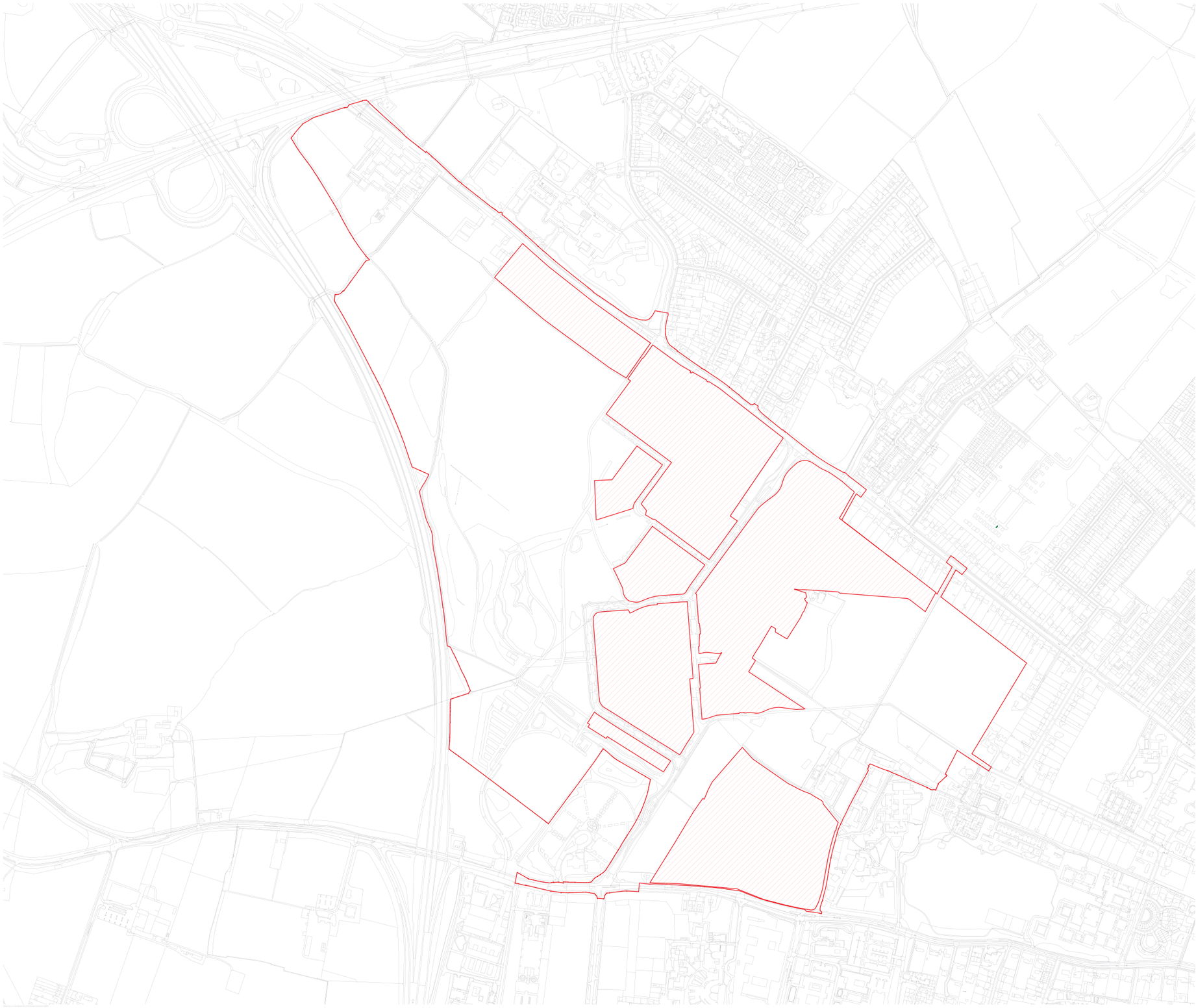
		impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.			for academic floorspace, student accommodation, and co-living at a maximum height of 3-5 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.		
29 Storey's Way	Medium	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Minor	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3-5 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Minor
30 Storey's Way	Medium	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Minor	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3-5 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a minor impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Minor	Minor
34 Storey's Way	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase.	Negligible	Negligible	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3-5 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a minor impact on its heritage sensitivity,	Minor	Minor

		The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.			which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.		
44 Storey's Way	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Negligible	The receptor will be retained and is located c.40m west of the Site. The parameter plans show that the area at closest proximity to the receptor is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3-5 storeys. The Site forms part of the setting of the receptor but does not make any meaningful contribution to its heritage sensitivity. The Proposed Development will result in the introduction of built form within close proximity to the receptor; further urbanising its townscape setting which has the potential to result in a low level of harm.	Minor	Minor
48 Storey's Way	Medium	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Minor	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3-5 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Minor
52 Storey's Way	Low	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Negligible	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3-5 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Negligible
54 Storey's Way	Medium	The receptor is to be retained and there is potential for indirect	Negligible	Minor	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed	Negligible	Minor

		impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.			for academic floorspace, student accommodation, and co-living at a maximum height of 3-5 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.		
56 Storey's Way	Medium	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Minor	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3-5 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Minor
Garden of 48 Storey's Way RPG	Medium	The receptor is to be retained and there is potential for indirect impacts to the listed building through noise, vibration, dust and the visibility of construction machinery and materials within its setting, during the construction phase. The impacts would be temporary in nature and will be mitigated by the adoption of a CEMP.	Negligible	Minor	The receptor will be retained. The parameter plans show that the area at closest proximity is proposed for academic floorspace, student accommodation, and co-living at a maximum height of 3-5 storeys The Site is not considered to make any contribution to the sensitivity of the receptor and whilst the Proposed Development would result in a change to the wider townscape setting of the receptor, it would result in a negligible impact on its heritage sensitivity, which is reduced primarily due to the intervening boundary planting which in the most part screens the Site from the receptor.	Negligible	Minor
HOWES PLACE CONSERVATION AREA							
Howes Place Conservation Area	Medium	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and	Negligible	Minor	The Conservation Area is located c.90m to the northeast of the Site. The character of the area is derived from its 20th century uniformed architectural style and association with the NIAB. Its setting is defined by the existing low-rise residential development along Huntingdon Road. The Site forms part of the townscape setting of the receptor but is not considered to make any	Negligible	Minor

		topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.			meaningful contribution to its heritage sensitivity, being both visually and physically separated by Huntingdon Road. As a result of this and the intervening built form, landscape features, and topography of the Site it is not considered that that development would result in any meaningful impact to the sensitivity of the receptor.		
National Institute of Agricultural Botany (NIAB), Huntingdon Road	Low	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	Negligible	Negligible	The receptor will be retained and is located c.115m to the south of the Site. The closest built form to the receptor is proposed at c.250m. Given the separation distance from the Site, combined with the existing landscape features and built form, the Proposed Development will not result in any meaningful change to the setting of the receptor, such that there would be only a negligible impact on its heritage sensitivity.	Negligible	Negligible
1-14 Howes Place	Low	The receptor is to be retained and impacts during the construction period would be indirect. The Site does not make any contribution to the sensitivity of this receptor, such that as a result of the intervening distance, existing landscape features and topography, the receptor would not experience any meaningful change to its setting during the construction phase of the development.	Negligible	Negligible	The receptor will be retained and is located c.115m to the south of the Site. The closest built form to the receptor is proposed at c.250m. Given the separation distance from the Site, combined with the existing landscape features and built form, the Proposed Development will not result in any meaningful change to the setting of the receptor, such that there would be only a negligible impact on its heritage sensitivity.	Negligible	Negligible

Appendix A Figures



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No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

Status codes:

- S1 - Suitable for Coordination
- S2 - Suitable for Information
- S3 - Suitable for Review & Comment
- S4 - Suitable for Review & Authorization
- S5 - Suitable for Review & Acceptance
- A*n* - Approved & Accepted as Stage complete

Rev	Description	Date
P01	Red Line - update	11.07.24
P02	Red Line - update	12.07.24
P03	Red Line - update	22.07.24
P04	Red Line - update	23.07.24
P05	Red Line - update	03.10.24
P06	Red Line - update	07.10.24
P07	Red Line - update	08.10.24
P08	Red Line - update	30.10.24
P09	Red Line - update	01.11.24
P10	Red Line - update	29.11.24
P11	Red Line - update	28.02.25
P12	Red Line - update	06.03.25
P13	Red Line - update	11.03.25
P14	Red Line - update	19.03.25
P15	Red Line - update	02.04.25
P16	Red Line - update	04.04.25

Key

- Site application boundary - measured area = 114 Hectares (excludes hatched areas)
- Excluded from application - measured area = 56 Hectares

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Hawkins\
Brown

Project
NWC - 2024 Masterplan
Eddington, North West
Cambridge,
CB3 1AF

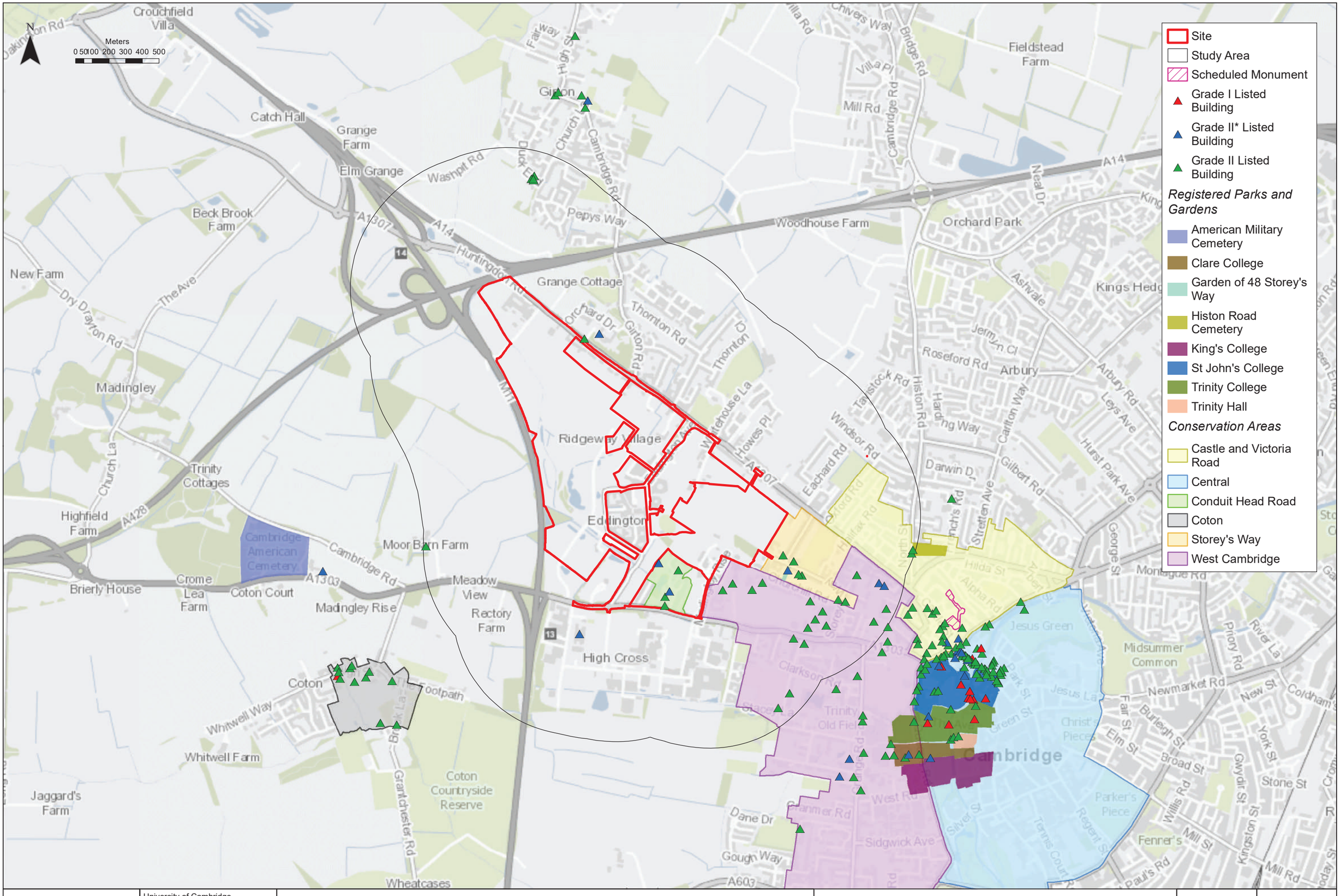
Drawing
Site Location Plan

Scale @ A1	Date
As indicated	10/03/2025

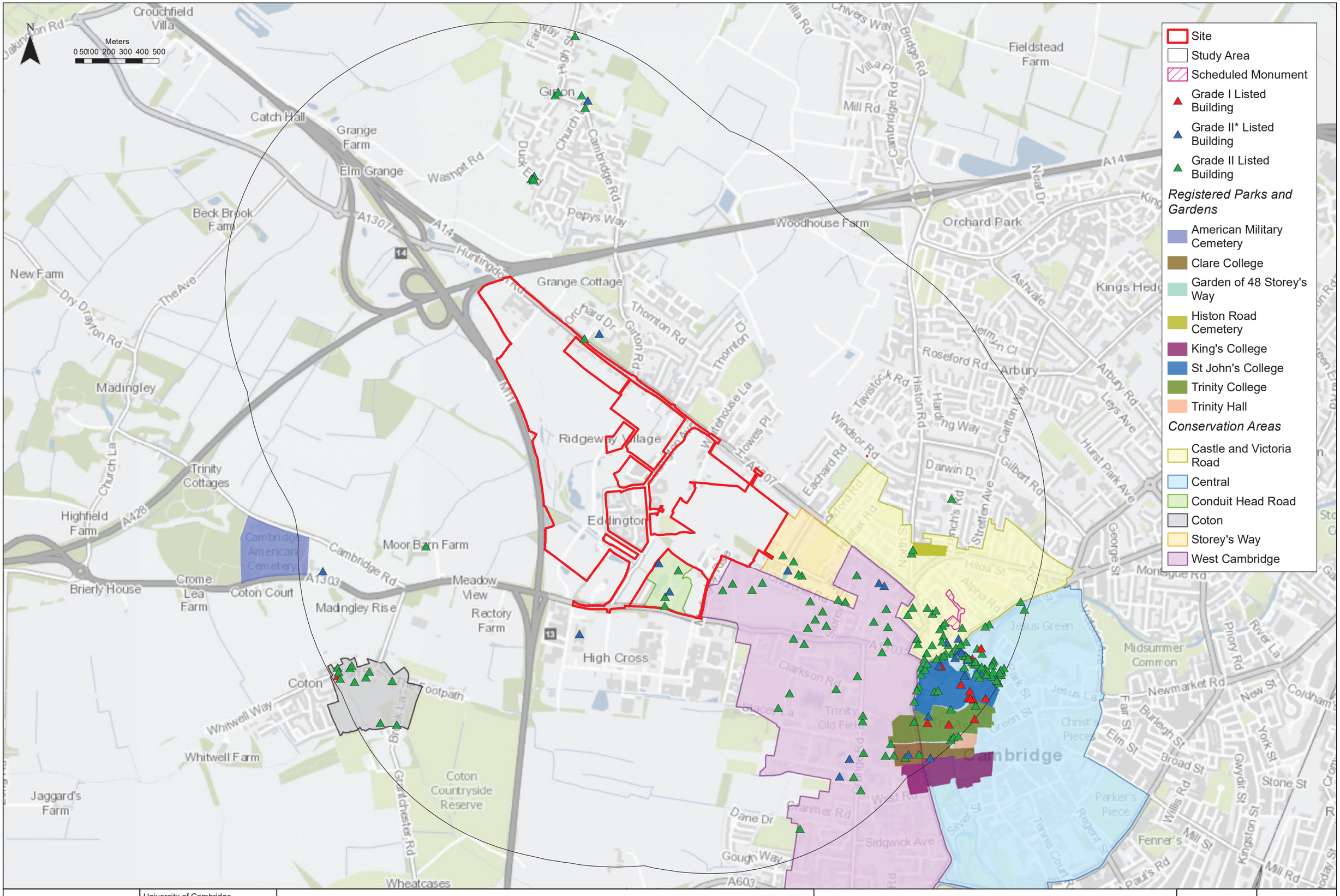
Drawn By	Checked By
JM	DG

Job Number	Status	Purpose of Issue
240061	SK	Information

Drawing No.	Rev
PP1-10001	P16



Stantec	University of Cambridge Estates Division	**North West Cambridge (NWC), Eddington, Cambridge, CB3 1AS** Designated Heritage Assets in a 750m Study Area	Contains OS data © Crown Copyright and database right 2020 © Historic England 2025 Contains Ordnance Survey data © Crown copyright and database right 2025	1:20,000 @ A3	Date: 24/07/2025
				Drawn: ELT	Checked: LK
				Figure 01	Rev A



Stantec	University of Cambridge Estates Division	**North West Cambridge (NWC), Eddington, Cambridge, CB3 1AS** Designated Heritage Assets in a 1.5 km Study Area	Contains OS data © Crown Copyright and database right 2020 © Historic England 2025 Contains Ordnance Survey data © Crown copyright and database right 2025	1:20,000 @ A3	Date: 24/07/2025
				Drawn: ELT	Checked: LK
				Figure 02	Rev A

Appendix B Decision-Making Framework

Planning framework

The Government issued a revised version of the NPPF in 2025 and supporting revised Planning Practice Guidance in 2023. The purpose of the planning system is to contribute to the achievement of sustainable development, and the NPPF has a presumption in favour of such, where it meets needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development is achieved within the context of economic, social, and environmental objectives.

The NPPF recognises that heritage assets are an irreplaceable resource which 'should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations' (para 189). The NPPF requires the significance of heritage assets to be considered in the planning process, whether designated or not.

National Planning Policy Framework

Section 16 of the NPPF deals with 'Conserving and Enhancing the Historic Environment'. The relevant paragraphs are reproduced in full below:

Paragraph 207 requires applicants to describe the heritage significance of heritage assets potentially affected by proposed development. This should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance.

Paragraph 203 places an onus on local planning authorities to identify and assess the significance on any heritage asset that may be affected, and to take this assessment into account when considering the impact of a proposal.

Paragraph 210 states that local planning authorities, in determining planning applications, should take account of: the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation; the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and the desirability of new development making a positive contribution to local character and distinctiveness.

Paragraph 212 advises that great weight should be given to an asset's conservation; the more important the asset, the greater this weight should be. It goes on to state that significance can be harmed or lost through alteration or destruction of the heritage asset, or development within its setting. Any such harm or loss should require clear and convincing justification.

Paragraphs 214 and 215 set out two decision-making tests where proposals would lead to substantial and less than substantial harm respectively. Paragraph 215 guides that where a development proposal would lead to less than substantial harm, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

Paragraph 219 guides local planning authorities to look for opportunities for new development within conservation areas and within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.

Implementation of the NPPF is supported by the Planning Practice Guidance (PPG), 2014 with updates.

Local Planning Policy

Cambridge Local Plan, 2018

Policy 55: Responding to context

Development will be supported where it is demonstrated that it responds positively to its context and has drawn inspiration from the key characteristics of its surroundings to help create distinctive and high quality places. Development will:

a. identify and respond positively to existing features of natural, historic or local importance on and close to the proposed development site.
b. be well connected to, and integrated with, the immediate locality and wider city; and
c. use appropriate local characteristics to help inform the use, siting, massing, scale, form, materials and landscape design of new development.

Supporting text:

An understanding of and appropriate response to context will ensure that the special character of Cambridge is protected and enhanced. The context of a development describes the setting of a site or area including land uses, open spaces, the built and natural environment and social and physical characteristics. Proposals for new development should create a scale and form that is appropriate to existing buildings, the public realm and open spaces, which complement the local identity of an area. It is essential that the context of any proposal be considered early on as part of the design process. A development that responds positively to its context is one that will either enhance areas of existing high quality or will seek to introduce distinctiveness to areas of weaker character. The outcome of this thorough understanding and well considered response should be the successful integration of new development into the natural, built and historic environment.

Policy 61: Conservation and enhancement of Cambridge's historic environment

To ensure the conservation and enhancement of Cambridge's historic environment, proposals should:

d. preserve or enhance the significance of the heritage assets of the city, their setting and the wider townscape, including views into, within and out of conservation areas.
e. retain buildings and spaces, the loss of which would cause harm to the character or appearance of the conservation area.
f. be of an appropriate scale, form, height, massing, alignment and detailed design which will contribute to local distinctiveness, complement the built form and scale of heritage assets and respect the character, appearance and setting of the locality.
g. demonstrate a clear understanding of the significance of the asset and of the wider context in which the heritage asset sits, alongside assessment of the potential impact of the development on the heritage asset and its context; and
h. provide clear justification for any works that would lead to harm or substantial harm to a heritage asset yet be of substantial public benefit, through detailed analysis of the asset and the proposal.

Supporting text:

Cambridge's historic and natural environment defines the character and setting of the city and contributes significantly to Cambridge residents' quality of life. Against the backdrop of a successful, growing city, it is important to preserve and enhance the historic and natural environment to ensure that Cambridge remains compact and walkable and that the connection between the city's historic core and the wider countryside is maintained. The city has a varied architectural heritage, from the internationally recognised grandeur of King's College Chapel to the more modest vernacular buildings reminiscent of an East Anglian market town. The number of grade I and grade II* listed buildings is high, with an exceptional concentration of collegiate buildings around the arc of the River Cam. Green open spaces such as the commons, greens and The Backs are also key features of the city's life and layout. In addition, there are a number of registered parks and gardens of special historic interest, including college grounds, cemeteries and the Cambridge University Botanic Garden.

Archaeological work in Cambridge has discovered remains from early prehistory, with significant settlement known from at least the Iron Age. Development within the city's boundaries has revealed significant archaeological remains, some of which are of national importance, and further discoveries are to be expected.

Viewed simply, Cambridge has an historic centre surrounded by concentric rings of development. This development takes the form of the commercial city core, surrounded by mainly collegiate and university buildings and open spaces. A pre-university urban core existed on Castle Hill, with other remains extending towards the current centre. Beyond the open spaces, which include The Backs, Midsummer Common, Jesus Green and Parker's Piece, the city takes on a predominantly residential character. This comprises different areas of townscape character, including the large Victorian houses to the west of the city centre, railway-related development of the Newtown and Romsey areas, inter-war development to the south and west and the post-war suburbs of King's Hedges, Arbury, and Abbey wards.

Given the rich tapestry of Cambridge's historic and natural environment and the strategic objectives of this local plan, the strategy for its management is, in itself, one of a multi-document, multi-layered approach which includes a number of interrelated initiatives, policies and players. Together, as illustrated in figure 7.1, they represent Cambridge's historic environment strategy, the components of which will be added to and updated as necessary and provide the necessary tools to realise the ongoing management of the city's heritage assets. Planning decisions will be made having regard to the content of the relevant components of the strategy.

The conservation of a designated heritage asset is a material planning consideration and the higher the significance of the asset, the more weight will be given to its preservation and/or enhancement. The level of information or investigation required to support a proposal that could impact on a heritage asset needs to be proportionate to the work proposed to the asset and to its significance. Scheduled monuments/archaeological areas, listed buildings, conservation areas and registered parks and gardens are all designated heritage assets. Listed building descriptions, conservation area appraisals and management plans and suburbs and approaches studies should be referred to as a material consideration in making and determining applications. In order to comply with the requirements of the NPPF (2012), it may be necessary to access other sources of information such as the Historic Environment Record, and commission further evaluation, in order to properly understand the significance of the asset and to be able to explain the impact that a proposal may have on that significance.

It is important to identify and assess the impact of the development on the special character of the heritage asset in the Cambridge context. This could include:

- the effect on views or the setting of buildings and spaces.
- how the proposals will preserve or enhance the character or appearance of a conservation area; and
- consideration of how the scale, height, massing, alignment and materials respond to the local context.

Before undertaking any works to a designated heritage asset, the significance of that asset must be clearly understood, as well as the potential impact of the development. Where listed buildings are concerned, it is important to address the full impact of modern building standards concerning aspects such as fire prevention, sound and thermal insulation, energy-efficiency savings and disabled access. Pre application meetings are strongly recommended to ensure that standards can be accommodated without jeopardising the special interest of the building. Applicants considering works to a listed building are also advised to consult best practice guidance.

Given the high potential for assets of archaeological importance in the urban area, applicants should also obtain archaeological advice. Consideration needs to be given to the potential for harm or substantial harm to such assets, and to their setting. Further information on heritage assets can be obtained from the Cambridgeshire Historic Environment Record.

Policy 62: Local heritage assets

The Council will actively seek the retention of local heritage assets, including buildings, structures, features and gardens of local interest as detailed in the Council's local list and as assessed against the criteria set out in Appendix G of the plan.

Where permission is required, proposals will be permitted where they retain the significance, appearance, character or setting of a local heritage asset.

Where an application for any works would lead to harm or substantial harm to a non-designated heritage asset, a balanced judgement will be made having regard to the scale of any harm or loss and the significance of the heritage asset.

Supporting text:

Local heritage assets, including buildings, structures, features and gardens of local interest, are an important element of the rich history of the city and reinforce local distinctiveness and sense of place. The National Planning Policy Framework (NPPF, 2012) requires local planning authorities to have an up-to-date understanding of the local historic environment and its significance. Although not likely to meet the current criteria for statutory listing, local heritage assets are important to their locality by reason of their cultural, architectural and historical contribution. For example, the Council currently has a local list of more than 1,000 buildings of local interest, which are of significant character and distinctiveness and should be protected from inappropriate development. The local list forms part of Appendix G and will be updated in the Council's annual monitoring report.

The retention of local heritage assets may be achieved through appropriate adaptive re-use or change of use. Building Regulations allow a more flexible approach to meeting the required standards when altering buildings of local interest.

South Cambridgeshire Local Plan, 2018

Policy NH/15: Heritage Assets and Adapting to Climate Change

1. The retention and re-use of historic buildings and other heritage assets will be encouraged and supported as a sustainable resource.

2. Proposals for energy efficient and renewable energy measures for historic buildings which adequately safeguard their heritage significance will be permitted.

Historic buildings and settlements often have sustainable forms of construction and design, and they can inform and inspire the best modern, sustainable development. Their survival reflects their success and adaptability. Conserving and re-using historic buildings retains their materials and 'embodied energy' which is the energy used in materials and construction.

The energy efficiency of buildings is covered in Chapter 4: Climate Change. However, the implications of energy efficient and renewable energy measures for historic buildings need special consideration. Historic buildings are normally constructed and perform in a different way to modern buildings and the measures should be compatible with an individual building's characteristics as well as its heritage significance.

There are opportunities in most historic buildings to improve energy conservation without causing harm, through measures such as secondary glazing, improved loft insulation using natural materials, low energy lighting, and fuel efficient boilers. In some situations, renewable energy technologies can also be installed without causing harm.

When proposals will have a potentially negative impact on heritage assets, then alternative solutions which cause no or less harm should be identified. Where conflict between climate change objectives and the conservation of heritage assets is unavoidable, then the public benefit of mitigating the effects of climate change will be weighed against the harm to the significance of the heritage assets.

Historic England provides guidance on how heritage assets can be acceptably adapted to reduce their carbon footprint. The Council's Listed Buildings SPD provides guidance on general sustainability, improving energy efficiency and renewable energy related to listed buildings. The Council will produce supplementary guidance which will set out ways in which the environmental performance of heritage assets can be improved without compromising their significance, taking account of new approaches and innovations.

North West Cambridge Area Action Plan, 2009

Policy NW2: Development Principles (3.r)

3. Planning permission will not be granted where the proposed development or associated mitigation measures would have an unacceptable adverse impact:

r) On adjacent Conservation Areas and Listed Buildings.

Supporting Text

For all development, an urban design-led approach will ensure that every proposal, whatever its scale, responds positively to the particular characteristics of a site and its surroundings and reinforces local distinctiveness.

Appendix C Historic Maps

I R T O N
H
DEVONSHIRE
ST
Howhall Farm
Bunker's Hill
Trinity Conduit
MARKET WARD
CAMBORITUM
ROMAN STATION
ST. G I L E S
© Crown copyright and Landmark Information Group Limited 2010. All Rights Reserved.

I R T O N
Acres. 1681·303
GIRTON COLLEGE
Cemetery
Hornhill Farm
Booker's Hill
Wellbrook Sanitary Laundry
New Cottages
Nursery
The Close
Manor House
Clare Farm
Travellers' Rest
Via Devana
Roman Road
Stone Coffins found (A.D. 1862)
Pheasant Plantation
Mark Chapel
St. Giles & St. Peter's Cemetery
Gravel Pits
Gravel Hill Farm
Ermine Combat Beab
Moatmoor Farm
Gravel Pit
University Observatory
Manor Lodge with Moathouse (P.H.)
Merton Hall Farm
Vicar's Farm
Hedgerley Lodge
Trinity Hall
Wychfield
The Orchard
St. Edmund's House
Plough & Harrow (P.H.)
Clive Valley Nursery
Anger Nurseries
First Public Drain
Union & Manl. Boro. Ry.
Manl. Boro. Ry.
Girton & A.D. 1896
Cricket Ground
Christ & Sidney College Cricket Ground
St. John's Cricket G
Racquet
University Field Ground
© Crown copyright and Landmark Information Group Limited 2010. All Rights Reserved.
0
800 m

I R T O N
GIRTON COLLEGE
Hoast Hall Farm
Dunder's Hill
Thorndyke
Nurseries
Nursery
Clive Vale Nursery
Sports Ground
Cambria Nurseries
Pheasant Plantation
Meteorological Station
University Farm
University Observatory
National Poultry Institute
Trinity Hall Sports Ground
Rectory Farm
Merton Hall Farm
Merton Hall Cottages
Vicar's Farm
Hedgerley Lodge
Athletic Field
St. John's College Sports Ground
Allot. Gdns.
Orchard
Laundry
Lodge
Pavilion
Glebe
Grass
Arable
Path
Road
Footpath
Boundary
Fence
Hedge
Trees
Rough
Ditch
Bank
Gravel Pit
Union Pk.
Parish Boundary
Footpath
Road
Path

Appendix D Gazetteer

Receptor	Designation / List Entry No	Record Type	Description / Sensitivity	Likely Impact	Scoped In / Out
Designated Receptors within 1.5km of site boundary					
Girton College	Grade II* NHLE: 1331334	Listed Building	Girton College, established in 1869, is of heritage significance as the first residential institution in the United Kingdom to provide women with access to university-level education on equal terms with men. Its foundation marked a pivotal moment in the history of gender equality and educational reform. The college's principal buildings, designed by Alfred Waterhouse in the Victorian Gothic Revival style, contribute to its architectural and historic value, reflecting both the progressive ideals of its founders and the broader 19th-century movement for social change. The site retains a high degree of integrity and authenticity, with its layout and built form illustrating the evolution of women's higher education.		Scoped In due to proximity to the site
Lodge, Girton College	Grade II NHLE: 1127293	Listed Building	Constructed in the late 19th century as part of Alfred Waterhouse's original masterplan, the Lodge exemplifies the Victorian Gothic Revival style that characterises the college's architectural identity. Its design, materials, and detailing are consistent with the broader composition of the college, contributing to the coherence and legibility of the historic campus.		Scoped In due to proximity to the site
Schlumberger Gould Research Centre And Attached Perimeter Wall To The North	Grade II* NHLE: 1438644	Listed Building	Designed by Hopkins Architects and completed in 1985, the building is a landmark example of the British High-Tech architectural movement. Its most distinctive feature is the innovative suspended glass-fibre fabric roof, which defines the central Winter Garden space and exemplifies the era's experimental use of materials and structural expression. The building was conceived to place research and testing operations at its heart, reflecting a progressive approach to industrial architecture. The perimeter wall contributes to the site's integrity, enclosing and defining the research complex.		Scoped In due to proximity to the site
Northumberland Dome At The Observatory	Grade II NHLE: 1126157	Listed Building	Originally constructed circa 1838, the dome was designed to house the Northumberland Telescope, one of the largest refracting telescopes of its time, underscoring the University of Cambridge's leading role in 19th-century astronomical research. The building is constructed in white brick with a movable copper dome and features a symmetrical three-bay elevation with brick pilasters and a central projecting porch, reflecting the restrained classical style typical of early observatory architecture. Although the dome has been reconstructed, the structure retains its historic form and continues to represent a significant phase in the development of astronomical instrumentation and scientific inquiry in Britain.		Scoped In due to proximity to the site
The Observatory	Grade II NHLE: 1126156	Listed Building	Constructed between 1822 and 1824, is of high heritage significance as a rare and early example of a purpose-built astronomical facility in Britain. Designed by J.C. Mead, it is his only known major architectural work and features a distinctive Greek Doric tetrastyle portico with a central dome housing the Northumberland Telescope. The building exemplifies early 19th-century scientific architecture, combining classical design principles with functional requirements for astronomical observation. It played a central role in the advancement of observational astronomy and remains closely associated with the University of Cambridge's Institute of Astronomy. The Observatory's architectural integrity, historical associations with prominent astronomers, and its continued use for educational and scientific purposes contribute to its value as a designated heritage asset		Scoped In due to proximity to the site
Chapel, Churchill College	Grade II NHLE: 1331925	Listed Building	Completed in 1967 and designed by Richard Sheppard, the chapel emerged from a unique compromise between secular and religious interests within the college community. Its construction followed a period of intense debate, resulting in its location on a leased plot at the edge of the college grounds, rather than within the main architectural ensemble. Architecturally, the chapel is a striking example of post-war ecclesiastical design, influenced by the liturgical reforms of the 1960s. Its plan is based on a Greek cross, expressed through bold concrete beams, with a timber roof and central lantern that create a contemplative, centrally focused worship space. The building's external form is defined by four over-scaled concrete members, echoing the Brutalist idiom of the main college buildings while asserting its distinct spiritual function. The chapel stands as a testament to mid-20th-century architectural innovation and the evolving role of religion in academic institutions		Scoped In due to proximity to the site
Research Flats, Churchill College	Grade II NHLE: 1331924	Listed Building	The Research Flats at Churchill College, Cambridge, are designated as a Grade II listed building, reflecting their architectural and historic significance within the context of post-war university expansion. Completed in the early 1960s as part of the original masterplan for the college, the flats were designed by Sheppard Robson, the architects responsible for the main college buildings. They exemplify the Brutalist architectural style, characterised by their use of raw concrete, modular forms, and functionalist design. The flats were intended to accommodate research fellows and visiting academics, supporting the college's mission to foster advanced scientific and technological scholarship. Their listing recognises the architectural coherence of the ensemble, the innovative planning principles of the period.		Scoped In due to proximity to the site
Histon Road Cemetery	Grade II* NHLE: 1001569	Registered Park and Garden	Established in 1843 by the Cambridge General Cemetery Company, it was designed by the influential Victorian horticulturist and cemetery reformer John Claudius Loudon. As one of only three cemeteries designed by Loudon, it is a rare and important example of his pioneering approach to cemetery planning, which combined rational layout, horticultural beauty, and public health considerations. The cemetery was laid out to serve the growing middle-class population of Cambridge, with a particular emphasis on Nonconformist burials, reflecting the religious and social diversity of the period. The site includes a lodge designed by E.B. Lamb and retains much of its original layout, including axial paths, planting schemes, and boundary treatments.		Scoped In due to proximity to the site
West Cambridge Conservation Area	N/A	Conservation Area	The West Cambridge Conservation Area is a diverse and historically layered part of the city that reflects the evolution of Cambridge from the 19th century to the present day. Designated in recognition of its special architectural and historic interest, the area includes a rich mix of collegiate, residential, and institutional buildings set within a verdant landscape framework. Key features include the historic colleges of Newnham and Selwyn, the University Library, and a number of significant villas and academic buildings along Grange Road, Madingley Road, and Barton Road. The area is characterised by generous plots, mature trees, and a semi-rural quality that contrasts with the denser urban core of Cambridge. Its spatial character, architectural variety, and strong visual connections to the surrounding landscape contribute to its distinct identity.		Scoped In due to proximity to the site
Conduit Head Conservation Area	N/A	Conservation Area	Designated in 1984 and extended in 2009, the Conduit Head Road Conservation Area is of notable architectural and historic interest, recognised for its distinctive interwar residential character and its contribution to the semi-rural setting of northwest Cambridge. The area is defined by spacious plots, mature landscaping, and a cohesive collection of architect-designed houses, many of which reflect the influence of the Arts and Crafts and early Modernist movements. Notable buildings include "Shawms" (Grade II*), designed by Marshall Sisson, and other individually significant dwellings influenced by architects such as Justin Blanco White. The area's layout, generous gardens, and tree-lined streets contribute to its tranquil and verdant character, while its proximity to the University's scientific departments and observatories adds to its contextual significance.		Scoped In due to proximity to the site
Shawms	Grade II* NHLE: 1268363	Listed Building	Shawms is a rare and highly significant example of early Modern Movement domestic architecture in Cambridge. Designed in 1938 by M.J. Blanco White, the building exemplifies the progressive architectural ideals of the interwar period, combining functionalist design with innovative construction techniques. It is timber-framed on a concrete raft foundation, with horizontal weatherboard cladding and a flat felt roof, reflecting the influence of European modernism. The house features a distinctive roof conservatory, extensive use of sliding plate-glass windows, and a minimalist aesthetic that prioritises light, openness, and connection to the garden. Internally, it retains original features such as hardboard wall		Scoped In due to proximity to the site

			cladding and an open ladder staircase with an iron handrail. Shawms is of particular importance for its architectural integrity, its association with a pioneering female architect, and its contribution to the character of the Conduit Head Road Conservation Area	
Spring House	Grade II NHLE: 1380900	Listed Building	Spring House was designed between 1965 and 1967 by Colin St John Wilson with assistance from M.J. Long. Conceived as an artist's house and studio, the building exemplifies the sensitive integration of Modernist design principles with domestic scale and craftsmanship. Its L-shaped plan, pale cavity brick walls, and mono-pitched Roman tile roofs reflect a Scandinavian influence, particularly that of Alvar Aalto's Saynatsalo Town Hall. The house features a double-height studio space, open timberwork, and a cut-away corner terrace that blurs the boundary between interior and garden. Internally, the use of timber columns, partitions, and built-in furniture creates a warm, tactile environment that supports both living and creative work. The building's thoughtful spatial composition and material palette contribute to its special interest, while its association with two of Britain's most respected post-war architects enhances its historic value	Scoped In due to proximity to the site
Willow House	Grade II* NHLE: 1331936	Listed Building	Willow House was designed in 1932 by George Checkley, a key figure in the introduction of the International Modern style to Britain. Constructed with a reinforced concrete frame and finished in white-painted render, the house exemplifies early Modernist principles through its clean lines, flat roof, and functional plan. The composition features a split-level, one-and-a-half-storey central hall and living space, flanked by a study and service areas, with a raised bedroom above. The design integrates horizontal window bands, cantilevered balconies, and a restrained material palette, reflecting Checkley's engagement with European modernism, particularly the work of Le Corbusier. Willow House is one of the earliest and most refined examples of Modernist domestic architecture in Cambridge,	Scoped In due to proximity to the site
Salix	Grade II NHLE: 1227614	Listed Building	Salix, formerly known as Brandon Hill, is a Modernist house of notable architectural and historic significance, designed in 1933–34 by H.C. Hughes for the physicist Mark Oliphant. It is one of the earliest private houses in Cambridge to adopt the International Modern style, characterised by its L-shaped plan, flat bitumenised roof, white-painted rendered brickwork, and prominent corner windows. The house was extended in 1936 to include additional first-floor accommodation. Salix forms part of a distinguished group of interwar Modernist houses on Conduit Head Road, alongside White House and Willow House. Its design reflects the progressive architectural ideals of the period and its association with Oliphant, an influential scientist who worked under Ernest Rutherford, adds further historic value.	Scoped In due to proximity to the site
White House	Grade II NHLE: 1126037	Listed Building	The White House is a significant example of early 20th-century domestic architecture in Cambridge, reflecting the transition from Edwardian to interwar design sensibilities. Its symmetrical façade, sash windows, and traditional materials contribute to the architectural coherence of the surrounding residential area.	Scoped In
Storey's Way Conservation Area	N/A	Conservation Area	The Storey's Way Conservation Area is of heritage significance due to its cohesive collection of early 20th-century houses, many of which were designed by prominent local architects. The area is characterised by generous plots, mature landscaping, and a variety of Arts and Crafts and Neo-Georgian architectural styles. It reflects the planned suburban expansion of Cambridge and retains a strong sense of place and architectural integrity.	Scoped In
29 Storey's Way	Grade II NHLE: 1331882	Listed Building	29 Storey's Way is an example of interwar domestic architecture. Its design features, including red brickwork, timber detailing, and steeply pitched roof, are characteristic of the Arts and Crafts movement. The property contributes positively to the architectural and historic character of the area.	Scoped In
30 Storey's Way	Grade II NHLE: 1343647	Listed Building	30 Storey's Way is of local architectural interest, forming part of the cohesive streetscape. Its traditional materials and design elements reflect the early 20th-century suburban development of Cambridge and contribute to the area's special character.	Scoped In
48 Storey's Way	Grade II NHLE: 1126090	Listed Building	48 Storey's Way is a notable example of Arts and Crafts-inspired architecture, with features such as decorative brickwork, gables, and leaded windows. It contributes to the architectural diversity and historic interest of the surrounding streetscene.	Scoped In
54 Storey's Way	Grade II NHLE: 1126091	Listed Building	54 Storey's Way is a well-preserved interwar house that exemplifies the suburban expansion of Cambridge in the early 20th century.	Scoped In
56 Storey's Way	Grade II NHLE: 1068856	Listed Building	56 Storey's Way is of architectural and historic interest as part of the planned development of the Storey's Way area. Its design reflects the influence of the Arts and Crafts movement and contributes to the area's cohesive character.	Scoped In
Garden Of 48 Storey's Way RPG	Grade II NHLE: 1422759	Registered Park and Garden	The garden of 48 Storey's Way is included in the Register of Parks and Gardens for its historic landscape design and contribution to the setting of the associated house. It retains original features such as formal planting, boundary treatments, and garden structures that reflect early 20th-century garden design principles.	Scoped In
Howes Place Conservation Area	N/A	Conservation Area	The Howes Place Conservation Area is of special interest for its planned layout and uniform architectural character. Developed in the early 20th century, it features a series of red-brick houses with consistent design elements, reflecting the influence of the Garden City movement. The area's mature trees and green spaces enhance its historic and aesthetic value.	Scoped In
American Military Cemetery Registered Park and Garden	Grade I NHLE: 1001573	Registered Park and Garden	The American Military Cemetery at Madingley is of historic and commemorative significance. Established during World War II, it serves as the final resting place for American service personnel and includes a chapel, memorial wall, and carefully designed landscape. The site is a poignant reminder of the transatlantic alliance, and the sacrifices made during the war.	Scoped In
Jesters	Grade II NHLE: 1164144	Listed Building	Jesters contributes to the architectural diversity and historic character of its surrounding area. Likely dating from the early to mid-20th century, it reflects the domestic scale and suburban development patterns of its time. While not listed, its retention of original features and its integration into the streetscape enhance its townscape value.	Scoped Out due to separation distance / intervening features
Water Pump	Grade II NHLE: 1331314	Listed Building	This historic water pump is a modest but important remnant of 19th-century public utilities. Typically cast in iron and located at a prominent junction or near a churchyard, such pumps served as vital communal resources before the advent of piped water. Its survival contributes to the understanding of local infrastructure and daily life in the Victorian period.	Scoped Out due to separation distance / intervening features
3, 5, And 7 Duck End	Grade II NHLE: 1317929	Listed Building	Nos. 3, 5, and 7 Duck End form a cohesive group of vernacular cottages, likely dating from the 18th or early 19th century. Constructed in traditional materials such as brick or timber frame with thatched or tiled roofs, they exemplify rural domestic architecture. Their group value and contribution to the historic character of Duck End enhance their heritage significance.	Scoped Out due to separation distance / intervening features
8 Duck End	Grade II NHLE: 1127334	Listed Building	8 Duck End is a representative example of rural vernacular architecture, possibly dating from the 19th century. Its modest scale, traditional materials, and setting within a historic hamlet contribute to its local significance. The building complements the surrounding historic environment and reflects patterns of rural settlement.	Scoped Out due to separation distance / intervening features
Cambridge Academy Of English	Grade II NHLE: 1127335	Listed Building	The Cambridge Academy of English occupies a building of local historic interest, potentially adapted from a 19th-century villa or institutional structure. Its continued use for educational purposes aligns with the broader academic character of Cambridge. Architectural features such as sash windows, brick detailing, and landscaped grounds contribute to its heritage value.	Scoped Out due to separation distance / intervening features
Binfield	Grade II NHLE: 1331333	Listed Building	Binfield is a detached residence of architectural and historic interest, likely constructed in the early 20th century. Its Arts and Crafts influences, including asymmetrical massing, decorative brickwork, and timber detailing, reflect the design trends of the period. The house contributes to the character of its residential area and may be associated with notable local figures or architects.	Scoped Out due to separation distance / intervening features
21 And 23 Cambridge Road	Grade II NHLE: 1331313	Listed Building	Nos. 21 and 23 Cambridge Road are semi-detached or paired houses of early 20th-century origin, contributing to the suburban expansion of Cambridge. Their architectural detailing, such as bay windows, gables, and original joinery, enhances their townscape value. They form part of a coherent streetscape and reflect the domestic architecture of their era.	Scoped Out due to separation distance / intervening features

Church Of St Andrew	Grade II* NHLE: 1164101	Listed Building	The Church of St Andrew is a parish church of medieval origin, with later additions and restorations. Constructed in flint and stone with a prominent west tower, it features Perpendicular Gothic detailing and historic fittings. The church is a focal point of its village, with high architectural, historic, and communal value.	Scoped Out due to separation distance / intervening features
Girton War Memorial	Grade II NHLE: 1428622	Listed Building	The Girton War Memorial is a poignant commemorative structure erected after the First World War to honour local servicemen. Typically constructed in stone and inscribed with names of the fallen, it holds strong communal and historic significance. Its location near the churchyard reinforces its role as a site of remembrance and reflection.	Scoped Out due to separation distance / intervening features
102 High Street	Grade II NHLE: 1127292	Listed Building	102 High Street is a historic dwelling of likely 18th- or early 19th-century origin, contributing to the linear development of the village. Its traditional materials, such as brick or render under a tiled roof, and its retention of original features enhance its architectural interest. The building forms part of a group of heritage assets along the High Street.	Scoped Out due to separation distance / intervening features
Madingley Mill At Mill Farm	Grade II* NHLE: 1163652	Listed Building	Madingley Mill is a historic watermill site, likely dating from the 18th or 19th century, associated with agricultural and industrial activity in the region. While the mill machinery may no longer be intact, the building and its setting retain significance for their contribution to the rural and economic history of the area.	Scoped Out due to separation distance / intervening features
Moor Barns Farmhouse	Grade II NHLE: 1163483	Listed Building	Moor Barns Farmhouse is a traditional rural dwelling of architectural and historic interest. Likely dating from the 17th or 18th century, it features vernacular construction techniques and materials, such as timber framing or brickwork, and contributes to the understanding of agricultural settlement patterns.	Scoped Out due to separation distance / intervening features
Clay Cottage	Grade II NHLE: 1331127	Listed Building	Clay Cottage is a modest vernacular dwelling of local historic interest. Its traditional form and materials, such as clay lump or brick, reflect regional building practices and contribute to the rural character of its setting.	Scoped Out due to separation distance / intervening features
Water Pump In Street North Of Chancel Of Church Of St Peter	Grade II NHLE: 1331128	Listed Building	This historic water pump, located near the Church of St Peter, is a surviving example of 19th-century public infrastructure. It holds local significance as a utilitarian feature that once served the community and now contributes to the historic streetscape.	Scoped Out due to separation distance / intervening features
Church Of St Peter	Grade I NHLE: 1127774	Listed Building	The Church of St Peter is of medieval origin, with architectural features spanning several centuries. It is significant for its historic fabric, including stonework, stained glass, and memorials, and for its role as a centre of worship and community life.	Scoped Out due to separation distance / intervening features
Coton War Memorial	Grade II NHLE: 1439976	Listed Building	The Coton War Memorial is a locally significant monument commemorating the residents of Coton who lost their lives in the World Wars. Typically constructed in stone and inscribed with names, it serves as a site of remembrance and contributes to the village's historic identity.	Scoped Out due to separation distance / intervening features
64 High Street	Grade II NHLE: 1331126	Listed Building	64 High Street is a historic residential property that contributes to the architectural character and historic development of the High Street. Likely dating from the 18th or 19th century, it retains traditional features and materials that reflect local building practices.	Scoped Out due to separation distance / intervening features
Rose Cottage	Grade II NHLE: 1127771	Listed Building	Rose Cottage is a picturesque vernacular dwelling of local historic interest. Its modest scale, traditional materials, and garden setting contribute to the rural charm and architectural diversity of the area.	Scoped Out due to separation distance / intervening features
The Rectory	Grade II NHLE: 1127773	Listed Building	The Rectory is a substantial historic residence associated with the local parish church. Often dating from the 18th or 19th century, rectories are significant for their architectural quality and their role in the ecclesiastical and social history of the community.	Scoped Out due to separation distance / intervening features
44 And 46 High Street	Grade II NHLE: 1162596	Listed Building	Nos. 44 and 46 High Street are a pair of historic dwellings that contribute to the architectural coherence and historic streetscape of the High Street. Their traditional design and materials reflect the evolution of domestic architecture in the area.	Scoped Out due to separation distance / intervening features
57 High Street	Grade II NHLE: 1127772	Listed Building	57 High Street is recognised for its architectural and historic interest. Likely dating from the 18th or early 19th century, it contributes to the character of the historic streetscape through its traditional form, materials, and detailing. The building is part of the evolving narrative of local domestic architecture and the continuity of settlement patterns in the area.	Scoped Out due to separation distance / intervening features
12 High Street	Grade II NHLE: 1331107	Listed Building	12 High Street, Coton is significant as a well-preserved example of a late 17th- or early 18th-century thatched cottage, showcasing traditional timber-framed construction and vernacular rural architecture. Its historic form, materials, and detailing reflect the domestic building traditions of Cambridgeshire and contribute to the character and historic interest of the village.	Scoped Out due to separation distance / intervening features
Manor Farmhouse	Grade II NHLE: 1127813	Listed Building	Manor Farmhouse is a 19th-century building situated within a conservation area, representing the agricultural heritage of its locality. Its form and setting evoke the rural past of the area, offering insight into historic land use and settlement patterns. The building may also retain original features such as timber framing or brickwork that enhance its architectural interest.	Scoped Out due to separation distance / intervening features
Cross	Grade II NHLE: 1162586	Listed Building	The Cross serves as a historic communal landmark, marking a traditional gathering place or route. Its presence is emblematic of the area's social and cultural history, and it remains a focal point of local identity and continuity.	Scoped Out due to separation distance / intervening features
Fitzwilliam College, Central Hall Building	Grade II NHLE: 1489400	Listed Building	The Central Hall Building at Fitzwilliam College is a distinguished example of mid-20th-century collegiate architecture. It reflects the post-war expansion of Cambridge University and demonstrates a refined integration of modernist design principles with academic function.	Scoped Out due to separation distance / intervening features
Fitzwilliam College, Chapel	Grade II NHLE: 1489402	Listed Building	The Chapel at Fitzwilliam College is a significant architectural and spiritual landmark. Its design harmoniously blends contemporary materials with ecclesiastical form, symbolising the enduring role of reflection and community within the college.	Scoped Out due to separation distance / intervening features
The Grove	Grade II NHLE: 1235123	Listed Building	The Grove is a historic residence of architectural and associative value. Its design and setting contribute to the layered narrative of the area, particularly within the context of the college estate.	Scoped Out due to separation distance / intervening features
Fitzwilliam College, New Court	Grade II NHLE: 1489406	Listed Building	New Court at Fitzwilliam College exemplifies modern collegiate residential architecture. Its layout and materials reflect evolving academic and residential needs while maintaining architectural coherence with the broader college environment.	Scoped Out due to separation distance / intervening features
63 Storey's Way	Grade II NHLE: 1268346	Listed Building	63 Storey's Way is a fine example of early 20th-century suburban architecture, likely influenced by Arts and Crafts or domestic revival styles. Its detailing and garden setting enhance the aesthetic and historic value of the area.	Scoped Out due to separation distance / intervening features
76 Storey's Way	Grade II NHLE: 1268347	Listed Building	76 Storey's Way complements the architectural character of the area, contributing to the planned residential environment. Its design and setting reinforce the quality and coherence of Storey's Way.	Scoped Out due to separation distance / intervening features

3 Linked Residential Courts Due West Of Central Buildings, Churchill College	Grade II NHLE: 1227711	Listed Building	These residential courts embody the modernist planning principles of Churchill College. Their modular design and integration with the landscape demonstrate a thoughtful approach to post-war student accommodation.	Scoped Out due to separation distance / intervening features
Central Buildings, Churchill College	Grade II NHLE: 1227706	Listed Building	The Central Buildings form the institutional and architectural heart of Churchill College. Designed by renowned architects, they reflect the college's founding ethos and commitment to innovation in education and design.	Scoped Out due to separation distance / intervening features
Wolfson Hall, Bracken Library And Bevin Rooms, Churchill College	Grade II NHLE: 1126008	Listed Building	These facilities represent the academic and communal core of Churchill College. Their architectural expression and spatial organisation support the intellectual and social life of the college, reinforcing its modernist identity.	Scoped Out due to separation distance / intervening features
3 Linked Residential Courts Due South Of Central Buildings, Churchill College	Grade II NHLE: 1373886	Listed Building	These courts continue the theme of modular, human-scaled residential design. Their orientation and relationship to the central axis of the college reflect careful masterplanning and a commitment to student wellbeing.	Scoped Out due to separation distance / intervening features
4 Linked Residential Courts Due Southwest Of Central Buildings, Churchill College	Grade II NHLE: 1126007	Listed Building	These courts further illustrate the architectural coherence and planning philosophy of Churchill College. Their repetition and variation contribute to a sense of unity and diversity within the campus.	Scoped Out due to separation distance / intervening features
House And Brock Brothers' Studio	Grade II NHLE: 1331872	Listed Building	This property holds significant artistic and architectural value, associated with the renowned Brock brothers. The studio offers rare insight into the working environment of notable sculptors, enhancing its cultural importance.	Scoped Out due to separation distance / intervening features
31 Madingley Road	Grade II NHLE: 1268371	Listed Building	31 Madingley Road is a distinguished example of interwar or post-war domestic architecture. Its design and setting contribute to the architectural richness and historical continuity of Madingley Road.	Scoped Out due to separation distance / intervening features
9 Wilberforce Road	Grade II NHLE: 1268352	Listed Building	9 Wilberforce Road exemplifies the integration of modern residential architecture within the academic context of Cambridge. Its design reflects the aspirations of a scholarly community and contributes to the area's architectural diversity.	Scoped Out due to separation distance / intervening features
Emmanuel College Sports Pavilion, Including Groundsman's House And Stable	Grade II NHLE: 1422595	Listed Building	This ensemble reflects the recreational and operational aspects of college life. The pavilion, groundsman's house, and stable form a cohesive group that illustrates the historical development of collegiate sports and estate management.	Scoped Out due to separation distance / intervening features
Kerbstones To Pool In Courtyard To West Of Hall, New Hall	Grade II* NHLE: 1227647	Listed Building	These kerbstones are integral to the designed landscape of New Hall's courtyard. Their detailing and placement contribute to the spatial and aesthetic coherence of the area.	Scoped Out due to separation distance / intervening features
Murray Edwards College (Formerly New Hall)	Grade II* NHLE: 1331922	Listed Building	Murray Edwards College, formerly New Hall, stands as a pioneering example of post-war educational architecture, notable for its bold modernist design and its role in advancing women's education within the University of Cambridge.	Scoped Out due to separation distance / intervening features
Chapel Of St Edmund's House (Roman Catholic)	Grade II NHLE: 1083566	Listed Building	The Chapel of St Edmund's House is a distinguished Roman Catholic place of worship, reflecting the spiritual heritage of the university and showcasing refined ecclesiastical architecture in a collegiate setting.	Scoped Out due to separation distance / intervening features
Elterholm, 12 And 12A Madingley Road	Grade II NHLE: 1422165	Listed Building	Elterholm, 12 and 12A Madingley Road, exemplifies early 20th-century domestic architecture, with its elegant proportions and landscaped setting contributing to the residential character of the area.	Scoped Out due to separation distance / intervening features
End House South And End House North	Grade II NHLE: 1322139	Listed Building	End House South and End House North form a distinctive architectural pair, their symmetrical design and period detailing offering a cohesive and visually striking presence on the street.	Scoped Out due to separation distance / intervening features
Marshall House	Grade II NHLE: 1268370	Listed Building	Marshall House is a fine example of interwar architecture, combining traditional materials with modernist influences to create a residence of both aesthetic and historical interest.	Scoped Out due to separation distance / intervening features
The Stone House And Associated Gate Piers	Grade II NHLE: 1422019	Listed Building	The Stone House and its associated gate piers are notable for their robust construction and classical detailing, representing a refined interpretation of traditional English domestic architecture.	Scoped Out due to separation distance / intervening features
Saxmeadham, Including Flank Walls, Front Boundary Wall And Gate Piers	Grade II NHLE: 1422623	Listed Building	Saxmeadham, with its flank walls, front boundary wall, and gate piers, presents a unified and imposing frontage, reflecting the architectural ambition of its period, and enhancing the streetscape.	Scoped Out due to separation distance / intervening features
3 Clarkson Road	Grade II NHLE: 1390957	Listed Building	3 Clarkson Road is a well-preserved example of early suburban development in Cambridge, its architectural features and mature garden setting contributing to the area's historic character.	Scoped Out due to separation distance / intervening features
Whewell House, Including Boundary Walls To South And West	Grade II NHLE: 1268367	Listed Building	Whewell House, including its boundary walls, is a distinguished residence that reflects the academic and residential traditions of Cambridge, with its architectural integrity and setting enhancing its significance.	Scoped Out due to separation distance / intervening features
Silbury Including Gate Piers And Plinth Wall	Grade II NHLE: 1268366	Listed Building	Silbury, with its gate piers and plinth wall, is a testament to the careful integration of architecture and landscape, offering a harmonious and dignified presence within its context.	Scoped Out due to separation distance / intervening features
Cambridge University Real Tennis Club And Professionals House	Grade II NHLE: 1422000	Listed Building	The Cambridge University Real Tennis Club and Professionals House are rare survivals of a historic sporting tradition, their continued use and architectural character underscoring their cultural value.	Scoped Out due to separation distance / intervening features
Robinson College	Grade II* NHLE: 1482703	Listed Building	Robinson College is a striking example of late 20th-century collegiate architecture, its bold use of brick and innovative spatial planning marking a departure from traditional college forms.	Scoped Out due to separation distance / intervening features
Claire Hall, University Of Cambridge	Grade II* NHLE: 1454213	Listed Building	Clare Hall exemplifies modern academic design, fostering a sense of community and intellectual exchange through its open layout and contemporary architectural language.	Scoped Out due to separation distance / intervening features

Elmside Including Boundary Wall And Gate	Grade II NHLE: 1268365	Listed Building	Elmside, with its boundary wall and gate, is a distinguished villa that reflects the suburban expansion of Cambridge, its architectural detailing and setting contributing to its heritage value.	Scoped Out due to separation distance / intervening features
University Library	Grade II NHLE: 1126281	Listed Building	The University Library is a monumental structure of national importance, combining classical and modernist elements to create a landmark of academic and architectural significance.	Scoped Out due to separation distance / intervening features
Entrance Gateway To The University Library Entrance Gateway To The University Library Onto Burrell's Walk	Grade II NHLE: 1338190	Listed Building	The Entrance Gateway to the University Library serves as a ceremonial threshold, its design and craftsmanship reflecting the gravitas of the institution it serves. The Entrance Gateway onto Burrell's Walk provides a dignified and contextual access point to the University Library, enhancing the approach and reinforcing the library's prominence.	Scoped Out due to separation distance / intervening features
Clare College, Gateway To The University Library	Grade II NHLE: 1320358	Listed Building	Clare College's Gateway to the University Library is a symbolic and functional link between historic and modern academic spaces, embodying the continuity of scholarly tradition.	Scoped Out due to separation distance / intervening features
Falling Warrior Sculpture In Clare College Memorial Court	Grade II NHLE: 1031585	Listed Building	The Falling Warrior sculpture in Clare College Memorial Court is a poignant and powerful work of art, commemorating sacrifice and enriching the cultural landscape of the college.	Scoped Out due to separation distance / intervening features
Clare College Memorial Court	Grade II NHLE: 1115639	Listed Building	Clare College Memorial Court is a solemn and architecturally refined space, designed to honour the memory of those lost while maintaining the collegiate aesthetic.	Scoped Out due to separation distance / intervening features
Clare College Registered Park And Garden	Grade II NHLE: 1000617	Registered Park and Garden	The Registered Park and Garden at Clare College is a carefully curated landscape that reflects centuries of horticultural and academic tradition, offering a tranquil and historically layered environment.	Scoped Out due to separation distance / intervening features
Trinity College, Entrance Gates To The Fellows' Garden	Grade II NHLE: 1331805	Listed Building	The Entrance Gates to the Fellows' Garden at Trinity College are finely crafted and symbolically significant, marking the transition into a private and contemplative collegiate space.	Scoped Out due to separation distance / intervening features
Trinity College, Field Gates To Queen's Road	Grade I NHLE: 1126266	Listed Building	The Field Gates to Queen's Road at Trinity College are functional yet elegant, contributing to the boundary definition and visual identity of the college grounds.	Scoped Out due to separation distance / intervening features
St John's College, Gate To Trinity Piece South East Of The Wilderness	Grade II* NHLE: 1125491	Listed Building	The Gate to Trinity Piece at St John's College is a historic feature that provides access to a secluded green space, reinforcing the college's spatial hierarchy and landscape design.	Scoped Out due to separation distance / intervening features
St Johns' College, Bridge Over Bin Brook Between Trinity And St John's Backs	Grade II NHLE: 1105681	Listed Building	The Bridge over Bin Brook between Trinity and St John's Backs is a picturesque and functional structure, enhancing connectivity while contributing to the scenic quality of the Backs.	Scoped Out due to separation distance / intervening features
Trinity College Registered Park and Garden	Grade II NHLE: 1000633	Registered Park and Garden	The Registered Park and Garden at Trinity College is a landscape of national importance, blending formal and informal elements to create a setting of exceptional beauty and academic resonance.	Scoped Out due to separation distance / intervening features
St John's College, Wilderness Fence Along Queens' Road And Bin Brook	Grade II NHLE: 1105691	Listed Building	The Wilderness Fence along Queens' Road and Bin Brook at St John's College is a defining boundary feature, its design and materials contributing to the character and enclosure of the college grounds.	Scoped Out due to separation distance / intervening features

St John's College, Boundary Wall On Queen's Road Between The Field Gate And Bin Brook	Grade II NHLE: 1332181	Listed Building	St John's College, Boundary Wall on Queen's Road between The Field Gate and Bin Brook is a notable heritage asset in Cambridge, distinguished by its unique architectural features, historical context, and its contribution to the surrounding urban fabric. It reflects the evolution of the city's academic, civic, or residential character and plays a vital role in preserving the identity and continuity of the area.	Scoped Out due to separation distance / intervening features
St John's College, Field Gate	Grade II NHLE: 1125490	Listed Building	St John's College, Field Gate is a notable heritage asset in Cambridge, distinguished by its unique architectural features, historical context, and its contribution to the surrounding urban fabric. It reflects the evolution of the city's academic, civic, or residential character and plays a vital role in preserving the identity and continuity of the area.	Scoped Out due to separation distance / intervening features
Merton College	Grade II NHLE: 1126104	Listed Building	Merton College is a historically significant site within the city's architectural and academic landscape. Its buildings and associated structures, such as Merton House and its garden wall, reflect the evolution of collegiate and residential architecture in Cambridge. The college's presence contributes to the layered character of the area, with its architectural detailing, materials, and spatial arrangement offering insight into the city's development over time.	Scoped Out due to separation distance / intervening features
Garden Wall at Merton House	Grade II NHLE: 1068625	Listed Building	The Garden Wall at Merton House holds heritage significance as a defining boundary feature that contributes to the historic character and setting of Merton House. Constructed with traditional materials and techniques, the wall reflects the architectural language of the associated residence and reinforces the sense of enclosure and privacy typical of period properties. Its presence enhances the visual continuity of the streetscape and offers insight into the spatial organisation and landscape design of historic domestic plots in Cambridge.	Scoped Out due to separation distance / intervening features
Merton House	Grade II NHLE: 1331886	Listed Building	Merton House is a distinguished example of early 20th-century domestic architecture in Cambridge, contributing significantly to the character of its surrounding streetscape. Its architectural detailing, proportions, and materials reflect the design sensibilities of its period, while its association with Merton College enhances its institutional and historical value. The house forms part of a cohesive group of heritage assets, including its garden wall, that together illustrate the evolution of residential and academic development in this part of the city.	Scoped Out due to separation distance / intervening features
St John's College, Four Gates Onto The Wilderness And The Scholars' Garden, North East Gate, North West Gate, South East Gate And South West Gate	Grade II NHLE: 1105683	Listed Building	These gates are significant not only for their craftsmanship and design, which reflect the college's historic identity, but also for their role in defining the spatial hierarchy and landscape structure of the college grounds. Each gate contributes to the sense of enclosure and transition between formal and informal garden spaces, reinforcing the contemplative and scholarly atmosphere of the college.	Scoped Out due to separation distance / intervening features
St John's College, High Walk Bridge Over Bin Brook	Grade II NHLE: 1332180	Listed Building	St John's College is one of the largest and most architecturally diverse colleges in Cambridge, with buildings spanning from the 13th to the 21st century. Its historic core includes medieval, Tudor, and Victorian structures, reflecting the evolution of collegiate architecture and academic life over centuries. The College's layout, courts, and bridges contribute significantly to the historic townscape and the River Cam setting. The bridge forms part of the pedestrian route within the College grounds, contributing to the historic landscape and circulation pattern. Its materials and design are sympathetic to the surrounding heritage assets, reinforcing the sense of continuity and enclosure within the College precinct.	Scoped Out due to separation distance / intervening features
32-38, Northampton Street	Grade II NHLE: 1331894	Listed Building	This terrace of timber-framed and brick houses is part of one of the most complete groups of historic domestic buildings in Cambridge. Likely dating from the 17th and 18th centuries, they retain original features such as Yorkshire sash windows and contribute to the strong group value of the street, which historically housed merchants and later students.	Scoped Out due to separation distance / intervening features
26-30, Northampton Street	Grade II NHLE: 1126113	Listed Building	Similar in character to Nos. 32–38, this group of buildings reflects the evolution of domestic architecture in the area. Their modest scale, traditional materials, and detailing contribute to the historic streetscape and the layered social history of Northampton Street.	Scoped Out due to separation distance / intervening features
The Merton Arms Public House	Grade II NHLE: 1126112	Listed Building	Formerly a public house, this building is a rare surviving example of a 19th-century inn on Northampton Street. It reflects the area's historic role as a gateway to the city and a hub for travelers and trade. Its continued presence adds to the social and communal value of the street.	Scoped Out due to separation distance / intervening features
21-24, Northampton Street	Grade II NHLE: 1331892	Listed Building	These buildings form part of the informal terrace that defines the south side of Northampton Street. Their architectural coherence and historic use as residences and inns contribute to the character and appearance of the conservation area.	Scoped Out due to separation distance / intervening features
Merton Hall	Grade II* NHLE: 1331893	Listed Building	Merton Hall is a 16th-century manor house with a distinctive Dutch gable, forming part of a group with the School of Pythagoras. Originally owned by Merton College, Oxford, it now serves as graduate accommodation. Its architectural detailing and historic associations enhance its significance.	Scoped Out due to separation distance / intervening features
School of Pythagoras	Grade I NHLE: 1126114	Listed Building	Dating from around 1200, the School of Pythagoras is the oldest secular building in Cambridge and a Grade I listed structure. Originally a private house, it has served various functions over the centuries and now houses the College archives. Its age, rarity, and architectural integrity make it of exceptional significance.	Scoped Out due to separation distance / intervening features
St John's College, New Court	Grade I NHLE: 1332178	Listed Building	New Court, also known as the 'Wedding Cake,' is a striking example of early 19th-century Gothic Revival architecture. Designed by Thomas Rickman, it reflects the romantic reinterpretation of medieval collegiate forms and contributes to the picturesque setting along the River Cam.	Scoped Out due to separation distance / intervening features
St John's College, New Bridge	Grade I NHLE: 1326664	Listed Building	This bridge, designed by Henry Hutchinson in 1831, is a key feature of the College's riverside landscape. Its elegant Gothic design complements New Court and enhances the visual and functional connectivity across the Cam.	Scoped Out due to separation distance / intervening features
St John's College, Master's Lodge	Grade II NHLE: 1104837	Listed Building	The Master's Lodge is a substantial domestic building reflecting the status of the College's head. Its architectural detailing and landscaped setting contribute to the collegiate character and hierarchy of the site.	Scoped Out due to separation distance / intervening features
St John's College, Stables Of Master's Lodge	Grade II NHLE: 1125487	Listed Building	These ancillary buildings are important for understanding the service arrangements of the College. Their traditional materials and form contribute to the historic character of the College grounds.	Scoped Out due to separation distance / intervening features
St John's College	Grade II* NHLE: 1000632	Listed Building	St John's College holds heritage value as one of the largest and most architecturally distinguished colleges in the University of Cambridge. Founded in 1511 by Lady Margaret Beaufort, it occupies a site rich in medieval history, including the former Hospital of St John. The College's built environment spans over five centuries, showcasing a remarkable range of architectural styles, from the Tudor origins of First Court to the Gothic Revival grandeur of New Court, designed by Thomas Rickman. The iconic Bridge of Sighs, completed in 1831, is a celebrated example of 19th-century collegiate bridge design and a key visual landmark over the River Cam. The College also includes the School of Pythagoras, the oldest secular building in Cambridge, and the Grade II* listed main College buildings, which reflect the evolution of academic and domestic architecture. Together, these elements contribute to the College's outstanding architectural, historical, and cultural value, reinforcing its role in the intellectual and civic life of the city.	Scoped Out due to separation distance / intervening features
Magdalene College, Benson Court Main Block	Grade II NHLE: 1125505	Listed Building	This block forms part of the historic core of Magdalene College, contributing to the enclosed court layout typical of Cambridge colleges. Its architectural detailing and materials reflect the College's development over time.	Scoped Out due to separation distance / intervening features

Magdalene College, Mallory Court, North West Range	Grade II* NHLE: 1332185	Listed Building	This range contributes to the architectural and spatial coherence of Mallory Court. Its design and materials are sympathetic to the historic context and reinforce the collegiate character of the site.	Scoped Out due to separation distance / intervening features
7-18, Northampton Street	Grade II NHLE: 1084322	Listed Building	This terrace is part of the best-preserved group of timber-framed buildings in Cambridge. Their historic fabric, including sash windows and brickwork, reflects the area's evolution from merchant housing to student accommodation.	Scoped Out due to separation distance / intervening features
19, Northampton Street	Grade II NHLE: 1331869	Listed Building	A standalone historic building that contributes to the group value of the street. Its architectural features and historic use enhance the character of the conservation area.	Scoped Out due to separation distance / intervening features
The Main And Secondary Gateway To Madingley Road And The Boundary Wall	Grade II NHLE: 1126155	Listed Building	These features mark the formal entrance to the College grounds and contribute to the sense of enclosure and historic boundary definition. Their materials and detailing are consistent with the College's architectural language.	Scoped Out due to separation distance / intervening features
Westminster And Cheshunt College	Grade II NHLE: 1126154	Listed Building	These institutions occupy a prominent site on the north side of Northampton Street. Their late 19th- and early 20th-century buildings, including a lantern-topped tower, reflect the expansion of theological education in Cambridge and contribute to the academic character of the area.	Scoped Out due to separation distance / intervening features
Marshall House	Grade II NHLE: 1268370	Listed Building	Part of Westminster College, Marshall House is a significant component of the College's architectural ensemble. Its design and setting within landscaped grounds enhance its heritage value.	Scoped Out due to separation distance / intervening features
The North West Range Of Westminster College	Grade II NHLE: 1331871	Listed Building	This range contributes to the formal layout and architectural coherence of Westminster College. Its materials and detailing reflect the institutional character of the site.	Scoped Out due to separation distance / intervening features
Westminster College Bounds	Grade II NHLE: 1126183	Listed Building	The boundary walls and gates of Westminster College define the extent of the site and contribute to the sense of enclosure and historic identity of the College.	Scoped Out due to separation distance / intervening features
Storey's Almshouses	Grade II NHLE: 1126142	Listed Building	Now known as the St John's Chop House, these former almshouses are a rare survival of early social housing in Cambridge. Their modest scale and historic function contribute to the social history of the area.	Scoped Out due to separation distance / intervening features
83 Castle Street	Grade II NHLE: 1126234	Listed Building	83 Castle Street is a fine example of early 19th-century domestic architecture, characterized by its symmetrical façade, sash windows, and traditional brickwork. The building contributes to the historic streetscape of Castle Street and reflects the residential development of the area during the Georgian period.	Scoped Out due to separation distance / intervening features
55-69 Castle Street	Grade II NHLE: 1336945	Listed Building	This terrace of houses represents a cohesive group of mid-19th-century dwellings, notable for their uniform architectural detailing and consistent building line. Their survival provides insight into the urban expansion of Cambridge during the Victorian era and the growth of middle-class housing.	Scoped Out due to separation distance / intervening features
1-5, Bell's Court	Grade II NHLE: 1111891	Listed Building	1–5 Bell's Court comprises a group of modest cottages that exemplify vernacular architecture. Their scale, materials, and layout reflect the working-class housing patterns of 19th-century Cambridge and contribute to the character of the local conservation area.	Scoped Out due to separation distance / intervening features
Social Service Department	Grade II NHLE: 1336970	Listed Building	The Social Service Department building, formerly part of the County Hall complex, is significant for its civic function and institutional architecture. Its design reflects early 20th-century public building trends, with restrained classical detailing and a formal layout.	Scoped Out due to separation distance / intervening features
The Castle Inn	Grade II NHLE: 1111867	Listed Building	The Castle Inn is a historic public house that has served the local community for centuries. Its architectural features, including timber framing and traditional signage, contribute to its landmark status and social value within the Castle Street area.	Scoped Out due to separation distance / intervening features
Caretaker's House In The Grounds Of County Hall And About Fifty Yards To The South	Grade II NHLE: 1126235	Listed Building	This ancillary building is historically associated with the former County Hall and exemplifies the support structures typical of civic complexes. Its modest scale and traditional materials complement the main buildings and reflect the operational needs of the site.	Scoped Out due to separation distance / intervening features
Cambridge Motte And Bailey Castle, Civil War Earthworks And The Buried Remains Of An Iron Age Defended Settlement, Roman Town And Former County Gaol	Scheduled Monument NHLE: 1006905	Scheduled Monument	This multi-period archaeological site is of exceptional national importance. It includes the remains of a Norman motte and bailey castle, Civil War fortifications, and earlier Iron Age and Roman settlements. The site also contains the buried remains of the former county gaol, making it a palimpsest of Cambridge's military, civic, and penal history.	Scoped Out due to separation distance / intervening features
Castle Street Methodist Church And Sunday School Including Front Gates And Railings	Grade II NHLE: 1096102	Listed Building	This late 19th-century church and its associated Sunday school are notable for their Gothic Revival architecture and community role. The decorative iron gates and railings enhance the setting, while the buildings themselves reflect the growth of nonconformist worship in Victorian Cambridge.	Scoped Out due to separation distance / intervening features
With Attached Workshop Range And Front Railings	Grade II NHLE: 1360789	Listed Building	The attached workshop range and railings form part of a historic artisan complex, illustrating the integration of residential and working spaces in 19th-century Cambridge. The survival of these elements provides valuable insight into the city's industrial heritage.	Scoped Out due to separation distance / intervening features
Church Of St Peter	Grade II* NHLE: 1331919	Listed Building	St Peter's Church is a Grade II* listed building of Saxon origin, rebuilt in the 12th century and restored in the 19th century. Its compact form, Norman doorway, and medieval tower make it one of the oldest and most architecturally significant churches in Cambridge.	Scoped Out due to separation distance / intervening features
Kettles Yard	Grade II NHLE: 1126115	Listed Building	Kettle's Yard is a unique house and gallery created by Jim Ede in the mid-20th century. It combines domestic architecture with a curated art collection, representing a pioneering approach to the display of modern art in a domestic setting. The building is listed for its architectural innovation and cultural significance.	Scoped Out due to separation distance / intervening features
Castle Brae	Grade II NHLE: 1111884	Listed Building	Castle Brae is a 19th-century residential building that contributes to the historic character of the Castle Hill area. Its traditional materials and detailing reflect the architectural vernacular of the period and its location near the historic motte enhances its contextual value.	Scoped Out due to separation distance / intervening features
Church Of St Giles	Grade II* NHLE: 1331828	Listed Building	St Giles' Church is a Grade II* listed parish church with origins in the 12th century. Extensively rebuilt in the 19th century by Butterfield, it features polychromatic brickwork and Gothic Revival detailing. The church is significant for its architecture and its role in the religious life of the community.	Scoped Out due to separation distance / intervening features

County Folk Museum	Grade II NHLE: 1331827	Listed Building	Housed in a former Victorian school building, the County Folk Museum (now the Museum of Cambridge) preserves the social history of the region. The building itself is architecturally significant for its educational origins and contributes to the cultural heritage of the city.	Scoped Out due to separation distance / intervening features
St Giles' War Memorial	Grade II NHLE: 1428626	Listed Building	This freestanding war memorial commemorates the local men who died in the World Wars. Its classical design and prominent location near St Giles' Church make it a poignant and historically significant monument within the community.	Scoped Out due to separation distance / intervening features
Magdalene College, Boundary Wall Of College Fronting Magdalene Street And Chesterton Lane	Grade II NHLE: 1125503	Listed Building	This historic boundary wall defines the edge of Magdalene College and contributes to the sense of enclosure and continuity along Magdalene Street. Constructed of traditional materials, it reflects the College's long-standing presence and architectural coherence.	Scoped Out due to separation distance / intervening features
Magdalene College, Walls Lining The Second Court On Northeast And Southwest Sides	Grade II NHLE: 1125501	Listed Building	These internal college walls are integral to the spatial organization of Magdalene College. Their construction and alignment reflect the historic development of the College's courts and contribute to the architectural unity of the site.	Scoped Out due to separation distance / intervening features
Magdalene College, Bright's Building	Grade II NHLE: 1125502	Listed Building	Bright's Building is a 19th-century addition to Magdalene College, notable for its restrained Gothic detailing and role in the expansion of student accommodation. It complements the older college buildings and reflects the Victorian phase of collegiate development.	Scoped Out due to separation distance / intervening features
Magdalene College, Pepys Building	Grade I NHLE: 1332183	Listed Building	The Pepys Building is a Grade I listed structure built between 1670 and 1703 to house the Pepys Library. It is a rare example of a purpose-built library from the period, featuring classical architecture, original bookcases, and a significant collection donated by Samuel Pepys.	Scoped Out due to separation distance / intervening features
Wentworth House	Grade II NHLE: 1331830	Listed Building	Wentworth House is a Georgian townhouse of architectural merit, featuring symmetrical proportions, sash windows, and a classical entrance. It contributes to the historic character of Chesterton Road and reflects the residential development of the area in the 18th century.	Scoped Out due to separation distance / intervening features
4-10 Chesterton Road	Grade II NHLE: 1126238	Listed Building	This terrace of Victorian houses is significant for its consistent architectural style and contribution to the streetscape. The buildings retain original features such as decorative brickwork and bay windows, illustrating the suburban expansion of Cambridge.	Scoped Out due to separation distance / intervening features
Pair Of K6 Telephone Kiosks By Jesus Lock Bridge	Grade II NHLE: 1395880	Listed Building	These iconic red K6 telephone kiosks, designed by Sir Giles Gilbert Scott, are listed for their design and cultural value. Positioned near Jesus Lock Bridge, they contribute to the historic street furniture of the area and are emblematic of mid-20th-century British design.	Scoped Out due to separation distance / intervening features
Cory House	Grade II* NHLE: 1126151	Listed Building	Cory House is a 19th-century institutional building, formerly associated with Magdalene College. Its robust construction and classical detailing reflect its educational function and contribute to the architectural diversity of the area. This building is a well-preserved example of early 19th-century domestic architecture, featuring traditional brickwork and sash windows. It contributes to the historic character of Northampton Street and the wider conservation area.	Scoped Out due to separation distance / intervening features
1 Northampton Street	Grade II* NHLE: 1331873	Listed Building	This building is a well-preserved example of early 19th-century domestic architecture, featuring traditional brickwork and sash windows. It contributes to the historic character of Northampton Street and the wider conservation area.	Scoped Out due to separation distance / intervening features
15, 15a, 15b, 16 Magdalene Street	Grade II* NHLE: 1347915	Listed Building	These properties form a group of historic buildings with varied architectural detailing, reflecting the piecemeal development of Magdalene Street. Their survival enhances the historic grain and visual interest of the street.	Scoped Out due to separation distance / intervening features
17 And 18 Magdalene Street	Grade II NHLE: 1126158	Listed Building	These adjoining buildings are notable for their timber framing and historic shopfronts. They illustrate the commercial and residential mix that has characterized Magdalene Street for centuries.	Scoped Out due to separation distance / intervening features
Magdalene College, Mallory Court	Grade II NHLE: 1125504	Listed Building	Mallory Court is a 20th-century addition to Magdalene College, designed to harmonize with the historic fabric of the College. Its layout and materials reflect the collegiate tradition while accommodating modern needs.	Scoped Out due to separation distance / intervening features
20 Magdalene Street	Grade II NHLE: 1101513	Listed Building	20 Magdalene Street is a historic townhouse with architectural features typical of the 18th century, including a symmetrical façade and classical doorway. It contributes to the historic streetscape and the setting of Magdalene College.	Scoped Out due to separation distance / intervening features
21 And 22 Magdalene Street	Grade II NHLE: 1331874	Listed Building	Nos. 21 and 22 Magdalene Street form a pair of early 19th-century townhouses with classical proportions and original sash windows. Their symmetrical façades and traditional materials contribute to the historic character of the street and reflect the urban development of Cambridge during the Georgian period.	Scoped Out due to separation distance / intervening features
23 Magdalene Street	Grade II NHLE: 1126159	Listed Building	23 Magdalene Street is a mid-19th-century building with a distinctive gabled frontage and decorative brickwork. It exemplifies Victorian architectural style and contributes to the varied historic streetscape of Magdalene Street.	Scoped Out due to separation distance / intervening features
24 Magdalene Street	Grade II NHLE: 1347908	Listed Building	24 Magdalene Street is a modest yet well-preserved example of early 19th-century domestic architecture. Its restrained classical detailing and historic shopfront reflect the mixed residential and commercial use of the area during that period.	Scoped Out due to separation distance / intervening features
Magdalene College, Benson Court	Grade II* NHLE: 1332186	Listed Building	Benson Court at Magdalene College is a 20th-century addition that respects the traditional collegiate layout. Its brick construction and fenestration patterns harmonize with the older college buildings, maintaining the architectural coherence of the site.	Scoped Out due to separation distance / intervening features
Post Office	Grade II NHLE: 1331875	Listed Building	The Post Office on Magdalene Street is a late 19th-century civic building with a robust brick façade and arched openings. It represents the expansion of public services in the Victorian era and contributes to the social history of the area.	Scoped Out due to separation distance / intervening features
26-28 Magdalene Street	Grade II NHLE: 1101458	Listed Building	26–28 Magdalene Street comprise a terrace of early 19th-century houses with rendered façades and timber sash windows. Their uniform appearance and scale contribute to the architectural rhythm of the street.	Scoped Out due to separation distance / intervening features
29 Magdalene Street	Grade II NHLE: 1126160	Listed Building	29 Magdalene Street is a three-storey townhouse with a distinctive bay window and decorative cornice. It reflects the architectural tastes of the late Georgian period and contributes to the historic urban fabric.	Scoped Out due to separation distance / intervening features

The Pickerel Inn	Grade II NHLE: 1101465	Listed Building	The Pickerel Inn is one of Cambridge's oldest public houses, with origins dating back to the 16th century. Its timber-framed structure, exposed beams, and historic signage make it a landmark of local social and architectural history.	Scoped Out due to separation distance / intervening features
Magdalene College, The Buildings Surrounding First Court	Grade I NHLE: 1125500	Listed Building	The buildings surrounding First Court at Magdalene College include medieval and later structures that define the historic heart of the college. Their varied architectural styles and materials reflect centuries of academic and architectural development.	Scoped Out due to separation distance / intervening features
31 Magdalene Street	Grade II NHLE: 1126161	Listed Building	31 Magdalene Street is a narrow-fronted townhouse with a steeply pitched roof and traditional fenestration. It contributes to the historic character of the street and reflects the evolution of domestic architecture in the area.	Scoped Out due to separation distance / intervening features
Magdalene Bridge, The Great Bridge	Grade II NHLE: 1331826	Listed Building	Magdalene Bridge, also known as the Great Bridge, is a 19th-century cast-iron structure that replaced earlier crossings of the River Cam. It is significant for its engineering design and its role in connecting the historic city centre with the north bank.	Scoped Out due to separation distance / intervening features
Magdalene College, Railings, Gate Piers And Gates To Garden On Magdalene Street	Grade II NHLE: 1332184	Listed Building	The railings, gate piers, and gates to the garden on Magdalene Street form an important boundary feature of Magdalene College. Their wrought ironwork and stone detailing enhance the setting of the college and contribute to the streetscape.	Scoped Out due to separation distance / intervening features
K6 Telephone Kiosk On The Quayside Pedestrian Area, Cambridge	Grade II NHLE: 1416702	Listed Building	The K6 telephone kiosk on the Quayside is a classic example of Sir Giles Gilbert Scott's iconic 1935 design. Its red-painted cast-iron structure is a familiar and cherished element of the British streetscape.	Scoped Out due to separation distance / intervening features
30 Bridge Street	Grade II NHLE: 1126225	Listed Building	30 Bridge Street is a late 18th-century commercial building with a traditional shopfront and upper residential accommodation. Its historic use and architectural detailing contribute to the mixed-use character of the area.	Scoped Out due to separation distance / intervening features
29 Bridge Street	Grade II NHLE: 1126263	Listed Building	29 Bridge Street is a Georgian townhouse with a symmetrical façade and original sash windows. It exemplifies the domestic architecture of the period and contributes to the historic setting of Bridge Street.	Scoped Out due to separation distance / intervening features
Windmill At Chesterton Mills	Grade II NHLE: 1337012	Listed Building	The windmill at Chesterton Mills is a rare surviving example of a 19th-century industrial structure. Its cylindrical brick tower and cap reflect the region's agricultural and milling heritage.	Scoped Out due to separation distance / intervening features
Lodge Of Cambridge General Cemetery	Grade II NHLE: 1126200	Listed Building	The Lodge of Cambridge General Cemetery is a Victorian gatehouse with Gothic Revival detailing. It served as the residence for the cemetery caretaker and contributes to the historic character of the burial ground.	Scoped Out due to separation distance / intervening features
Gates And Railings Of Cambridge General Cemetery Flanking Histon Road	Grade II NHLE: 1099097	Listed Building	The gates and railings flanking Histon Road at Cambridge General Cemetery are finely crafted examples of Victorian ironwork. They define the formal entrance to the cemetery and enhance its historic setting.	Scoped Out due to separation distance / intervening features

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Enquiries to:
[redacted]
Biodiversity Officer, City Services
T: [redacted]
E: [redacted]

CAMBRIDGE CITY COUNCIL

[redacted]

19 September 2024

Your reference: Q230959

Dear Matthew

North West Cambridge Development – Habitat Regulation Assessment Screening in relation to Eversden and Wimpole Woods Special Area of Conservation.

In response to your letter dated 19th July 2024.

The Northwest Site allocation is within 500m of the identified 10km potential Impact Risk Zone for barbastelle bats. However, the M11 is considered a severance of any functional habitat links between the site and the SAC and therefore it is not considered proportionate to require a HRA for the NWC revised masterplan.

This position is supported through the 2018 Local Plan HRA, which identified no impacts on the Eversden and Wimpole Woods Special Area of Conservation. It is considered no significant habitat changes have occurred since this assessment to warrant a change in this position.

As previously agreed, a suite of bat activity surveys will be required to determine impacts on local bat population in line with local policy and the Greater Cambridge Biodiversity SPD.

Yours sincerely

Guy Belcher

Guy Belcher
Biodiversity Officer

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North West Cambridge Masterplan data search on Magic.gov.uk, 28th March 2024

Search for statutory designated nature conservation sites within a 10km radius of the site.

There is one European Site within 10km: Eversden and Wimpole Woods SAC, designated for its summer maternity roost of barbastelle bats. The SAC is located off-site, 9.4km to the south-west of the site and on the opposite side of the M11 Motorway.

Traveller's Rest Pit SSSI located within the Eddington site is designated for its geological interest.

Madingley Wood SSSI is located off-site, 1.8km to the west of the site and on the opposite side of the M11 Motorway. It is designated for its ash-field maple woodland habitat.

Hardwick Wood SSSI is located off-site, 6.6km to the south-west of the site and on the opposite side of the M11 Motorway. It is also designated for its ash-field maple woodland habitat.

Caldecote Meadows SSSI is located off-site, 7.3km to the south-west of the site and on the opposite side of the M11 Motorway. It is designated for its grassland habitat.

Overhall Grove SSSI is located off-site, 7.9km to the north-west of the site and on the opposite side of the M11 Motorway. It is designated for its ancient secondary woodland.

Eversden and Wimpole Woods SSSI is located off-site, 9.4km to the south-west of the site and on the opposite side of the M11 Motorway. It is designated for its ancient semi-natural woodland and a nationally important summer maternity roost of barbastelle bats.

Dernford Fen SSSI is located off-site, 9.6km to the south of the site and on the opposite side of the M11 Motorway. It is designated for its range of habitat types, including fen, carr, grassland, scrub and reedbed, and associated amphibians, reptiles and birds.

Histon Road SSSI is located off-site, 1.5km to the east/north-east of the site. It is designated for its geological interest. Barrington Chalk Pit SSSI is located off-site, 8.0km to the south of the site and on the opposite side of the M11 Motorway. It is also designated for its geological interest.

There are a further seven SSSIs located within 10km of the site, all of which are located to the east or south-east of Cambridge:

- Stow-cum-Quy Fen SSSI
- Wilbraham Fens SSSI
- Great Wilbraham Common SSSI
- Fulbourn Fen SSSI
- Cherry Hinton Pit SSSI
- Gog Magog Golf Course SSSI
- Roman Road SSSI

There are 15 Local Nature Reserves within 10km of the site. These are all located outside of the site boundaries and within central or eastern Cambridge.

Search for EPS licence applications within the site or within 1km of the site boundaries and up to 4km for bats

Great crested newt licence for the site (this is the licence granted in 2014 prior to Phase 1 of the project commencing).

Bat licence from 2010 relating to common pipistrelle and whiskered/Brandt's bats from a location on Huntingdon Road, immediately outside the site boundaries.

There have been several bat licences within 4km, mostly relating to brown long-eared, common and soprano pipistrelle and within areas of Cambridge City centre. The exceptions to this are:

- A licence relating to barbastelle bat, granted in 2013 from a location approximately 4km to the west of the site and on the opposite side of the M11 Motorway; and
- A licence relating to Daubenton's bat, granted in 2018 from a location approximately 4km to the east of the site and on the opposite side of Cambridge City centre.

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Annex 12: Bat Roost Survey Report

Annex 13: Bat Activity Survey Report

Annex 14: Water Vole and Otter Survey Report

Annex 15: Badger Survey Report

Annex 16: Harvest Mouse Survey Report

Cambridgeshire and Peterborough Environmental Records Centre

Designated Sites Search Report

Designated Sites found within 2km of Site

Date: 04/04/2024, Site Reference: _567_MD_Eddington

SSSIs

Site Name	Grid Ref	Area (ha)	Reasons for designation
Histon Road	TL443611	0.62	This is a 'Geological Conservation Review' site, and is a key Pleistocene stratigraphic site. The deposit provides an almost complete record of the second half of the Ipswichian Interglacial.
Madingley Wood	TL400596	15.23	An example of the ash-maple woodland type characteristic of the chalky boulder clay of eastern England. The western sector of the wood is of ancient origin whilst the eastern half is relatively recent, thus providing valuable opportunities for study.
Traveller's Rest Pit	TL429598	2.25	This is a 'Geological Conservation Review' site, and provides a unique exposure in fossiliferous cold stage gravels, sands and silts of a high-level terrace (Observatory Gravels) of the River Cam.

County Wildlife Sites

Site Name	Grid Ref	Area (ha)	Reasons for Designation
Adams Road Sanctuary	TL437587	1.6	The site qualifies because it has an invertebrate index exceeding 500 (calculated as summation of nationally rare = 100 and nationally scarce = 50).
Barton Road Pool	TL435574	1.22	Grade C site in the JNCC Invertebrate Site Register
Coton Path Hedgerow	TL4258	0.94	Supports populations of two Nationally Scarce vascular plant species.
Hedgerows East of M11	TL4258	2.05	Supports populations of Nationally Scarce vascular plant species and a vascular plant species which is rare in the county.
Madingley Brickpits	TL404615	0.74	The site is grade C in the JNCC Invertebrate Site Register.
River Cam	TL45	N/A	Is a major river (together with adjacent semi-natural habitat) that has not been grossly modified by canalisation and/or poor water quality. Additionally it has areas with concentrations of mature pollard willows.

City Wildlife Sites

Site Name	Grid Ref	Area (ha)	Reasons for Designation
Ascension Parish Burial Ground	TL435597	0.81	Supports two or more strong neutral grassland indicator species in frequent numbers.

Bin Brook	TL438584	0.81	Supports breeding populations of a mammal species (water vole) protected by the Wildlife and Countryside Act 1981. Also qualifies for its group of at least 5 mature pollard willows in association with other semi-natural habitat.
Bird Sanctuary, Conduit Head	TL428594	0.81	Supports S6 Greater Pond Sedge swamp, S7 Lesser Pond Sedge swamp and 0.5-1ha woodland with 5 or more woodland plants and 10% or more mature woodland. Also supports great crested newts.
Drain at Garret Hostel Lane	TL444585	0.07	Unmodified drain joining River Cam. Also supports mammal species protected by the Wildlife and Countryside Act 1981.
Meadow and Ditch Opposite King's College	TL444583	2.07	Area of undeveloped floodplain directly associated with the River Cam County Wildlife Site.
Midsummer Common	TL456590	13.47	Area of undeveloped floodplain directly associated with the River Cam County Wildlife Site.
Scrub East of M11 Verge	TL420590	1.52	Scrub over 0.5ha in area with four or more woody species. Plus hedgerow more than 100m long and 2m wide at widest point with four or more woody species.
Trinity Meadow	TL442585	1.81	Supports grassland with two or more strong neutral grassland indicator species and four or more strong calcareous grassland indicator species in frequent numbers.

Designated Sites Map

for MD Ecology Limited

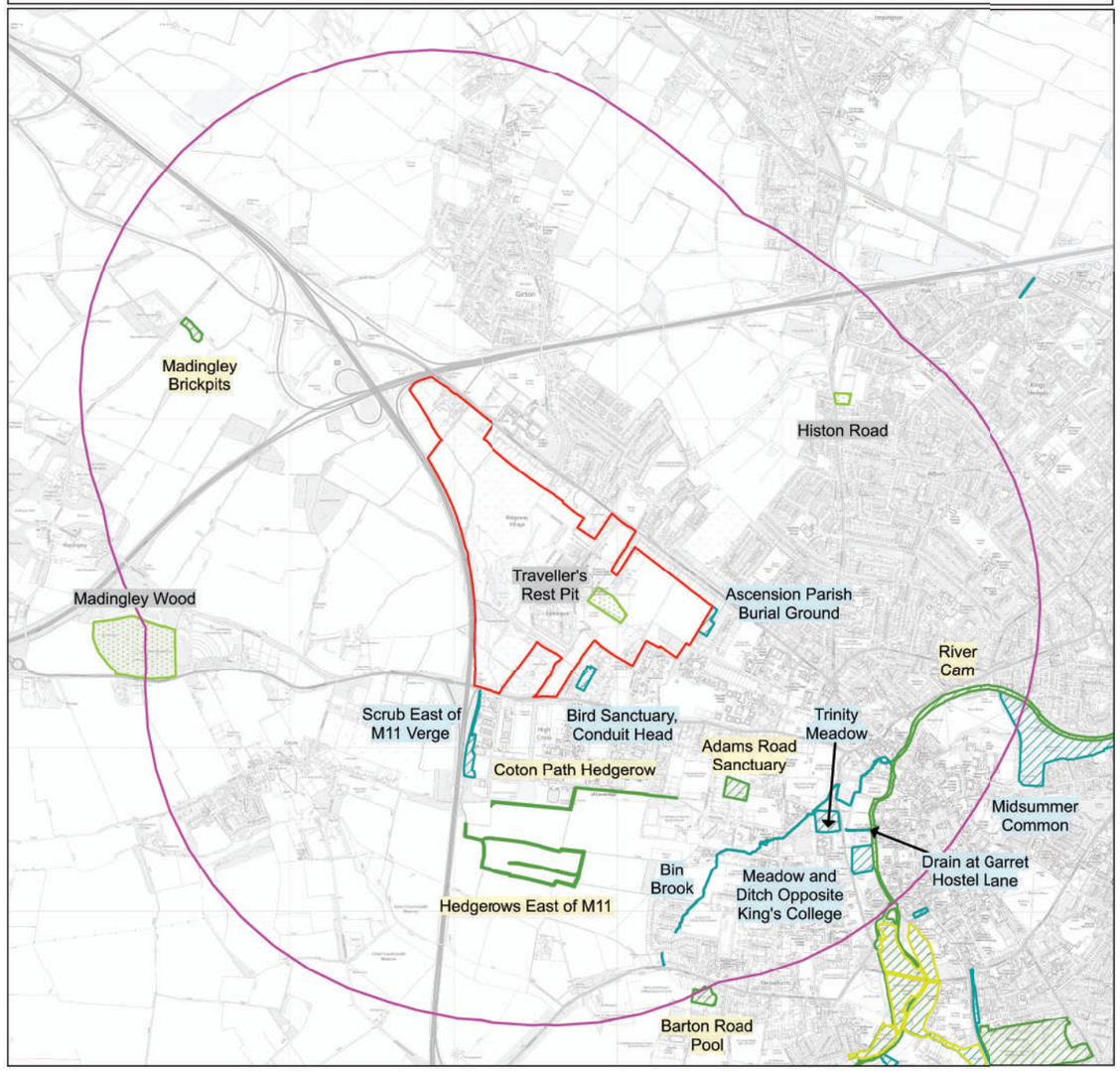
Eddington

1:35000

4th April 2024

CPERC
The Manor House
Broad Street
Cambourne
Cambridgeshire
CB23 6DH

CPERC
CAMBRIDGESHIRE & PETERBOROUGH
ENVIRONMENTAL RECORDS CENTRE



2km Search Area
Supplied Site Boundary

SSSI
LNR
County Wildlife Site
City Wildlife Site (Cambridge City)

N
W
E
S

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Cambridgeshire County Council 100023205 (2024)**

Appendix: Ecology and Biodiversity

Annex 1: Letter from Guy Belcher, Cambridge City Council Biodiversity Officer, dated 19 September 2024, relating to Habitat Regulations Assessment Screening

Annex 2: Summary of the Results of a Data Search Using MAGIC.GOV.UK

Annex 3: Results of a Data Search with CPER

Annex 4: Washpit Brook River Condition Assessment Baseline Report

Annex 5: GCN Survey Report

Annex 6: Habitat, Plant and Invertebrate Survey Report

Annex 7: Invertebrate Survey Report

Annex 8: Additional Amphibian Surveys Report

Annex 9: Reptile Survey Report

Annex 10: Breeding Bird Survey Report

Annex 11: Winter Bird Survey Report

Annex 12: Bat Roost Survey Report

Annex 13: Bat Activity Survey Report

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Annex 16: Harvest Mouse Survey Report

MKA
ECOLOGY

Ecology Technical Note

Washpit Brook River Condition Assessment

Baseline report

Site	*Washpit Brook, Cambridge*
Project number	*161824*
Client name / Address	*Mike Dean, MD Ecology*

Version number	Date of issue	Revisions
1.0	*29 November 2024*	*Original*
2.0	*5 December 2024*	*Updated encroachment details*

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1. INTRODUCTION

This ecology technical note provides the baseline results for the River Condition Assessment conducted at Washpit Brook by MKA Ecology Ltd in October 2024. This note precedes a full detailed report on the topic, its purpose is to inform project planning and assist in decision making regarding potential impacts and enhancements to Washpit Brook.

2. METHODOLOGY

2.1. River Condition Assessments and the watercourse module in the Biodiversity Metric

River conditions are assessed using the methodology developed by Gurnell *et al.* (2020). A preliminary river condition score is calculated using the MoRPh field survey technique (Modular River Physical Survey). The preliminary river condition score is then translated into a final condition score which takes into account the geomorphic type of river under consideration. This second stage is added because different types of river support different types of habitats. The river type is defined during a desktop study. The final condition assessment and score are assigned as follows;

- Good (5)
- Fairly good (4)
- Moderate (3)
- Fairly poor (2)
- Poor (1)

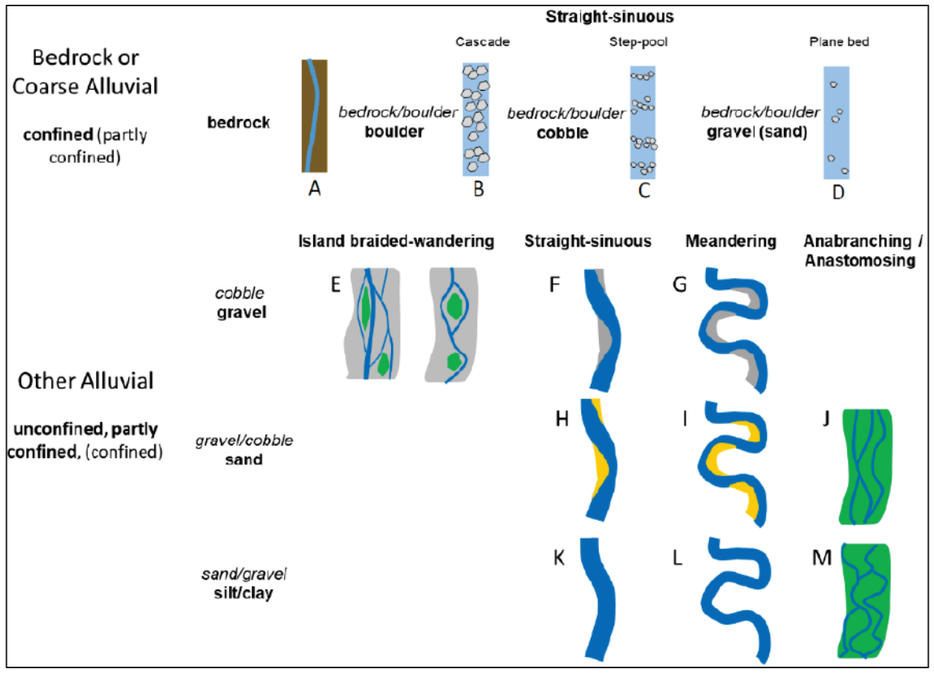
Overdeep channels can affect a river's hydrological/ecological lateral connectivity making it less connected to the floodplain. Overdeep rivers have a depth relative to their width that suggests the bed has been incised or dredged, and the bank tops have been raised. If the presence of an overdeep channel seems to be a reasonable judgement then the condition assessment should be reduced by one class.

Within the Statutory Biodiversity Metric the watercourse module also considers both watercourse encroachment and riparian encroachment. Watercourse encroachment is defined as none, minor or major which are dictated by the extent of engineering along the banks and across the channel. Riparian encroachment is defined as none, minor, moderate or major which are dictated by the extent of encroachment within the 10m riparian zone on either side of the river.

Assessing the geomorphic river type

River characteristics vary along a continuum. However, for the purpose of the condition assessment 13 river types have been defined in England (Figure 1). Eight variables are used to define the river type (A1-A8 in Table 5). 'Large rivers' and 'canals and navigable rivers' are also defined as separate river types, these are only assessed on emergent features as their bed and submerged features can not be assessed adequately.

Figure 1: River types in England



Assessing the preliminary river condition score

Types and abundance of physical river features and riparian and aquatic vegetation structures are recorded within modules. Module lengths vary depending on river width (Table 1). Five modules are grouped to create MoRPh5 subreaches. Sufficient MoRPh5 subreaches are conducted to ensure a minimum coverage of 20% of the river length within the Site.

Table 1: River width and MoRPh module lengths

River width	MoRPh module length
< 5m	10m
5m - <10m	20m
10m - <20m	30m
20m - <30m	40m
>30m (large river) (also canals and navigable rivers)	50m

The preliminary river condition score is assessed for each MoRPh5 subreach using more than 30 condition indicators (Table 2). These indicators are grouped to include those relevant to the bank top (B1-B5), the bank face (C1-C10), the channel margin (D1-D5) and the river channel (E1-E12). Positive indicators (displayed in green) are assigned a score from 0 to 4, negative indicators (displayed in red)

are assigned a score from -4 to 0. The preliminary river condition score is the sum of the average of the positive condition indicators and the average of the negative condition indicators.

Establishing river reaches

Condition assessments are conducted within each river reach. The extents of river reaches are defined by significant changes in the river structure, for example a major tributary contributing greater than 10% of the flow, or a major artificial barrier such as a weir. The extents of a river reach may also be defined by a distinct and persistent change in planform, for example when a river changes from meandering to straight.

For the purposes of the assessment at Washpit Brook six subreaches were established. These were defined by the river and riparian characteristics. They are as follows;

- Subreach 1: A short, straightened, length of the brook almost immediately downstream of Trinity Conduit Head, the source of Washpit Brook. This is heavily shaded by a hedgerow with grazing pasture on either bank.
- Subreach 3: A heavily modified and straightened section of the brook running alongside the development area. There is less shading in this location resulting in more aquatic vegetation. Several culverts cross this section of the brook.
- Subreach 7: Situated in the woodland and heavily shaded, resulting in little aquatic vegetation.
- Subreach 8: Part of the brook which narrows significantly. This subreach is dominated by the adjacent M11 motorway and the subreach has been heavily modified and straightened to accommodate this feature.
- Subreach 9: This part of the brook has more naturalised planform, more likely to be following its original course. The brook is shaded and deeply cut resulting in less aquatic vegetation. Riparian habitats include the manmade wetlands and also the extensive rough grasslands.
- Subreach 12: This part of the brook also has more naturalised planform and is shaded and deeply cut into the landscape. It is characterised by the riparian habitat which is formed by the grazing pastures of the veterinary research facility.

The location of each subreach is shown in Figure 2. Note that Subreaches 2, 4, 5, 6, 10, 11 and 13 are all culverts and are not described above, they are automatically assigned a ‘poor’ condition assessment. These culvert lengths are included in the Statutory Biodiversity Metric calculator.

2.2. Survey details

The survey was undertaken by Will O’Connor CEcol MCIEEM, Director and Principal Ecologist at MKA Ecology Ltd. Will have over 15 years’ experience as a consultant ecologist and is a certified River Condition Assessor. The survey was conducted in good conditions on 3 and 4 October 2024.

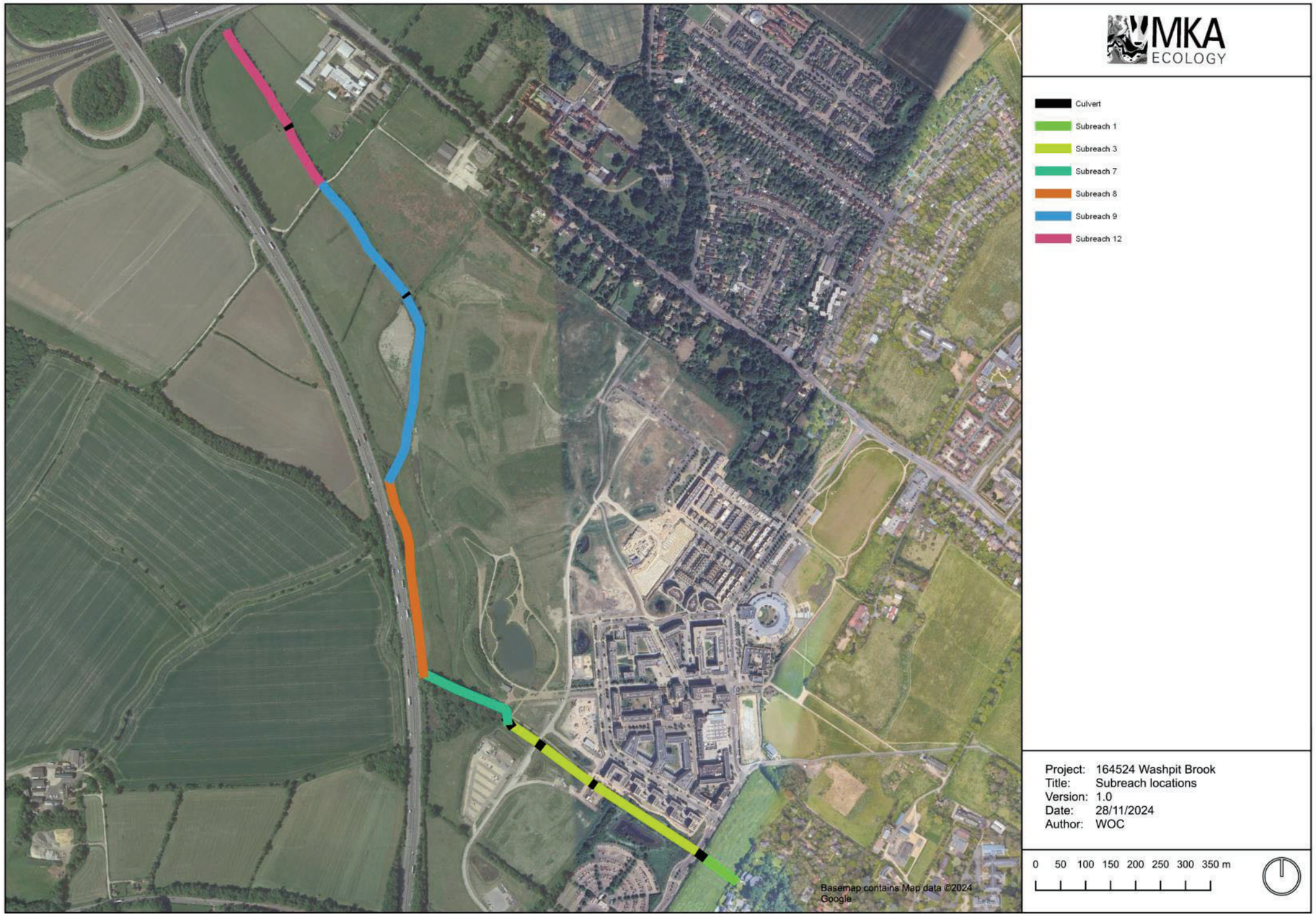
Table 2: Indicators for river condition assessments (green text denotes positive indicators and red text denotes negative indicators)

River condition indicator	Description	Detail
A1	Braiding index	Assesses whether the river reach typically shows a single flowing thread of water or more than one thread
A2	Sinuosity index	The ratio of the river reach length along the centre line of the river channel divided by the length of the broad river or valley course
A3	Anabranching index	Assesses for multi-thread reaches, how many threads are typically separated by well-vegetated areas (islands) into distinct channels rather than flowing around bare or sparsely vegetated bars
A4	Level of confinement	Estimated from the approximate proportion of the river reach's bank length that is in contact with (close proximity to) valley side slopes or ancient terraces
A5	Valley gradient	The difference in elevation between the start and end of the river reach divided by the length of the broad valley course
A6	Bedrock reaches	Recorded where bedrock is observed as 'extensive'
A7	Coarsest bed material size class	Records the coarsest bed material size class that is observed as present or extensive in any module in the subreach
A8	Average alluvial bed material size class	A weighted average of the alluvial bed material size classes) recorded as present or extensive in all five modules within the subreach
B1	Bank top vegetation structure	A count of the presence of five vegetation structural types that are recorded on the bank tops (mosses /lichens, short/creeping herbs/grasses, tall herbs/grasses, scrub/shrubs, saplings/trees)
B2	Bank top tree feature richness	A count of the presence of five tree features that are recorded on bank tops (fallen trees, leaning trees, j-shaped trees, tree/shrub branches trailing into the river channel, large wood)
B3	Bank top water-related features	Assesses the presence of bank-top water features (ponds, side channels, wetlands)
B4	Bank top invasive plant species cover	Assesses the presence of invasive plant species at the bank top
B5	Bank top managed ground cover	Assesses the potential severity (likely pressure on the river ecosystem) and extent of artificial / managed ground cover types observed on each bank
C1	Bank face riparian vegetation structure	A count of the presence of five vegetation structural types that are recorded on the bank faces (mosses /lichens, short/creeping herbs/grasses, tall herbs/grasses, scrub/shrubs, saplings/trees)

River condition indicator	Description	Detail
C2	Bank face tree feature richness	A count of the presence of five tree features that are recorded on bank faces (fallen trees, leaning trees, j-shaped trees, tree/shrub branches trailing into the river channel, large wood)
C3	Bank face natural bank profile extent	Assesses the extent of natural bank profiles
C4	Bank face natural bank profile richness	Assesses the richness of natural bank profiles
C5	Bank face natural bank material richness	Assesses the richness of natural bank materials
C6	Bank face bare sediment extent	Assesses the abundance of bare sediment on the bank faces
C7	Bank face artificial bank profile extent	Assesses the extent of artificial bank profiles
C8	Bank face reinforcement extent	Assesses the extent of artificial bank reinforcement
C9	Bank face reinforcement material severity	Assesses the severity of the artificial bank reinforcement material
C10	Bank face invasive plant species cover	Assesses the presence of invasive plant species at the bank face
D1	Channel margin aquatic vegetation extent	Assesses the extent of four channel margin aquatic vegetation types (liverworts/mosses/lichens, emergent broad-leaved, emergent linear-leaved, amphibious)
D2	Channel margin aquatic morphotype richness	A count of the aquatic morphotypes (liverworts/mosses/lichens, emergent broad-leaved, emergent linear-leaved, amphibious) at the channel margin
D3	Channel margin physical feature extent	Assesses the extent of nine margin physical features (unvegetated side bar, vegetated side bar, berm, bench, stable cliff, eroding cliff, toe, marginal backwater, tributary junction)
D4	Channel margin physical feature richness	A count of nine margin physical features (unvegetated side bar, vegetated side bar, berm, bench, stable cliff, eroding cliff, toe, marginal backwater, tributary junction)
D5	Channel margin artificial features	Scores pipes and outfalls according to their number and weights jetties and deflectors according to their size (and therefore relative potential impact)
E1	Channel aquatic morphotype richness	A count of the aquatic morphotypes (liverworts/mosses/lichens, emergent broad-leaved, emergent linear-leaved, amphibious) in the channel

River condition indicator	Description	Detail
E2	Channel bed tree features richness	A count of six tree features on the channel bed (vegetation shading channel, submerged tree roots, large wood, discrete accumulation of organic material, large wood dam, fallen tree)
E3	Channel bed hydraulic features richness	A count of eight possible water surface flow types (free fall, chute, broken standing waves, unbroken standing waves, upwelling, rippled, smooth, no perceptible flow)
E4	Channel bed natural features extent	Assesses the extent of eleven features (exposed bedrock, exposed unvegetated boulders, exposed vegetated boulders, unvegetated mid channel bars, vegetated mid-channel bars, islands, cascades, pools, riffles, steps, waterfalls)
E5	Channel bed natural features richness	A count of eleven features (exposed bedrock, exposed unvegetated boulders, exposed vegetated boulders, unvegetated mid channel bars, vegetated mid-channel bars, islands, cascades, pools, riffles, steps, waterfalls)
E6	Channel bed material richness	A count of the nine possible mineral and organic materials (peat, organic, clay, silt, sand, gravel-pebble, cobble, boulder, bedrock) on the channel bed
E7	Channel bed siltation	Assesses the abundance of patchy or continuous silt layers across the channel bed
E8	Channel bed reinforcement extent	Assesses the extent of channel bed reinforcement
E9	Channel bed reinforcement severity	Assesses the potential severity (likely pressure on the river ecosystem) and extent of artificial channel bed reinforcement
E10	Channel bed artificial features severity	Assesses the potential severity (likely pressure on the river ecosystem) and extent of artificial channel bed features
E11	Channel bed invasive plant species extent	Assesses the presence of invasive plant species in the channel
E12	Channel bed filamentous algae extent	Assesses the extent of filamentous algae in the channel
River shape	Used to assess the likelihood of a surveyed channel being sufficiently overdeep to adversely affect its hydrological/ecological lateral connectivity: If river shape has a value of < 2 the river is highly likely to be overdeep. If river shape has a value of <4 the river is likely to be overdeep, especially if the average width is greater than 10 m. If the presence of an overdeep channel seems to be a reasonable judgement then the condition assessment should be reduced by one class	

Figure 2: Location of subreaches at Washpit Brook



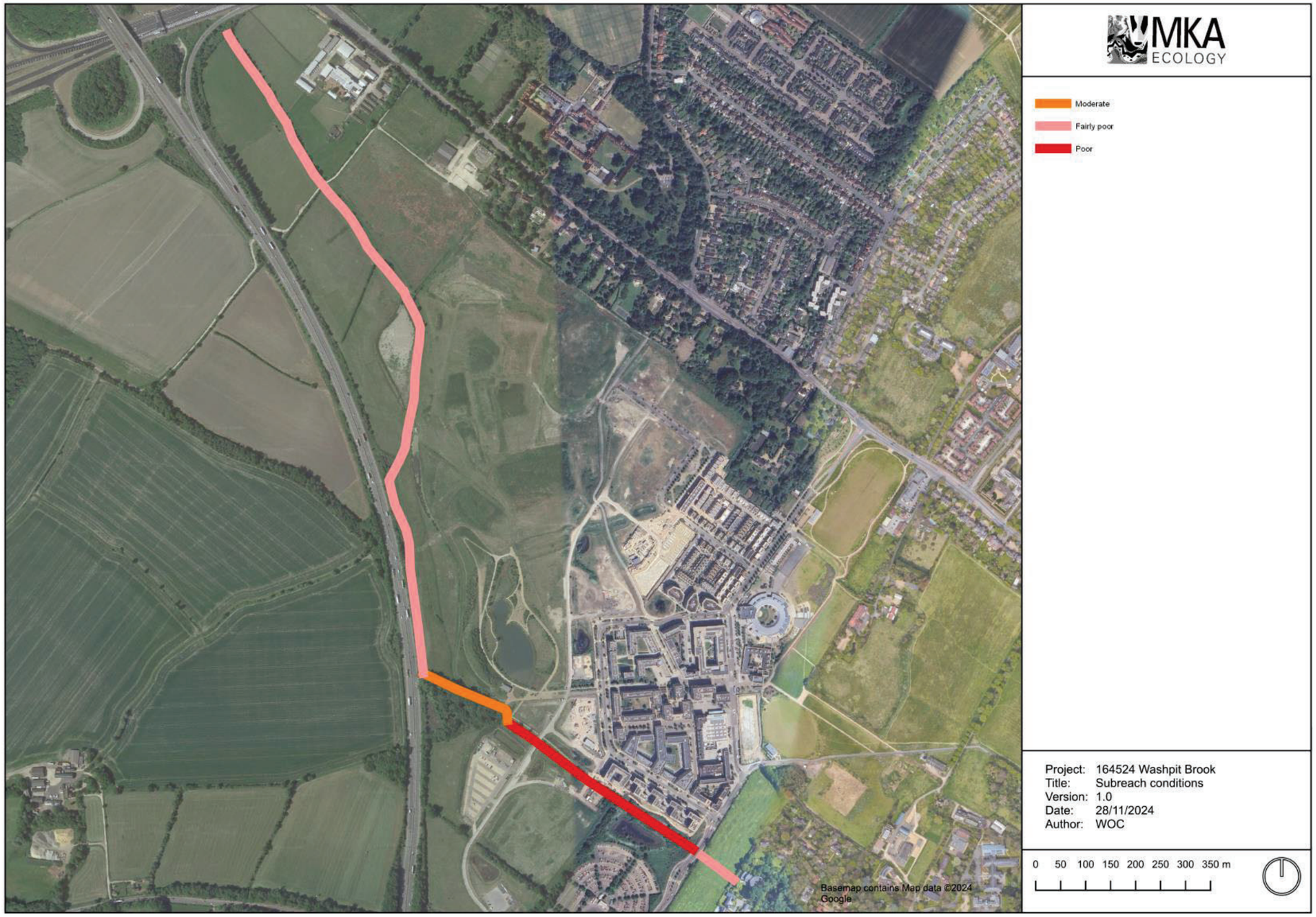
3. RESULTS

The results of the River Condition Assessments for Washpit Brook are displayed in Table 3 together with information on watercourse encroachment and riparian encroachment. Detailed results of the River Condition Assessment for each subreach are provided in the tables in the appendix. Figure 3 shows the results of the River Condition Assessments.

Table 3: Watercourse baseline at Washpit Brook

Subreach	Type	Length (km)	Condition	Watercourse encroachment	Riparian encroachment	Watercourse units
1	River	0.079	Fairly poor	No encroachment	No encroachment	0.71
2	Culvert	0.022	Poor	n/a	n/a	0.03
3	River	0.414	Poor	No encroachment	Minor/No encroachment	2.43
4	Culvert	0.013	Poor	n/a	n/a	0.02
5	Culvert	0.016	Poor	n/a	n/a	0.02
6	Culvert	0.009	Poor	n/a	n/a	0.01
7	River	0.203	Moderate	No encroachment	No encroachment	2.44
8	River	0.399	Fairly poor	No encroachment	Minor/No encroachment	3.52
9	River	0.647	Fairly poor	Major	No encroachment	2.91
10	Culvert	0.006	Poor	n/a	n/a	0.01
11	Culvert	0.014	Poor	n/a	n/a	0.02
12	River	0.339	Fairly poor	No encroachment	Major	2.29
13	Culvert	0.009	Poor	n/a	n/a	0.01
Total watercourse units						**14.42**

Figure 3: Condition of subreaches at Washpit Brook



4. OPPORTUNITIES

4.1. A note on enhancement

The data presented within this report can be used to help inform the most appropriate enhancements that would improve the River Condition Assessment score. Positive indicators (displayed in green) are assigned a score from 0 to 4, negative indicators (displayed in red) are assigned a score from -4 to 0. Where the tables indicate a positive indicator score closer to zero this presents an opportunity to increase the score with interventions that will have a positive impact on that indictor (briefly described in the results table with more detail provided in Table 2). Where the tables indicate a negative indicator score closer to -4 this presents an opportunity to increase the score with interventions that will reduce the severity of that negative indicator.

The Statutory Biodiversity Metric calculator includes two other factors that dictate the number of watercourse units. These are watercourse encroachment and riparian encroachment. Watercourse encroachment is dictated by the extent of engineering along the banks and across the channel. Riparian encroachment is dictated by the extent of encroachment within the 10m riparian zone on either side of the river. Reducing the level of watercourse and riparian encroachment will have a significant effect on the number of watercourse units.

4.2. Opportunities for enhancement at each subreach

Table 4 provides an analysis of the opportunities for enhancing the number of watercourse units at each subreach. This is explored in relation to condition, watercourse encroachment and riparian encroachment. The following key is applied.

Significant opportunities for enhancing watercourse units	
Opportunities for enhancing watercourse units	
No opportunities for enhancing watercourse units	

Table 4: Analysis of opportunities for enhancement at each subreach

Subreach	Condition assessment opportunities	Watercourse encroachment	Riparian encroachment
1	**Current provisional condition score: 0.684211** **Next threshold: 1.2** **Ease of reaching threshold: Difficult** Enhancing condition could be achieved by improving vegetation structure, tree feature richness, water features, bank face materials and profile richness, aquatic vegetation and physical and hydrological feature richness.	Not possible to improve	Not possible to improve
3	**Current provisional condition score: 0.052632** **Next threshold: 0.2** **Ease of reaching threshold: Difficult** Enhancing condition could be achieved by improving vegetation structure, tree feature richness, water features, bank face materials and profile richness, physical and hydrological feature richness.	Not possible to improve	Opportunities for enhancement by replacing some of the hardstanding in the riparian zone with naturalised habitat
7	**Current provisional condition score: 1.263158** **Next threshold: 1.9** **Ease of reaching threshold: Difficult** Enhancing condition could be achieved by improving water features, bank face materials and profile richness, aquatic vegetation and physical and hydrological feature richness.	Not possible to improve	Not possible to improve
8	**Current provisional condition score: 0.951417** **Next threshold: 1.2** **Ease of reaching threshold: Moderate** Enhancing condition could be achieved by improving vegetation structure, tree feature richness, water features, bank face materials and profile richness, physical and hydrological feature richness. Enhancing condition could be achieved by reducing the impact of bank top managed ground.	Not possible to improve	Not possible to improve
9	**Current provisional condition score: 1.004049** **Next threshold: 1.2** **Ease of reaching threshold: Easy/moderate**	A low multiplier is applied here because of the flow control structure, it is assumed that this cannot be removed	Not possible to improve

Subreach	Condition assessment opportunities	Watercourse encroachment	Riparian encroachment
	Enhancing condition could be achieved by improving tree feature richness, bank face materials and profile richness, physical and hydrological feature richness. Enhancing condition could be achieved by reducing the impact of siltation.		
12	**Current provisional condition score: 0.906883** **Next threshold: 1.2** **Ease of reaching threshold: Moderate** Enhancing condition could be achieved by improving vegetation structure, tree feature richness, water features, bank face materials and profile richness, physical and hydrological feature richness. Enhancing condition could be achieved by reducing the impact of bank top managed ground and siltation.	Not possible to improve	Significant opportunities for enhancement by providing a naturalised habitat in the riparian zone rather than the closely grazed grassland that is present. East side only.

5. REFERENCES

Gurnell, A. M., Scott, S. J., England, J., Gurnell, D., Jeffries, R., Shuker, L. and Wharton, G. (2020). *'Assessing river condition: A multiscale approach designed for operational application in the context of biodiversity net gain'*. River Research and Applications, 36, 1559-1578.

6. APPENDIX

Detailed River Condition Assessment results for each subreach are shown in the tables below.

RCA results for subreach 1

River condition indicator	Description	Result	
A1	Braiding index	1	River type K
A2	Sinuosity index	1.0379146	
A3	Anabranching index	1	
A4	Level of confinement	Unconfined	
A5	Valley gradient	0.001421801	
A6	Bedrock reaches	No	
A7	Coarsest bed material size class	Gravel/pebble	
A8	Average alluvial bed material size class	Silt	
B1	Bank top vegetation structure	1	
B2	Bank top tree feature richness	0	
B3	Bank top water-related features	0	
B4	Bank top invasive plant species cover	0	
B5	Bank top managed ground cover	0	
C1	Bank face riparian vegetation structure	2	
C2	Bank face tree feature richness	0	
C3	Bank face natural bank profile extent	3	
C4	Bank face natural bank profile richness	1	
C5	Bank face natural bank material richness	1	
C6	Bank face bare sediment extent	2	
C7	Bank face artificial bank profile extent	0	
C8	Bank face reinforcement extent	0	
C9	Bank face reinforcement material severity	0	
C10	Bank face invasive plant species cover	0	
D1	Channel margin aquatic vegetation extent	0	
D2	Channel margin aquatic morphotype richness	0	
D3	Channel margin physical feature extent	0	
D4	Channel margin physical feature richness	0	
D5	Channel margin artificial features	0	
E1	Channel aquatic morphotype richness	0	
E2	Channel bed tree features richness	1	
E3	Channel bed hydraulic features richness	1	
E4	Channel bed natural features extent	0	
E5	Channel bed natural features richness	0	
E6	Channel bed material richness	1	
E7	Channel bed siltation	0	
E8	Channel bed reinforcement extent	0	
E9	Channel bed reinforcement severity	0	
E10	Channel bed artificial features severity	0	
E11	Channel bed invasive plant species extent	0	
E12	Channel bed filamentous algae extent	0	
Preliminary river condition		**Moderate**	
River shape		0.684211	**Overdeep**
River condition		**Fairly poor**	

RCA results for subreach 3

River condition indicator	Description	Result	
A1	Braiding index	1	River type K
A2	Sinuosity index	1.0379146	
A3	Anabranching index	1	
A4	Level of confinement	Unconfined	
A5	Valley gradient	0.001421801	
A6	Bedrock reaches	No	
A7	Coarsest bed material size class	Gravel/pebble	
A8	Average alluvial bed material size class	Silt	
B1	Bank top vegetation structure	2	
B2	Bank top tree feature richness	0	
B3	Bank top water-related features	0	
B4	Bank top invasive plant species cover	0	
B5	Bank top managed ground cover	0	
C1	Bank face riparian vegetation structure	3	
C2	Bank face tree feature richness	1	
C3	Bank face natural bank profile extent	3	
C4	Bank face natural bank profile richness	1	
C5	Bank face natural bank material richness	1	
C6	Bank face bare sediment extent	0	
C7	Bank face artificial bank profile extent	0	
C8	Bank face reinforcement extent	-3	
C9	Bank face reinforcement material severity	-2	
C10	Bank face invasive plant species cover	0	
D1	Channel margin aquatic vegetation extent	2	
D2	Channel margin aquatic morphotype richness	1	
D3	Channel margin physical feature extent	0	
D4	Channel margin physical feature richness	0	
D5	Channel margin artificial features	0	
E1	Channel aquatic morphotype richness	2	
E2	Channel bed tree features richness	2	
E3	Channel bed hydraulic features richness	1	
E4	Channel bed natural features extent	0	
E5	Channel bed natural features richness	0	
E6	Channel bed material richness	1	
E7	Channel bed siltation	0	
E8	Channel bed reinforcement extent	-2	
E9	Channel bed reinforcement severity	-2	
E10	Channel bed artificial features severity	-4	
E11	Channel bed invasive plant species extent	0	
E12	Channel bed filamentous algae extent	0	
Preliminary river condition		**Fairly poor**	
River shape		1.25	**Overdeep**
River condition		**Poor**	

RCA results for subreach 7

River condition indicator	Description	Result	
A1	Braiding index	1	River type K
A2	Sinuosity index	1.0379146	
A3	Anabranching index	1	
A4	Level of confinement	Unconfined	
A5	Valley gradient	0.001421801	
A6	Bedrock reaches	No	
A7	Coarsest bed material size class	Gravel/pebble	
A8	Average alluvial bed material size class	Silt	
B1	Bank top vegetation structure	3	
B2	Bank top tree feature richness	0	
B3	Bank top water-related features	0	
B4	Bank top invasive plant species cover	0	
B5	Bank top managed ground cover	0	
C1	Bank face riparian vegetation structure	2	
C2	Bank face tree feature richness	3	
C3	Bank face natural bank profile extent	3	
C4	Bank face natural bank profile richness	1	
C5	Bank face natural bank material richness	1	
C6	Bank face bare sediment extent	4	
C7	Bank face artificial bank profile extent	0	
C8	Bank face reinforcement extent	0	
C9	Bank face reinforcement material severity	0	
C10	Bank face invasive plant species cover	0	
D1	Channel margin aquatic vegetation extent	2	
D2	Channel margin aquatic morphotype richness	1	
D3	Channel margin physical feature extent	0	
D4	Channel margin physical feature richness	0	
D5	Channel margin artificial features	0	
E1	Channel aquatic morphotype richness	1	
E2	Channel bed tree features richness	1	
E3	Channel bed hydraulic features richness	1	
E4	Channel bed natural features extent	0	
E5	Channel bed natural features richness	0	
E6	Channel bed material richness	1	
E7	Channel bed siltation	0	
E8	Channel bed reinforcement extent	0	
E9	Channel bed reinforcement severity	0	
E10	Channel bed artificial features severity	0	
E11	Channel bed invasive plant species extent	0	
E12	Channel bed filamentous algae extent	0	
Preliminary river condition		**Fairly good**	
River shape		2.5	**Overdeep**
River condition		**Moderate**	

RCA results for subreach 8

River condition indicator	Description	Result	
A1	Braiding index	1	River type K
A2	Sinuosity index	1.0379146	
A3	Anabranching index	1	
A4	Level of confinement	Unconfined	
A5	Valley gradient	0.001421801	
A6	Bedrock reaches	No	
A7	Coarsest bed material size class	Gravel/pebble	
A8	Average alluvial bed material size class	Silt	
B1	Bank top vegetation structure	2	
B2	Bank top tree feature richness	0	
B3	Bank top water-related features	1	
B4	Bank top invasive plant species cover	0	
B5	Bank top managed ground cover	-2	
C1	Bank face riparian vegetation structure	2	
C2	Bank face tree feature richness	1	
C3	Bank face natural bank profile extent	3	
C4	Bank face natural bank profile richness	2	
C5	Bank face natural bank material richness	1	
C6	Bank face bare sediment extent	0	
C7	Bank face artificial bank profile extent	0	
C8	Bank face reinforcement extent	0	
C9	Bank face reinforcement material severity	0	
C10	Bank face invasive plant species cover	0	
D1	Channel margin aquatic vegetation extent	3	
D2	Channel margin aquatic morphotype richness	1	
D3	Channel margin physical feature extent	0	
D4	Channel margin physical feature richness	0	
D5	Channel margin artificial features	0	
E1	Channel aquatic morphotype richness	2	
E2	Channel bed tree features richness	1	
E3	Channel bed hydraulic features richness	1	
E4	Channel bed natural features extent	0	
E5	Channel bed natural features richness	0	
E6	Channel bed material richness	1	
E7	Channel bed siltation	0	
E8	Channel bed reinforcement extent	0	
E9	Channel bed reinforcement severity	0	
E10	Channel bed artificial features severity	0	
E11	Channel bed invasive plant species extent	0	
E12	Channel bed filamentous algae extent	0	
Preliminary river condition		**Moderate**	
River shape		1.125	**Overdeep**
River condition		**Fairly poor**	

RCA results for subreach 9

River condition indicator	Description	Result	
A1	Braiding index	1	River type K
A2	Sinuosity index	1.0379146	
A3	Anabranching index	1	
A4	Level of confinement	Unconfined	
A5	Valley gradient	0.001421801	
A6	Bedrock reaches	No	
A7	Coarsest bed material size class	Gravel/pebble	
A8	Average alluvial bed material size class	Silt	
B1	Bank top vegetation structure	2	
B2	Bank top tree feature richness	0	
B3	Bank top water-related features	4	
B4	Bank top invasive plant species cover	0	
B5	Bank top managed ground cover	0	
C1	Bank face riparian vegetation structure	3	
C2	Bank face tree feature richness	2	
C3	Bank face natural bank profile extent	3	
C4	Bank face natural bank profile richness	1	
C5	Bank face natural bank material richness	1	
C6	Bank face bare sediment extent	0	
C7	Bank face artificial bank profile extent	0	
C8	Bank face reinforcement extent	0	
C9	Bank face reinforcement material severity	0	
C10	Bank face invasive plant species cover	0	
D1	Channel margin aquatic vegetation extent	0	
D2	Channel margin aquatic morphotype richness	0	
D3	Channel margin physical feature extent	0	
D4	Channel margin physical feature richness	0	
D5	Channel margin artificial features	0	
E1	Channel aquatic morphotype richness	2	
E2	Channel bed tree features richness	2	
E3	Channel bed hydraulic features richness	1	
E4	Channel bed natural features extent	0	
E5	Channel bed natural features richness	0	
E6	Channel bed material richness	1	
E7	Channel bed siltation	-2	
E8	Channel bed reinforcement extent	0	
E9	Channel bed reinforcement severity	0	
E10	Channel bed artificial features severity	0	
E11	Channel bed invasive plant species extent	0	
E12	Channel bed filamentous algae extent	0	
Preliminary river condition		**Moderate**	
River shape		1.2121212	**Overdeep**
River condition		**Fairly poor**	

RCA results for subreach 12

River condition indicator	Description	Result	
A1	Braiding index	1	River type K
A2	Sinuosity index	1.0379146	
A3	Anabranching index	1	
A4	Level of confinement	Unconfined	
A5	Valley gradient	0.001421801	
A6	Bedrock reaches	No	
A7	Coarsest bed material size class	Gravel/pebble	
A8	Average alluvial bed material size class	Silt	
B1	Bank top vegetation structure	2	
B2	Bank top tree feature richness	1	
B3	Bank top water-related features	0	
B4	Bank top invasive plant species cover	0	
B5	Bank top managed ground cover	-2	
C1	Bank face riparian vegetation structure	3	
C2	Bank face tree feature richness	2	
C3	Bank face natural bank profile extent	3	
C4	Bank face natural bank profile richness	2	
C5	Bank face natural bank material richness	1	
C6	Bank face bare sediment extent	1	
C7	Bank face artificial bank profile extent	0	
C8	Bank face reinforcement extent	0	
C9	Bank face reinforcement material severity	0	
C10	Bank face invasive plant species cover	0	
D1	Channel margin aquatic vegetation extent	2	
D2	Channel margin aquatic morphotype richness	1	
D3	Channel margin physical feature extent	1	
D4	Channel margin physical feature richness	1	
D5	Channel margin artificial features	0	
E1	Channel aquatic morphotype richness	1	
E2	Channel bed tree features richness	2	
E3	Channel bed hydraulic features richness	1	
E4	Channel bed natural features extent	0	
E5	Channel bed natural features richness	0	
E6	Channel bed material richness	2	
E7	Channel bed siltation	-4	
E8	Channel bed reinforcement extent	0	
E9	Channel bed reinforcement severity	0	
E10	Channel bed artificial features severity	0	
E11	Channel bed invasive plant species extent	0	
E12	Channel bed filamentous algae extent	0	
Preliminary river condition		**Moderate**	
River shape		2.0289855	**Overdeep**
River condition		**Fairly poor**	

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Appendix: Ecology and Biodiversity

Annex 1: Letter from Guy Belcher, Cambridge City Council Biodiversity Officer, dated 19 September 2024, relating to Habitat Regulations Assessment Screening

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Annex 13: Bat Activity Survey Report

Annex 14: Water Vole and Otter Survey Report

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North West Cambridge Masterplan

Great Crested Newt Survey

Report ref: NWC-MP2024-MDE-SW-SU-00002-GCN survey June 2025

MD Ecology ref: C205/R2/v2

Date: June 2025

This report has been prepared on behalf of:

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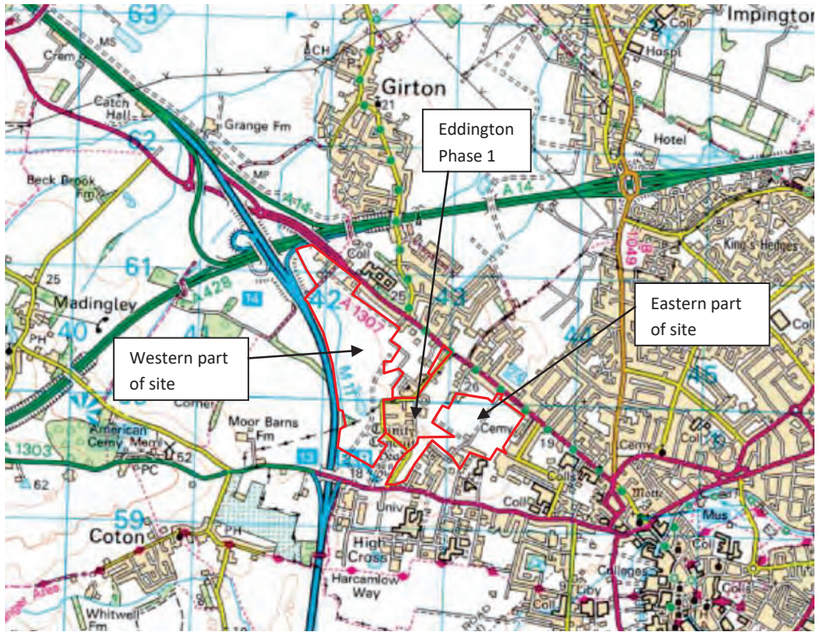
1. Introduction

1.1 This report has been prepared by Mike Dean of MD Ecology Limited, on behalf of the University of Cambridge. It provides the results of great crested newt (*Triturus cristatus*) surveys across the Eddington site, also known as North West Cambridge Masterplan, undertaken in 2024. The site is located between Huntingdon Road, Madingley Road and the M11 Motorway and is a former university farm. Phase 1 of the Eddington development has been constructed and future development areas are located to the east and west of Eddington. The location of the site is shown in Figure 1.

1.2 The purpose of the survey was to provide a baseline in relation to great crested newts for the Environmental Impact Assessment (EIA) for the renewal of the scheme's outline planning consent. This report does not include any assessment of likely impacts or required mitigation measures for Eddington.

Figure 1: Site Location Plan



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1.3 Newt surveys were undertaken to inform the EIA for the original outline planning application for the project using torchlight survey and bottle trapping methods. Six ponds were surveyed, two of which were inside the site boundary (Ponds 3 and 5) and four were located outside of the site (Ponds P1, P2, P4 and P6). Great crested newts were recorded in Pond P1 (at the Madingley Road Park and Ride) and Pond P6 (a collection of ponds off Conduit Head Road). Great crested newts were confirmed as likely absent from the remaining ponds. The location of the ponds are shown on Figure 2. The ponds were surveyed most recently in 2011 and update monitoring surveys of Ponds P1, P5 and P6 have been undertaken since (most recently in 2022). A further pond (Pond 7) is a small attenuation pond adjacent to the M11 motorway; it has not previously been surveyed. Pond P3 has been in-filled; all other ponds are still present.

1.4 Twelve ponds have been created since the Eddington development commenced:

- Four new permanent ponds created as part of the drainage for Phase 1 and identified as compensatory ponds in the Natural England mitigation licence (Ponds A1, A2, B and C). Ponds A1 and A2 have been surveyed since they were constructed and the likely absence of great crested newts confirmed (most recently in 2022).
- A ponded area in the north-east corner of the site created adjacent to the shared boundary with properties on Huntingdon Road to assist with drainage in this area (Pond 8).
- A small, shallow square pond in the north-western part of the site. The reasons for the excavation of this feature are unknown; it may have been created accidentally (Pond 9).
- Six temporary ponds created as part of the drainage and attenuation scheme for the haul road accessing Phase 1 of the development from Madingley Road (Ponds TP1, TP2, TP3, TP4, TP5, TP6). These ponds are in future development plots and will be in-filled as the development progresses, apart from TP1 which is located outside the site. All ponds were surveyed for great crested newts in 2015 (torchlight survey) and 2020 (eDNA survey) and the likely absence of this species confirmed.

1.5 All eighteen of the ponds listed above that are still present (Pond P3 having been in-filled as part of the development) were included in the survey.

1.6 In addition, the attenuation lagoon at Brook Leys and the swale that drains into it were also both surveyed.

1.7 The surveys were undertaken by Mike Dean. Mike is a Fellow member of the Chartered Institute of Ecology and Environmental Management (CIEEM), a Chartered Ecologist and a Chartered Environmentalist. He is the Project Ecologist for Eddington and is the named ecologist on the Natural England great crested newt mitigation licence for the project (2014-926-EPS-MIT-6).

2. Methods

Habitat Suitability Index (HSI) assessment

2.1 All eighteen ponds, the lagoon and the swale were assessed in terms of their suitability to support breeding amphibians, including great crested newts following the Habitat Suitability (HSI) Index (Oldham *et al.* 2000). The assessment was undertaken by Mike Dean on 8th or 9th May or 4th June 2024. Each feature was visited and scored in relation to each of the ten criteria to allow a categorisation of suitability for great crested newts.

Analysis of water samples for environmental DNA

2.2 Water samples were collected from all eighteen ponds, the lagoon and the swale, on 8th or 9th May or 4th June 2024. The samples were collected by Mike Dean using a sampling kit provided by Surescreen Scientifics and following the protocol described in Biggs *et al.* (2014). The water samples were delivered to Surescreen Scientifics on 11th May (first batch) and 10th June (second batch) for analysis to detect the presence of great crested newt eDNA. The analysis of water samples for great crested newt eDNA followed the protocol in Biggs *et al.* (2014).

2.3 Pond TP1 was sampled with the first batch (8/9th May 2024) but was re-sampled on 4th June 2024 due to concern that the sample had been cross-contaminated during its collection given the difficulties of accessing suitable sampling locations within this pond without stepping into it, and thereby risking transfer of eDNA from other sampled ponds.

Limitations

2.4 Access was available to all ponds and to a sufficient proportion of each pond to allow the techniques to be undertaken. The time of year and weather conditions during which the survey was carried out were suitable.

3. Survey Results

3.1 The detailed HSI results for each pond are provided in Appendix 2. A summary of the categories assigned to each is provided in Table 1 below.

3.2 The detailed eDNA results are provided in Appendix 3 and the overall result in terms of presence or likely absence of newts set out in Table 1 below.

Table 1: HSI categories and eDNA results for each pond

Pond	Description	HSI category	eDNA result	Previous known presence
P1	Large pond within the Madingley Road Park and Ride, fringed by common reed	Good	Positive	Recorded in 2019 but not 2022
P2	Motorway attenuation pond, mainly dry with water at northern end only	Below average	Negative	Not recorded (latest survey was through bottle trapping and torchlight survey in 2011)
P4	Wildlife pond at the WCMC	Excellent	Negative	
P5	Small pond at Gravel Hill Farm	Average	Negative	
P6	Series of ponds within woodland and gardens off Conduit Head Road	Good	Positive	Recorded in 2019 but not 2022
P7	Small motorway attenuation pond choked with vegetation	Good	Negative	Not previously surveyed
P8	Ponded area in the north-eastern part of the site, approximately 5m x 100m	Good	Negative	Not previously surveyed
P9	Small, shallow, square pond in the north-western part of the site (4m x 4m).	Average	Negative	Not previously surveyed
Lagoon	Shallow attenuation feature created as part of Phase 1 of the development measuring approximately 0.9ha in area	Good	Negative	Not previously surveyed
Swale	Shallow drainage feature linked to the lagoon, approximately 370m total length x 2m wide	Good	Negative	Not previously surveyed

Pond	Description	HSI category	eDNA result	Previous known presence
TP1	Temporary pond dominated by reedmace, c.240m from Pond 1, but c.300m if account for temporary newt fencing	Excellent	Negative*	Not recorded (latest survey was an eDNA survey in 2020)
TP2	Temporary pond dominated by reedmace	Good	Negative	
TP3	Temporary pond dominated by reedmace	Excellent	Negative	
TP4	Temporary pond dominated by reedmace	Excellent	Negative	
TP5	Temporary pond dominated by reedmace	Below average	Negative	
TP6	Temporary pond dominated by reedmace	Good	Negative	
PA1	Small attenuation pond dominated by common reed, c.65m from Pond 1	Good	Positive	Not recorded (latest survey in 2022)
PA2	Small attenuation pond dominated by common reed, c.60m from Pond 1	Good	Positive	
PB	Deepened section of low flow channel, approximately 30m x 3m, dominated by reedmace and fool's watercress	Good	Negative	Not previously surveyed
PC	Deepened section of low flow channel, approximately 50m x 8m, dominated by reedmace	Good	Negative	

*The initial sample from this pond was assessed as positive for great crested newts, but this may have been due to cross-contamination given the difficulties of accessing suitable sampling locations within this pond without stepping into it. The pond was re-sampled and this sample was assessed as negative for great crested newts. Given that there is a barrier around the pond preventing newts or other amphibians accessing it, and that it has been surveyed previously and found to be negative for great crested newts, it is considered likely to remain negative for great crested newts.

4. References

Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R.A., Foster, J., Wilkinson, J., Arnett, A., Williams, P. and Dunn, F. (2014). *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA*. Freshwater Habitats Trust, Oxford.

Oldham, R.S., Keeble, J., Swan, M.J.S and Jeffcote, M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal*, **10** (4), 143-155.

Key:

- Pond surveyed (positive for GCN)
- Pond surveyed (negative for GCN)

Figure 2a: Ponds included in the survey (north)

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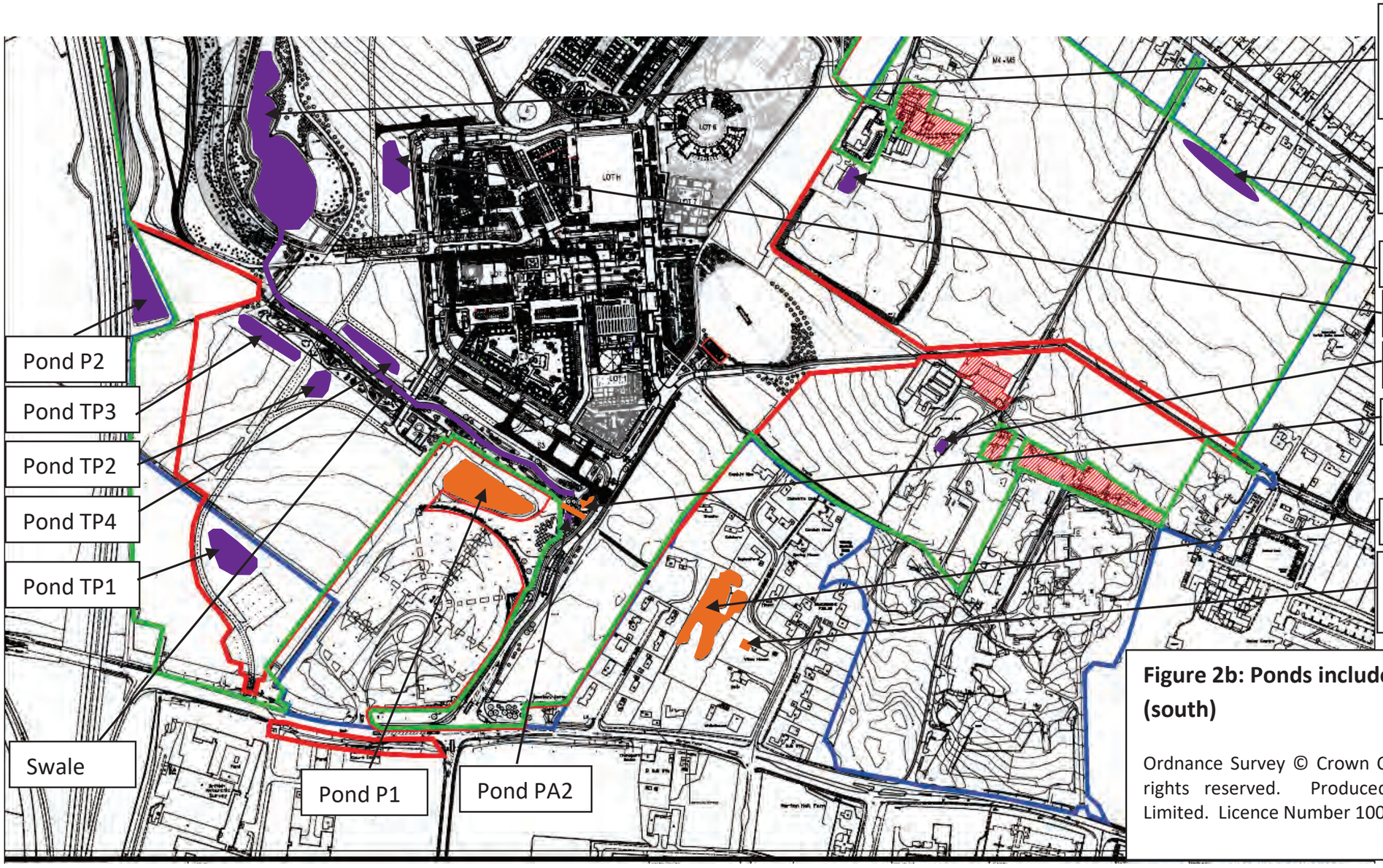

Figure 2b: Ponds included in the survey (south)

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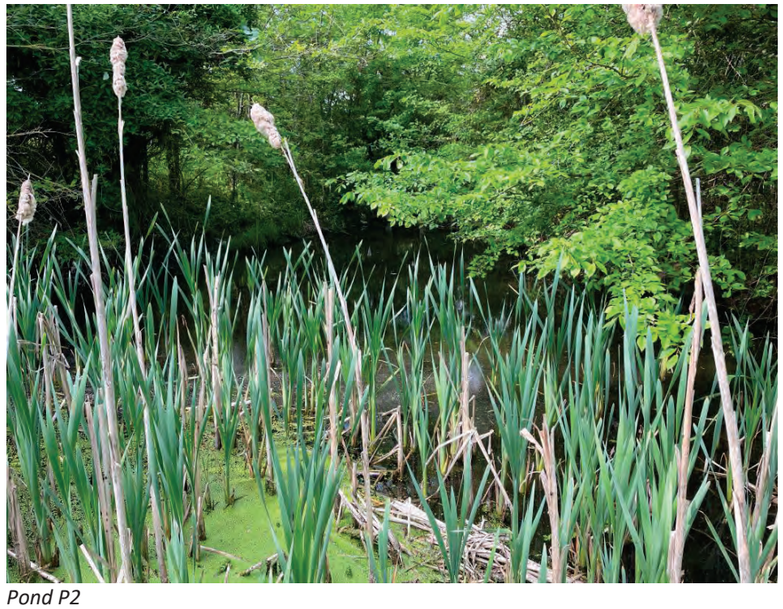
Appendix 1: Photographs (taken in May or June 2024)

Pond P1



Pond P2

Pond P4

Pond P5

Pond P6

Pond P6

Pond P6

Pond P6 (ornamental pond)

Pond P7

Pond P8

Pond P9

Lagoon

Swale

Pond TP1

Pond TP2

Pond TP3

Pond TP4

Pond TP5

Pond TP6

Pond PA1

Pond PA2

Pond C

Appendix 2: Calculations of HSI category based on Oldham *et al.* (2000)

Factor					Score														
	P1	P2	P4	P5	P6	P7	P8	P9	Lag	Swa	TP1	TP2	TP3	TP4	TP5	TP6	PA1	PA2	PB	PC
1: Location	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2: Pond Area	0.8	0.2	0.6	0.1	0.95	0.2	1.0	0.05	n/a	1.0	0.87	1.0	0.95	1.0	1.0	1.0	0.6	0.2	0.2	0.4
3: Pond drying	0.9	1.0	0.9	0.5	0.9	1.0	0.5	0.1	0.9	0.9	1.0	0.5	0.9	1.0	0.9	0.9	1.0	1.0	1.0	0.9
4: Water quality	1.0	0.33	1.0	0.33	0.67	0.33	0.33	0.33	1.0	0.67	0.33	0.33	0.67	0.33	0.33	0.33	0.33	0.33	0.67	0.67
5: Shade	1.0	0.2	1.0	1.0	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6: Fowl	0.67	0.67	0.67	1.0	0.67	0.67	1.0	1.0	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
7: Fish	0.33	1.0	1.0	1.0	0.67	1.0	1.0	1.0	0.33	0.67	1.0	1.0	0.67	1.0	1.0	1.0	1.0	1.0	1.0	1.0
8: Ponds	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
9: Terrestrial habitat	0.67	0.67	1.0	1.0	1.0	0.67	1.0	1.0	0.67	0.67	0.67	0.67	0.67	0.67	0.01	0.67	0.33	0.67	1.0	1.0
10: Macrophytes	0.5	0.3	0.8	0.7	0.6	0.9	0.4	0.5	0.4	0.5	0.9	1.0	0.8	0.7	0.7	0.5	1.0	1.0	1.0	0.6
Overall score	0.75	0.53	0.88	0.64	0.76	0.70	0.76	0.61	0.73	0.79	0.81	0.77	0.82	0.80	0.52	0.76	0.73	0.7	0.79	0.79

Appendix 3: eDNA results

First batch of samples (taken 8th or 9th May 2024)

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
2523	Pond TP5	TL424600	Pass	Pass	Negative	0/12
2524	Pond 2	TL421599	Pass	Pass	Negative	0/12
2525	Pond 7	TL421603	Pass	Pass	Negative	0/12
2526	Pond B	TL422602	Pass	Pass	Negative	0/12
2527	Pond 6	TL428594	Pass	Pass	Positive	1/12
2528	Pond TP4	TL424598	Pass	Pass	Negative	0/12
2529	Pond TP6	TL425602	Pass	Pass	Negative	0/12
2530		TL430600	Pass	Pass	Negative	0/12
2531	Pond C	TL421604	Pass	Pass	Negative	0/12
2532	Pond TP3	TL423597	Pass	Pass	Negative	0/12
2533	Pond 1	TL426595	Pass	Pass	Positive	10/12
2534	Pond A1	TL427596	Pass	Pass	Positive	1/12
2535	Pond TP2	TL423597	Pass	Pass	Negative	0/12
2536	Pond TP1	TL422595	Pass	Pass	Positive	12/12
2537	Pond A2	TL426595	Pass	Pass	Positive	2/12
2538	Pond 5	TL431596	Pass	Pass	Negative	0/12

Notes:

1. Pond TP1 was re-sampled on 4th June 2024 due to concern that the sample from 8/9th May was cross-contaminated – see second batch of results.
2. Sample identified as 2530 relates to Pond 4.

Second batch of samples (taken 4th June 2024)

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
5484	C205 - Lagoon	TL424599	Pass	Pass	Negative	0/12
5485	C205 - P9	TL4189860754	Pass	Pass	Negative	0/12
5486	C205 - P8	TL4339259994	Pass	Pass	Negative	0/12
5487	C205 - TP1	TL422594	Pass	Pass	Negative	0/12
5488	C205 - Swale	TL4234659789	Pass	Pass	Negative	0/12

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Annex 14: Water Vole and Otter Survey Report

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North West Cambridge Masterplan

Habitat, Plant and Invertebrate Survey

Report ref: NWC-MP2024-MDE-SW-SU-00007-HPIS June 2025

MD Ecology ref: C205/R7/v2

Date: June 2025

This report has been prepared on behalf of:

University of Cambridge

By:

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1. Introduction

1.1 Scope and purpose

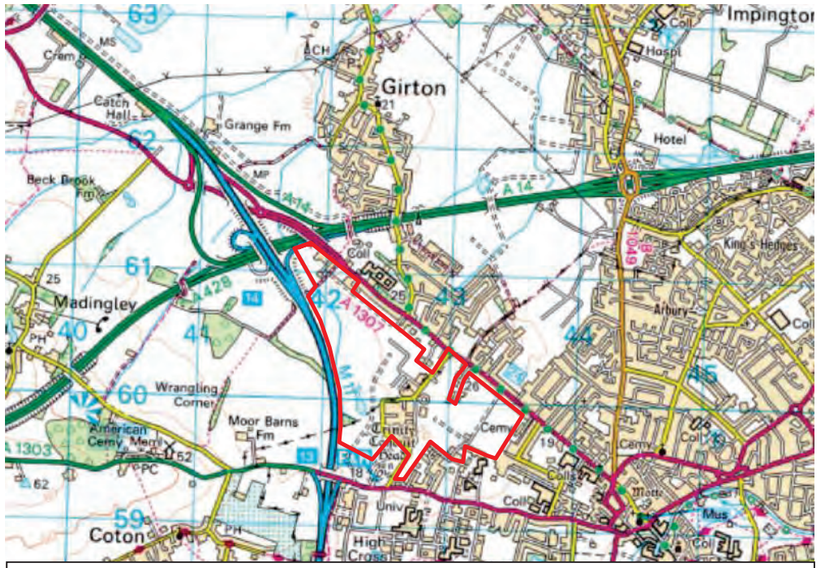
1.1.1 This report has been prepared by Mike Dean, Matthew Pickard and Barry Stewart, on behalf of the University of Cambridge. It provides the results of a combined habitat, plant and invertebrate survey of the Eddington site, also known as North West Cambridge Masterplan. The survey was undertaken in June 2024. The Eddington site is located between Huntingdon Road, Madingley Road and the M11 Motorway and is a former university farm. Phase 1 of the Eddington development has been constructed and future development areas are located to the east and west of Eddington. The survey area is shown in Figure 1, which included areas outside the land proposed for development.

1.1.2 The purposes of the survey were to:

- Inform the baseline in relation to habitats, plants and invertebrates for the Environmental Impact Assessment (EIA) for the renewal of the scheme's outline planning consent; and
- Provide a baseline for the Biodiversity Net Gain (BNG) assessment for the project.

1.1.3 This report does not include any assessment of likely impacts or required mitigation measures for Eddington.

Figure 1: Survey Area



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1.2 Background

1.2.1 In broad terms, the survey area comprised:

- Phase 1 of the Eddington development, which has been completed and now forms a residential area with associated landscaping, including the lagoon at Brook Leys and a wildflower meadow to the east of Storey's Field Centre, as well as the retained Veteran Oak tree;
- Temporary construction areas, including areas of hard standing used as car parks or formerly used as construction site compounds, surfaced haul roads, temporary ponds, and associated areas dominated by scrub or ruderals;
- Former agricultural land to the east of Eddington Phase 1, with farm buildings now in use as offices and for storage, areas of woodland and the Horse Chestnut Avenue; and
- Former agricultural land, the Washpit Brook and associated wetland habitats (created as part of Phase 1 of the development), and a farm research centre with buildings and fields grazed by livestock to the west of Eddington Phase 1.

1.2.2 The survey area has been the subject of previous habitat, plant and invertebrate surveys. The following surveys were undertaken between 2004 and 2011 to inform the 2012 Environmental Statement (ES) for the current outline planning permission:

- Phase 1 habitat survey (JNCC 2010[1]) and Hedgerows Regulations assessment undertaken in 2004/5 and updated in 2007, 2009 and 2011;
- Phase 2 botanical survey to identify arable weeds, undertaken in July 2011;
- Aquatic invertebrate survey of the Washpit Brook using a standard kick-sampling approach, undertaken in June 2011; and
- Terrestrial invertebrate survey of the Eddington site using a variety of standard techniques (as recommended in Drake *et al. (*2007[2]) and targeted surveys for white-letter hairstreak (*Satyrium w-album*) and purple hairstreak butterflies (*Neozephyrus quercus*), undertaken in July 2011.

1.2.3 The areas of completed development (Eddington Phase 1) and retained and new habitats in landscape areas associated with it have also been surveyed as part of post-construction ecological monitoring. This included botanical surveys, general invertebrate surveys and moth trapping, in June 2018 and July 2021.

[1] Joint Nature Conservation Committee. (2010). *Handbook for Phase I habitat survey.*
[2] Drake, C.M., Lott, D.A., Alexander, K.N.A. & Webb, J. (2007). *Surveying terrestrial and freshwater invertebrates for conservation evaluation*. Natural England Research Report NERR005.

1.3 Personnel

1.3.1 The field surveys were undertaken by Matthew Pickard and Barry Stewart. The report has been written by Mike Dean, Matthew Pickard and Barry Stewart.

1.3.2 Matthew Pickard is an ecologist with over 20 years environmental consultancy experience, a Chartered Environmentalist (CEnv), a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) as well as a licensed bat and great crested newt (*Triturus cristatus*) surveyor.

1.3.3 Barry Stewart is the current British Bryological Society (BBS) Regional Recorder for Glamorgan and Botanical Society of Britain & Ireland (BSBI) Recorder for Glamorgan west as well as the former Moth and Butterfly Recorder for Glamorgan.

1.3.4 Mike Dean has more than 25 years experience as an ecological consultant. He is a Fellow member of the Chartered Institute of Ecology and Environmental Management (CIEEM), a Chartered Ecologist and a Chartered Environmentalist. He is the Project Ecologist for Eddington and undertook the ecological impact assessment in the 2012 ES for the current outline planning permission.

2. Methods

2.1 Desk study

2.1.1 Existing records of plants and invertebrates within 2km were obtained from the Cambridgeshire and Peterborough Environmental Records Centre (CPERC) in April 2024. In addition, the previous survey information for the Eddington site was reviewed, as set out in the Environmental Statement that accompanied the Outline Planning Application, the Site-wide Biodiversity Strategy for North West Cambridge[3], and post-construction monitoring reports[4][5].

2.2 Field survey

Habitat survey

2.2.1 A habitat survey of the was undertaken on 26 and 27 June 2024. Each habitat was classified according to the UK Habitat Classification (UKHAB)[6]. This included an assessment of the condition of each separate parcel of each habitat type using the Statutory Biodiversity Metric Condition Assessments spreadsheet published on the gov.uk website[7].

2.2.2 The survey area was divided into zones for the purpose of the habitat assessment, as shown on Figure 2.

Hedgerow assessment

2.2.3 Hedgerows were assessed during the June 2024 Phase 1 habitat survey.

2.2.4 Each hedgerow was classified according to the UKHAB classification and condition assessed using the Statutory Biodiversity Metric Condition Assessments spreadsheet. Notes were taken describing hedgerow height, width, basal gaps, continuity, levels of disturbance, apparent nutrient status and presence of non-native species. Where trees were present, their class and health were noted.

[3] MD Ecology (2012). *North West Cambridge: Biodiversity Strategy.* Report reference C030/R1/v4.
[4] MD Ecology (2019). *North West Cambridge: Biodiversity Monitoring Report.* Report reference C033/BMR4/v1.
[5] MD Ecology (2021). *North West Cambridge: Biodiversity Monitoring Report.* Report reference C033/BMR5/v1.
[6] https://ukhab.org/
[7]https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fassets.publishing.service.gov.uk%2Fmedia%2F669e5db4fc8e12ac3edb0198%2FStatutory_Biodiversity_Metric_Condition_Assessments23.07.24.xlsx&wdOrigin=BROWSELINK

2.2.5 Each hedgerow was also assessed according to the Wildlife and Landscape criteria of the Hedgerows Regulations 1997. The survey protocol was adapted from guidance set out in the Hedgerow Survey Handbook[8]. Given the emphasis on the number of woody species, the following criteria were used:

- where hedgerow length did not exceed 30m, all woody species present in the hedgerow were counted;
- where hedgerow length was between 30m and 100m, woody species in the central 30m were counted;
- where hedgerow length was between 100m and 200m, the hedgerow was divided in half and woody species counted in each central 30m section with the aggregate divided by two;
- where the hedgerow length exceeded 200m, the hedgerow was divided into three, woody species counted in each central 30m section and the aggregate divided by three.

Notable plants and Invasive Non-native Species (INNS)

2.2.6 Notable plants were searched for and recorded during the June 2024 Phase 1 habitat survey.

2.2.7 Invasive Non-native Species (INNS) of plant were also searched for and recorded during the June 2024 Phase 1 habitat survey. Particular attention was paid to identifying any giant hogweed (*Heracleum mantegazzianum*) present, as this species has been recorded within the Eddington site previously (and has subsequently been removed).

Invertebrates

2.2.8 The likely value of the habitats present for invertebrates was assessed during the June 2024 Phase 1 habitat survey.

2.2.9 In addition, any invertebrates encountered during the surveys were identified. Search techniques largely involved direct observation at close quarters or where larger species were seen at a distance, using binoculars. Hand-searching and examination of leaf mines and plant galls associated with plant foliage was also undertaken where obvious field signs were encountered.

2.3 Limitations

2.3.1 The surveys were undertaken at the optimal time of year with full access to all parts of the survey area. There were no specific limitations to the surveys.

[8] Defra (2007) Hedgerow Survey Handbook. A standard procedure for local surveys in the UK. Defra, London.

3. Results

3.1 Habitats

General

3.1.1 The results of habitat surveys undertaken prior to Phase 1 of the development are of limited relevance to this assessment, as there have been significant changes across the majority of the survey area. New habitats have been created within the central part of the survey area, there have been extensive changes in landform in much of the western part of it, and there have also been changes in management across the entire survey area. The previous surveys do, however, provide useful information in relation to the establishment of new habitats in undeveloped parts of the survey area either by deliberate creation of the habitats or by changes in management.

3.1.2 Surveys results are shown on Figure 3 and in detail on Figures 4a, 4b, 4c and 4d, with Target Notes described in Appendix 1. Condition assessments are provided in Appendix 2.

Grassland

3.1.3 **Other neutral grassland** (ONG) or g3c in UKHAB was frequent within the survey area. Communities were typically associated with abandonment or infrequent management and included grasslands dominated by mixes of False Oat-grass (*Arrhenatherum elatius*), Yorkshire-fog (*Holcus lanatus*), Tall Fescue (*Schedonorus arundinaceus*), Meadow Barley (*Hordeum secalinum*) and Creeping Bent (*Agrostis stolonifera*) accompanied by ruderals including Creeping Thistle (*Cirsium arvense*), Bristly Oxtongue (*Helminthotheca echioides*), Common Ragwort (*Jacobaea vulgaris*) and Wood Dock (*Rumex sanguineus*). Such ONG communities were generally grass-dominated and lacked significant herb cover.

Photo 1: Grass dominated ONG (field west of Target Note 8).

3.1.4 In contrast, herb-rich grassland originating from wildflower seeding was also recorded near development plots. Oxeye Daisy (*Leucanthemum vulgare*), Yellow-rattle (*Rhinanthus minor*), Common Knapweed (*Centaurea nigra*), Field Scabious (*Knautia arvensis*), Hedge Bedstraw (*Galium album*) and Lady's Bedstraw (*Galium verum*) were often prominent amongst grasses including Red Fescue (*Festuca rubra*), Common Bent, Perennial Ryegrass (*Lolium perenne*) and Meadow Foxtail (*Alopecurus pratensis*). Stands of species-poor grassland dominated by either Oxeye Daisy or Common Knapweed were also noted within the survey area.

Photo 2: Flower-rich ONG at the southern end of Brook Leys (Target Note 16).

3.1.5 A particular feature of the wildflower grasslands was the presence of Fodder Vetch (*Vicia villosa*) which may have been mistaken for Tufted Vetch (*Vicia cracca*) in a planted seed mix. Other peculiarities in the wildflower grassland bordering the cricket pitch in the central part of the survey area included Clustered Bellflower (*Campanula glomerata*), Spiny Restharrow (*Ononis spinosa*) and Spiked Speedwell (*Veronica spicata*).

3.1.6 **Modified grassland** (g4 of UKHAB) was frequent in areas mown for amenity. Modified grassland typically attained a species count of fewer than 9 species per m^2 and were dominated by grasses such as Perennial Ryegrass, Annual Meadow-grass (*Poa annua*) and Creeping Bent with herbs such as Lesser Trefoil (*Trifolium dubium*), Common Mouse-ear (*Cerastium fontanum*) and Wall Speedwell (*Veronica arvensis*).

3.1.7 An unusual feature of grassland on thin soils within the survey area was the presence of Common Cudweed (*Filago vulgaris*). This species was sometimes associated with species-poor modified grassland communities.

Photo 3: Mown amenity grassland (g4) associated with a sports pitch (Target Note 5).

Tall forbs

3.1.8 Unmanaged plots including topsoil bunds or neglected urban areas were found to have been colonised by stands of opportunistic ruderals. Stands of Nettle (*Urtica dioica*) were frequent as well as stands of Hemlock (*Conium maculatum*) or mixed ruderals including a high frequency of Charlock (*Sinapis arvensis*), Welted Thistle (*Carduus crispus*) and Creeping Thistle. Naturalised garden escapes on a spoil heap near Gravel Hill Farm included Hungarian Mullein (*Verbascum speciosum*) and Bugloss (*Anchusa officinalis*).

Photo 4: Tall forbs on a topsoil bund (Target Note 3).

Scrub

3.1.9 Natural colonisation as well as planting have both led to development of scrub communities within the survey area. Distinct pockets of scrub tended to be associated with natural colonisation and included Blackthorn (*Prunus spinosa*) dominated thickets (h3a) and Bramble (*Rubus fruticosus* agg.) stands (h3d) as well as Willow (*Salix* spp) scrub (h3j) in wet ground. Areas of mixed scrub (h3h) within the survey area appeared to be largely associated with planting schemes.

Photo 5: Mixed scrub planted beside a footpath (Target Note 5).

Woodland

3.1.10 **Lowland mixed deciduous woodland** (w1f7) was noted at two locations: Pheasant Plantation to the north-west of Madingley Road Park and Ride; and Cricket Pitch Wood, immediately south of the cricket pitch. The lowland mixed deciduous woodland was typically Ash (*Fraxinus excelsior*) dominated with frequent to locally abundant Pedunculate Oak (*Quercus robur*) and Elm (*Ulmus* sp). The woodland understorey included Hawthorn (*Crataegus monogyna*), Elder (*Sambucus nigra*) and occasional Hazel (*Corylus avellana*). Ground flora within all woodland communities of the survey area tended to be relatively impoverished with Nettle often forming a prominent component alongside species such as Hedge Garlic (*Alliaria petiolata*), Cow Parsley (*Anthriscus sylvestris*), Ivy (*Hedera helix*) and Ground Elder (*Glechoma hederacea*).

3.1.11 **Other woodland** communities were either dominated by broadleaved trees (w1g), including Storey's Way Wood, or were mixed (w1h6). Tree species included Pedunculate Oak, Ash, White Willow (*Salix alba*), Sycamore (*Acer pseudoplatanus*), Hornbeam (*Carpinus betula*), Pear (*Pyrus communis*), Jacquemont's Birch (*Betula utilis var jacquemontii*) as well as Larch (*Larix* sp), Lawson's Cypress (*Chamaecyparis lawsonii*) and Scot's Pine (*Pinus sylvestris*). Understorey cover included Hawthorn, Elder and Cherry Plum (*Prunus cerasifera*).

Photo 6: Pheasant Plantation (Target Note 15).

Photo 7: Storey's Way Wood (Target Note 9).

3.1.12 Additional species were associated with landscape planting schemes and included Poplars (*Populus* spp) and Maples *(Acer* spp).

Urban

3.1.13 Parts of the survey area have been developed and the landcover included buildings (u1b5) plus roads, footpaths and other development spaces (u1b6) as well as planting beds of shrubs (845) and flower beds (828) with occasional ornamental trees.

Photo 8: Completed development with landscaping at Eddington (Target Note 13).

3.1.14 In terms of botany, the most interesting areas were associated with disturbed and then abandoned ground and included a former construction compound to the west of Gravel Hill Farm. The former compound supported sparsely vegetated ground with occasional plants of Common Cudweed, Blue Fleabane (*Erigeron acer*) and Rat's-tail Fescue (*Vulpia myuros*) as well as Early Hair-grass (*Aira praecox*), Bristly Oxtongue, Teasel (*Dipsacus fullonum*) and Common Ragwort.

3.1.15 Opportunistic species associated with cracks in pavements and recently disturbed ground in highly urban habitat also included species such as Annual Beard-grass (*Polypogon monspeliensis*) and Water Bent (*Polypogon viridis*).

Lakes, ponds and wetlands

3.1.16 **Lakes and ponds** (362) as well as attenuation features such as **swales** (849) have been created as part of the ongoing landscaping strategy associated with the Eddington development. Significant areas of open water now exist although smaller waterbodies and bays have already been colonised by emergent vegetation. In addition to **marginal vegetation** (f2d) dominated by species such as Reed Sweet-grass (*Glyceria maxima*), Sweet Flag (*Acorus calamus*) and Purple Loosestrife (*Lythrum salicaria*) surrounding larger waterbodies, some smaller ponds or bays within larger waterbodies have developed **reedbeds** (f2e).

3.1.17 **Bioswales** (f2f 849) included temporarily wetted features otherwise dominated by mown amenity grassland as well as more permanent features dominated by emergent vegetation. An additional feature at the western end of the survey area adjacent to the Washpit Brook supported a wetland mosaic best described as a **floodplain wetland mosaic** (f2f 55). The feature was defined by a shallow willow-lined ditch with a marshy wetland dominated by False Fox-sedge (*Carex otrubae*), Common Spike-rush (*Eleocharis palustris*), Common Bent and Jointed Rush (*Juncus articulatus*) with Blue Water Speedwell (*Veronica anagallis-aquatica*) as well as stands of Common Reed (*Phragmites australis*) and Reedmace (*Typha latifolia*).

Photo 9: Waterbody and marginal vegetation at Brook Leys (Target Note 16).

Photo 10: Wetland mosaic (Target Note 17).

3.1.18 A minor watercourse, the Washpit Brook, formed part of the western boundary of the survey area. The ditch-like channel was typically no greater than 1.5 to 2m wide with a shallow depth of water (25-60cm) and a substrate of muddy gravels depending on flow. The channel was frequently bordered by Bramble and tall herbs with an aquatic flora generally absent. However, Common Water Starwort (*Callitriche stagnalis*), Curled Pondweed (*Potamogeton crispus*), Water-plantain (*Alisma plantago-aquatica*) and Fool's Watercress (*Apium nodiflorum*) were noted where a bridge crossed the channel at the western end of the survey area.

3.1.19 A River Condition Assessment (RCA) of the Washpit Brook has been undertaken and is reported separately.

Trees and field boundaries

3.1.20 A variety of ornamental tree species including Alder (*Alnus* spp), Lime (*Tilia* spp), Birch (*Betula* spp), Willows, Beech (*Fagus sylvatica*), Hornbeam, Oak and Sweetgum (*Liquidambar styraciflua*) have been planted within developed areas of Eddington. In addition, species including native Black Poplar (*Populus nigra* subsp *betulifolia*) have been planted in wetland or other landscaped areas.

Photo 11: Ornamental trees within Eddington (Target Note 13).

3.1.21 Hedgerows and lines of trees are described in Section 3.2.

3.2 Hedgerows

3.2.1 A total of 32 hedgerows or lines of trees were described within the survey area:

- 2 Species-rich native hedgerows with trees;
- 6 Species-rich native hedgerows;
- 2 Native hedgerows with trees;
- 13 Native hedgerows;
- 1 Ecologically valuable line of trees associated with a bank or ditch;
- 2 Ecologically valuable lines of trees;
- 3 Non-native and ornamental hedgerows; and
- 3 Lines of trees.

3.2.2 Further details of each feature are provided in Appendix 3; locations are shown on Figure 5.

3.2.3 Of the hedgerows recorded, seven were likely to be considered important under the Wildlife and Landscape criteria of the Hedgerows Regulations 1997. Many of the other hedgerows were relatively species-poor and lacked the features assessed under the Regulations, such as a diverse ground flora, gaps and mature trees.

3.2.4 The species-rich hedgerows (h2a5) typically supported a mix of Hawthorn, Blackthorn and Elm with varying frequency of Ash, Pedunculate Oak, Field Maple (*Acer campestre*), Dogrose (*Rosa canina* agg), Guelder-rose (*Viburnum opulus*) and Goat Willow (*Salix caprea*). Less species-rich native hedgerows (h2a) were typically dominated by Hawthorn, Blackthorn or Elm with one of these dominating.

Photo 12: A native hedgerow with trees south of the Barcroft Centre (Target Note 1; hedgerow H6).

3.2.5 Hedgerows with trees typically supported mature trees of either Pedunculate Oak or Ash. Non-native hedgerows (h2b) planted with Privet (*Ligustrum ovalifolium*), Beech, Hornbeam or conifers such as Leyland Cypress (*x Cupressocyparis leylandii*) were also noted.

3.2.6 Lines of trees included White Willows lining the Washpit Brook at the western end of the survey area as well as an avenue of Horse Chestnut (*Aesculus hippocastanum*) trees between Gravel Hill Farm and Huntingdon Road.

Photo 13: Horse Chestnut Avenue (Target Note 8).

3.3 Notable plants and INNS

3.3.1 No notable arable weed species were encountered during the surveys. Common Cudweed (*Filago vulgaris*), a species of dry, open and disturbed habitats including arable habitats, was found within the survey area although this species is not specifically considered an arable weed.

3.3.2 A number of naturalised or native species originating from seed mixes were noted during the visit and included:

- Birthwort (*Aristolochia clematitis*) – a species probably native to south-eastern Europe and once cultivated for its medicinal properties, this rhizomatous herb is a now found as an escape or relic of cultivation (Stroh et al, 2023)[9]. A population occurs beside a hedgerow near Gravel Hill Farm;
- Clustered Bellflower (*Campanula glomerata*) – a perennial associated with chalk and limestone habitats that appears to have been introduced at one location (periphery of cricket pitch) via a wildflower seed mix;
- Spiny Restharrow (*Ononis spinosa*) – a woody perennial of limestone, heavy clays and coastal habitats that appears to have been introduced at the periphery of a cricket pitch via a wildflower seed mix;
- Spiked Speedwell (*Veronica spicata*) – a perennial of well-drained infertile soils that that appears to have been introduced at the periphery of a cricket pitch via a wildflower seed mix; and
- Fodder Vetch (*Vicia villosa*) – a southern European species that appears to have been widely introduced at the Eddington site via wildflower seed mixes.

3.3.3 No INNS listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were found during the visit. There was no evidence of any Giant Hogweed plants at the location of a previous infestation at Howe Farm (Target Note 2).

[9] Stroh, P.A., Walker, K.J., Humphrey, T.A., Pescott, O.L. & Burkmar, R.J. (2023). *Plant Atlas 2020: Mapping Changes in the Distribution of the British and Irish Flora*. Princeton University Press, 2023. ISBN 978-0-691-24759-5

3.4 Invertebrates

General

3.4.1 The survey area was found to support a range of habitats likely to be of value to invertebrates. In particular:

- Veteran Oak tree;
- Larger areas of woodland (Pheasant Plantation, Cricket Pitch Wood and Storey's Way Wood);
- Native species-rich hedgerows and ecologically valuable lines of trees, including the Horse Chestnut Avenue;
- Washpit Brook and associated bankside trees;
- Lagoon and reedbeds at Brook Leys;
- Other wetland habitats, including floodplain wetland mosaic in the northern part of the survey area, bioswales, ponds and reedbeds; and
- Grassland within the Ridge and Furrow fields.

3.4.2 Whilst these habitats form part of the survey area they will all be retained unaffected by the proposed development with the exception of the Horse Chestnut Avenue, which will need to be crossed by new infrastructure, and several of the hedgerows.

3.4.3 The habitats within parts of the survey area that would be affected by the proposed development were considered likely to be of relatively limited value to invertebrates, primarily comprising:

- Roadside verges (Zone 1);
- Intensively grazed fields, hard-standing, buildings and small pockets of woodland, scrub or ruderal vegetation (Zone 2);
- Other neutral grassland and extensive patches of weeds that have developed on former arable farmland, much of which has been re-modelled through the creation of mounds of topsoil and subsoil, with species-poor hedgerows (Zones 3a and 4);
- Amenity grassland, other neutral grassland and recently planted trees, created as part of Phase 1 of the development (Zones 5a and 5b);
- Other neutral grassland and extensive patches of weeds, with large areas of temporary hard surfaces created during Phase 1 of the development and several temporary ponds (Zones 5c and 5d);
- Other neutral grassland within the northern end of Traveller's Rest Pit (Zone 6a); and
- Other neutral grassland and extensive patches of weeds that have developed on former arable farmland, along with hard-standing, buildings and areas of bare stony ground that have been topsoil stripped and are developing a ruderal flora (Zone 6c).

2011 records

3.4.4 Prior to Phase 1 of the development, the habitats present comprised large arable fields and intensively grazed pasture divided by hedgerows, with small stands of broadleaved woodland, the veteran Oak tree and Horse Chestnut Avenue, several ponds, and collections of farm buildings and associated hard surfaces.

3.4.5 Invertebrate sampling was undertaken in 2011 to inform the 2012 ES for the current Outline Planning Permission. The majority of the notable species recorded at that stage were those associated with specialised habitats such as deadwood (e.g *Ischnodes sanguinicollis*), damaged trees (*Lasius brunneus*) or bracket fungus (*Eledona agricola*).

3.4.6 White-letter hairstreak (*Satyrium w-album*) butterfly was recorded in 2011. This species is listed as a national priority for conservation under Section 41 of the NERC Act.

3.4.7 A nationally scarce grassland bug was also recorded in 2011 (Panzer's planthopper, *Oliarus panzeri*), which is often associated with soils that dry out and crack in summer.

3.4.8 A full list of the species recorded during the 2011 surveys is provided in Appendix 4a.

2021 records

3.4.9 The 2018 and 2021 post-construction monitoring surveys were restricted to parts of the Eddington site that had been completed (development or landscaping) as part of Phase 1, as well as areas that would not be affected by future development:

- Grassland and wetland in the Western Edge (Zone 3b);
- Lagoon and associated habitats at Brook Leys (Zone 3c);
- Sports pitches and associated landscaping (Zones 5 and 5b);
- Built areas within Eddington (Zone 5e); and
- Ridge and Furrow fields (Zone 6a).

3.4.10 Several notable species of moth were recorded from moth traps set within the Ridge and Furrow fields. Other notable species recorded were Roesel's Bush Cricket (*Metrioptera roeselii*), a species associated with grassland habitat, and a polyphagous plant bug *Lygus pratensis*, which is associated with weedy places.

3.4.11 A full list of the species recorded during the 2021 surveys (which includes the 2018 records) is provided in Appendix 4a.

2024 records

3.4.12 Roesel's Bush Cricket was found to be widespread within grasslands across the survey area and odonata including Southern Hawker (*Aeshna cyanea*) and Blue-tailed Damselfly (*Ischnura elegans*) were frequently found around waterbodies.

3.4.13 The only notable species recorded was gall weevil, *Gymnetron veronicae*, which is associated with Brooklime (*Veronica beccabunga*).

3.4.14 The other invertebrate species recorded were common and widespread, typical of the habitats present within the survey area. A full list of the species recorded during the 2024 survey is provided in Appendix 4a.

Desk study records

3.4.15 A review of records from a data search commissioned from the Cambridge and Peterborough Environmental Records Centre also identified a range of notable species within 1km of the Eddington site. Appendix 4b provides a summary of the records and in particular, habitat associations of the identified species.

3.4.16 The majority of the identified species exhibited habitat associations with specific habitats, particularly woodlands and wetlands.

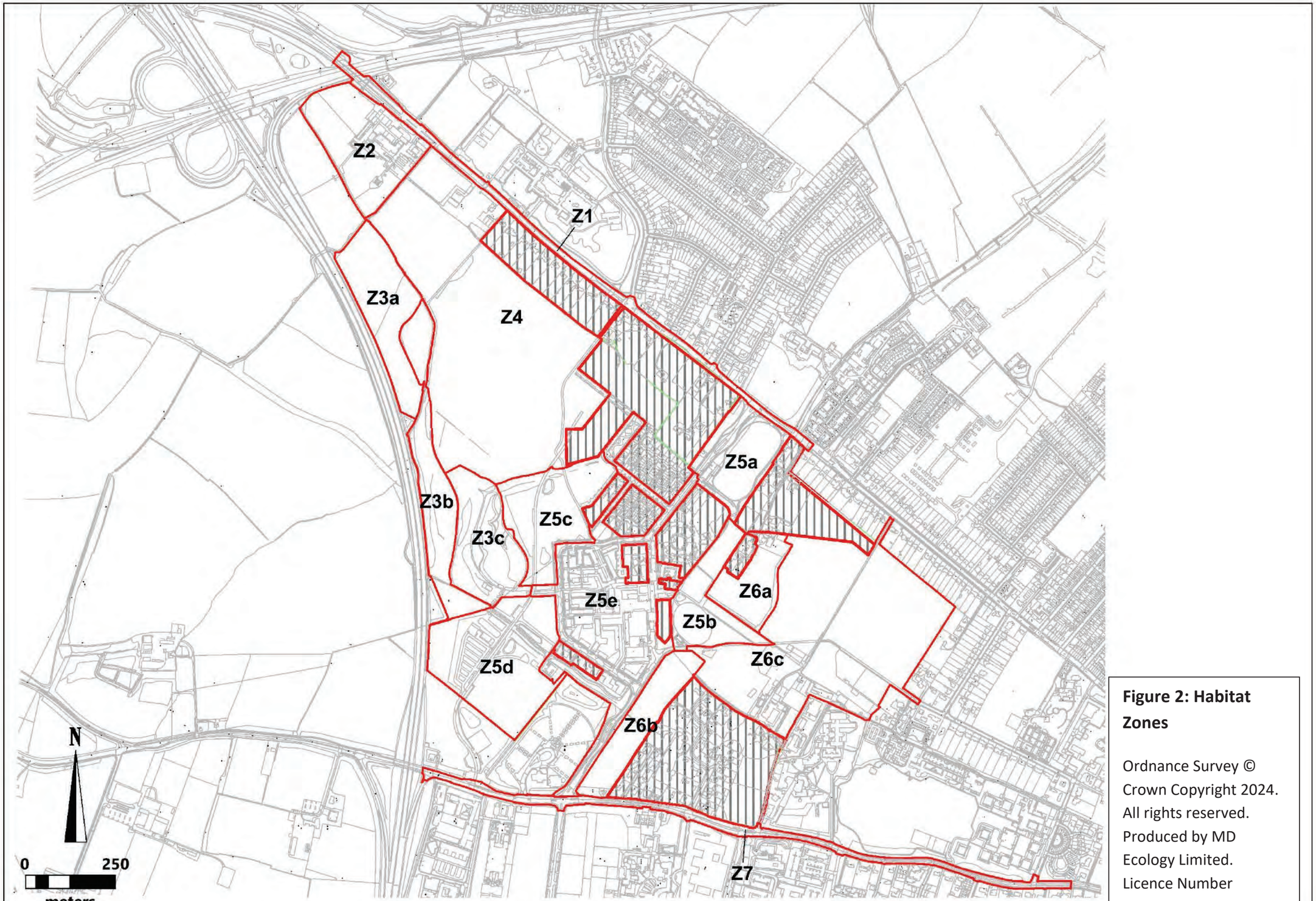

Figure 2: Habitat Zones

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