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**CONSULTANCY REPORT ON A ARCHAEOLOGICAL TRENCHING  
EVALUATION**

in connection with a planning application for gravel extraction

at  
**BLACK CAT ISLAND  
ROXTON  
BEDFORDSHIRE**

3133/D4

ON BEHALF OF:  
Lafarge Aggregates Ltd  
The Horse Shoe  
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**BLACK CAT ROXTON BEDFORDSHIRE: AN ARCHAEOLOGICAL EVALUATION**  
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## **1.0 THE SITE**

### **1.1 Physical setting**

- 1.1.1 The Application Area is located to the North East of the village of Roxton and sits to the East of the junction between the A421 and the A1, the Black Cat roundabout. It is delineated in to the West by the A1, the Great North Road, and to the East by the river Great Ouse. It is centred at TL 164552 (Fig 1) and covers 31 ha in extent.
- 1.1.2 The eastern edge of the Site "Black Cat Island" is in the Great Ouse valley, the river itself providing the eastern border of the Site.
- 1.1.3 The Application Site is set in the River Great Ouse corridor characterised by shallow, gently undulating valley sides, intensive generally arable farming and flood plain pasture. Mature hedgerow and riverside trees feature strongly as do occasional roadside plantings and other small woodland groups.
- 1.1.4 Sheet 204 (Geological Sheet Drift) issued by the Geological Survey, shows the Application Site to consist of a drift geology of alluvium along the eastern side adjacent to the River Great Ouse and 1<sup>st</sup> and 2<sup>nd</sup> Terrace gravel over the western part of the site.
- 1.1.5 Most of the Application Site, the higher ground in the west, centre and south of the Application Site, has shallow and moderately deep soils developed over gravels. A second type of soil developed in a deeper covering of drift (Soil Type B) and overlie parts of the centre. On the lower land adjacent to the River Great Ouse, in the east of the Application Site, the soils are non-calcareous (Soil Type D) and consist of imperfectly and poorly drained clayey soils in alluvium.
- 1.1.6 The Application Site is located adjacent to and in the floodplain of the River Great Ouse. Two streams cross the area, one, Rockham Ditch, forming the southern boundary of the Site, while the other, South Brook, lies to the north of the Application Site. The land is generally fairly flat sloping gently down from c. 20.5m AOD in the west to 15.5m in the east. Within this general gently sloping topography minor slight variations may be detected, probably the result of past changes in the course of the Great Ouse (palaeochannels) and consequent intervening islands.

### **1.2 Planning background**

- 1.2.1 Lafarge Aggregates Ltd are applying for permission at Black Cat Island, Roxton, Bedfordshire.
- 1.2.2 Planning Policy Guidance note No16 (DoE 1990) '*Archaeology and Planning*' gives Local Planning Authorities guidance on the management of the archaeology within the planning process. It states that local authority development plans should include policies for the protection, enhancement and preservation of archaeological sites and their settings. This advice is also embodied in the Mineral Planning Guidance to Mineral Operators.

- 1.2.3 Section vii of the Bedfordshire County Council Minerals and Waste Plan 1996 outlines the County Council policy on Mineral Planning, refers to PPG16 and follows its guidance.
- 1.2.4 It states that when considering proposals for minerals development in Bedfordshire, the County Council will seek to protect Scheduled Ancient Monuments and other important sites and their setting by:
  - Ensuring developers provide sufficient information with which to evaluate the importance of the sites and to assess the potential impact of development on the archaeology
  - Resisting or seeking modification of development likely to have a negative effect upon the sites and their settings
  - Ensuring that provision is made to an adequate level of investigations and recording in advance of removal of archaeological remains that do not warrant preservation in situ.

### **1.3 Development proposals**

- 1.3.1 It is proposed to extract mineral from the area of proposed development. Development is to consist of extraction areas and areas of soil storage.

### **1.4 Previous work in Connection with the present Application**

- 1.4.1 In order to obtain the information necessary on the archaeology of the site for a planning decision to be made, a programme of archaeological investigation has been undertaken. In the first instance it consisted of a desktop undertaken by Bedfordshire County Council Archaeological Services (Luke M 1998). An updated desktop was undertaken by Archaeologica Ltd (Lisboa and Ivens 2006) and submitted to Bedfordshire County Council Archaeologist, advisor to the Mineral Planning Authority. Subsequently a total magnetometry survey was undertaken (Bartlett 2006 and Lisboa 2006a) and following the results of the geophysical survey, specifications for a programme of intrusive evaluation consisting of trenching were drafted. The programme for intrusive trenching was set out in the document *Written Scheme Of Works For An Intrusive Archaeological Evaluation at the Proposed Sand And Gravel Quarry, Black Cat Island, Roxton, Bedfordshire TL 1625 5515* (Lisboa 2006) Doc AC 3133/D4 which was submitted and approved by Ms Lesley-Ann Mathers Archaeological Officer for Bedfordshire County Council.

#### **Desktop studies**

- 1.4.2 Two desktop studies were undertaken in connection with the present Application: Luke (1998) and Lisboa and Ivens (2005).

## Cropmarks

- 1.4.3 The Aerial Assessment carried out by Bedfordshire County Archaeology Service covered the present Application Site and additional areas immediately to the north and south (this larger area is referred to as the Aerial Photograph Study Area). It provided the major source of information for the Desktop (Ivens and Lisboa 2005) Their findings may be summarised as follows:
- *River Channels:* A number of dark linear cropmarks curving north-east to south-west probably represent former river channels. On some of the gravel 'islands' in between these channels, cropmarks indicative of patterned ground and solifluction hollows are visible e.g. HSL UK 76 25, 25 June 1976, 6/1821-2. Towards the north-east of the Aerial Photograph Study Area a dark linear cropmark orientated east to west may be a previous channel of the South Brook.
  - A gravel pit (at TL 161553) has also been identified within the Application Site. This feature was recorded on the 1880-82 Ordnance Survey Map, but is absent from the 1902 survey
- 1.4.4 A cropmark site was sketched by Bedfordshire HER at a scale 1:10000 but not included in the initial desktop (Luke 1998). The HER sketch shows cropmarks suggestive of ditches are visible in the north-west part of the Aerial Photograph Study Area. The whole complex extends over an area of c. 1.4ha and is set on the slightly higher land to the west of the lowest alluviated area. It was most probably of Iron Age or Roman date.

## Geophysical survey (Fig 2,3)

- 1.4.4 A combined programme of total detailed magnetometry and magnetic susceptibility was undertaken for most of the Application Area except for the eastern field the first stage of the programme of archaeological mitigation for the present Application. The techniques are different but complimentary While magnetometry shows anomalies caused by the presence of magnetised soil within the natural geology of the soil and with which it contrasts (thus showing the anomalies), magnetic susceptibility measures alterations of the magnetic particles in the soil (caused by different factors including heat) after they have become dispersed in the soil. The results formed part of an earlier document (Lisboa 2006 and Bartlett 2006 doc AC 3133/D3).
- 1.4.5 The results of the two techniques are shown as Fig 2, while Fig 3 shows the uninterpreted greyscale raw plot for the magnetometry.
- 1.4.6 The presence of the cropmark settlement complex was not confirmed by the survey, although many of the curvilinear features shown as cropmarks and which may associated with it were detected (see Fig 2 N, two parallel ditches and a linear feature P) which roughly coincide with the cropmark features. The corresponding magnetic anomalies are slightly dislocated in relation to the cropmark equivalent features but this is often the case with cropmarks in this part of the Ouse valley. Much of the cropmark complex is located in a relatively unresponsive area of the survey possibly related to the palaeochannels/ linear spread of silty soil which may not provide as much of a contrast with the soil-filled features themselves, but the features are more easily visible in the greyscale plot (Fig 3). These features could also represent natural variations in the natural geology and geomorphology of the Site.

- 1.4.7 At the Black Cat Island, the strongest evidence for settlement and where magnetic activity is highest, is located in the southern part of the Site, in an area where archaeology had not been previously identified. Here, the presence of a possible enclosure ditches, enclosures, parallel ditches L, M (droveway?) seem to be represented by the cluster of anomalies F, G, and K with a further enclosure at J are suggested by the survey. A possible roundhouse seems to sit to the west of F.
- 1.4.8 The area of E, F, K, L, M coincides with raised magnetic susceptibility readings adding further weight to the interpretation of these anomalies as archaeological in origin.
- 1.4.9 The presence of cultivation marks was noted in the geophysical reports.
- 1.4.10 It was also noted that features in the southern site coincide with modern field boundaries. Although the alignments of the features are similar to the current layout as well as to the direction of the ridge and furrow and thus could be modern or represent medieval cultivation, to the South of the present Application Site, there are a series of linear cropmarks probably relating to enclosures or a field system, one of which measures 75m west to east, HER 1831. Again the alignments are similar to the current field layout it is likely they are Iron Age, Roman or medieval in date.
- 1.4.11 Ditch-like anomalies: one in the Eastern edge of the site which was thought to be of archaeological origin and R and S which were thought to be of geological origin.

## 2.0 SUMMARY OF ARCHAEOLOGY RESULTS

### 2.1 Features

- 2.1.1 The features identified by two stages of the evaluation at Black Cat Island (Fig 4) trenching and geophysics can be divided into two categories: land divisions and habitation with an associated funerary component (Ranson 2007).
- 2.1.2 One of the major components of the Iron Age landscape was the division of the land by ditched boundaries, whether dykes or triple ditches and pit alignments, which divide the landscape into large areas (Dawson 2000). Though this part of the Ouse is not known to have dykes the substantial Late Iron Age ditch identified by geophysics and shown by trenching to be of Late Iron Age date (Trench 17) was maintained though cutting and re-cutting for a long period of time. Though it could conceivably have been part of a triple ditch, such as that striding the Elstow and the Ouse to the West, at Eastcotts, the ditches are far too closed seem re-cut and its curvilinear shape suggests it is an enclosure ditch (though conceivable the remaining two ditches may lay under the A1 road to the west).
- 2.1.3 For the later Roman period the evaluation showed two areas of activity. The geophysical survey had shown a droveway heading west from the Ouse in the southern area of the Site. This droveway was confirmed by the evaluation trenching (trenches 33 and 37) and in its western end the geophysical survey showed a number of enclosures which These enclosures which form paddocks were confirmed by trenching (Trench 34).

- 2.1.4 The linear features to along the eastern boundary of the site, shown by cropmarks and a smaller number by geophysical survey were confirmed, expanded and clarified. They show the presence of a farmstead, though seemingly unclosed (Trenches 23 and 27).

## 2.2 Chronology

### Prehistoric

- 2.2.1 Prehistoric activity was very limited as was evident from residual flintwork recovered in later features. Two features contained much degraded prehistoric pottery, ditch F29 in Trench 11 and pit F21 on Trench 24.

### Late Iron Age/ Early Romano-British

- 2.2.2 The magnetometry survey had shown a broad linear feature, curving slightly towards the road along the western border of the Site. Trench 17 was sited to test this anomaly. Trenching revealed three consecutive inter-cutting ditches to be of Late Iron Age date (Trench 17). The upcast of the ditches indicating the presence of a bank internal to the enclosure. It fell into disuse into the early Roman period. The size and type of ditch suggests this ditch formed part of a Late Iron Age boundary ditch, perhaps territorial in nature.

### Romano-British

- 2.2.3 The magnetometer survey had shown two parallel ditches (a droveway) M running from the Ouse to the East and terminating in a small number of enclosures, in the South of the Site. The droveway ditches were confirmed by trenching (Trenches 31, 33, 37). Three pottery sherds were recovered F6 and were dated to the 2-4<sup>th</sup> century.
- 2.2.4 Trench 34 was placed to test the presence of enclosures K indicated by the magnetometry survey in the south of the Site. Trenching confirmed the presence of paddocks. Pottery was recovered from the fills of the paddock ditches F.14 and F.5. F5 contained seven sherds of 2-4<sup>th</sup> century and one of 1-3<sup>rd</sup> century AD.
- 2.2.5 Further to the West, also on the southern edge of the Application Site, the magnetometer survey had indicated the presence of further enclosures J associated with an isolated area of high magnetic readings. Trench 40 was located in the South-West of the Application across much of the magnetometer enclosure. Trenching confirmed the presence of a paddock-like enclosure in this area. In addition it identified a pit like anomaly as a cremation pit containing the remains of two humans. Pottery was recovered from one of the paddock ditches F7 and F40 as well as from the cremation pit F8. In trench 40 F4 contained sherds of 2-4<sup>th</sup> century date AD while F.7 contained a single greyware pottery sherd of 1-3<sup>rd</sup> century AD. It also located a boundary ditch running SW-NE indicated by a linear cluster of magnetic anomalies. This trench also revealed a pit which contained two unurned cremations where one sherd was dated to the 2-4<sup>th</sup> century. Trench 31 was located between the two sets of enclosures and the trenching confirmed a boundary ditch and added paddock ditches as well as the continuation of the droveway leading to the Ouse.
- 2.2.6 To the west of Trench 40, in Trench 39 where a possible linear feature had been indicated by the magnetometer survey, two field ditches were identified by the evaluative trenching as well as three small, shallow pits. They had clean sandy clay fills and no pottery was recovered from any of the features in Trench 39.

- 2.2.7 Trench 23, 200m to the North, was placed to test the magnetometer anomaly N. This anomaly, consisting of two parallel ditches, also showed up as a cropmark, part of HER 2664. Evaluative trenching identified several features of Romano-British date. A water-hole F.58 was identified in the western end of T23. It contained residues of habitation activity including two sherds dating from 2-3rd century. More significantly a beam slot was identified, F.67. Eleven sherds of pottery including Nene wares of 2<sup>nd</sup>-4<sup>th</sup> century AD date, and bone fragments were recovered from its fill. Ditch F.45 yielded 1 Kg of pottery and a burnt fragment of a mill stone. In addition, four parallel ditches were identified running SW-NE F.62, 63, 68, 69. Two of these seem to be part of a small droveway identified by magnetometry N. F63 contained residues of domestic occupation, pottery dating to the 2-4th century AD and animal bone. Twenty eight hobnails were also recovered from this ditch representing either discard of a sandal or burial. A total of 1.7 kg of pottery was recovered from this trench. The finding of wheat glume basis and grain in F62 in Trench 23 suggests that the initial threshing took place elsewhere and that the wheat was stored as spikelets and processed on a day to day basis to meet domestic needs, thus representing the site of consumption of wheat rather than storage or bulk processing.
- 2.2.8 Trench 27, to the west of Trench 23 was placed to further test the cropmark HER 2664. A large, watering pit, F.57 was found at the corner with ditch F.66. Two drainage ditches were cut into existing field boundaries. In addition three other ditches and a ditch terminal were identified. Two of these seem to form a boundary between an area of deeper cultivation in west and a damper area on the east and one was medieval furrow. In terms of finds ditch F.45 yielded the vast majority of the 1Kg of pottery recovered from this trench.
- 2.2.9 The number, density of features, structural evidence, the beam slot, finds evidence (2.7 kg of pottery in total) as well as the environmental evidence suggest the area of Trenches 23 and 27 was an area of habitation dating to the 2-4<sup>th</sup> century AD. It is suggested that this is a small farmstead.
- 2.2.10 The deposits in the Eastern edge of the Application Site comprised floodplain alluvial and occasional pond deposits. An area of gravel was identified in the North of this eastern edge where one trench T42 and a test-pit T43 were opened. No archaeological deposits were identified in this area.
- 2.2.11 To the East of the area defined in para 2.2.10 and to the west of Trench 27 the ground is higher and wetter, less suitable for good arable cultivation. This area as well as the area to the North of the settlement identified in Trenches 23 and 27 show the presence of field boundaries dividing the landscape and spreading until the wet areas by the river, and seems to form a co-axial system with ditches running NW-SE. The presence of weeds of cultivation characteristic of damp soils suggests that damp soils were cultivated.
- Medieval, post-medieval and modern**
- 2.2.12 Medieval remains as were found consisted of furrows confirming that this area was part of the agricultural landscape of this period.
- 2.2.13 The post medieval archaeology of the Application Site is focused in Trenches 15 and 27 and consisted of field ditches and evidence for small scale gravel extraction.
- 2.2.14 In Trench 31 a modern pig burial was identified.

## **3.0 CONCLUSIONS**

### **3.1 The archaeology of the site**

- 3.1.1 The prehistoric occupation of the Application Site seems sporadic and ephemeral.
- 3.1.2 At Roxton (TL 157 735) for the Iron Age a major boundary defence ditch which probably served as a land holding and territorial division was found (Taylor and Woodward 1983). The ditch F.36-38 in Trench 17 at Black Cat Island, Roxton may have served a similar function, reflecting the preoccupation with territoriality which seems to have become a major feature of the Late Iron Age in the Middle Ouse. The repeated cutting and maintenance of this ditch formerly associated with a bank suggests prolonged maintenance and use.
- 3.1.3 To the East of this area, a possible habitation area of Romano-British date has been defined in the area of Trenches 23 and 27. Structural evidence consisted of a beam-slot, associated with drainage ditches to the west of two parallel ditches probably part of a small droveway. The environmental evidence collected from ditch F.63 suggests that cereal processing for consumption took place locally, while the number and weight of pottery recovered from these trenches is higher than elsewhere. The environmental and pottery data support the interpretation of this area as an area of domestic habitation and use while its size suggests the presence of a small farmstead supporting a small number of people. While structural features were limited the trenching evidence from Trenches 23 and 27 suggests the presence of a farmstead overlooking a floodplain divided into small field enclosures forming a regular pattern. Evidence of burial was found in the form of a unurned cremation pit cremation to the South in Trench 40. At Warren Villas several cremations were found in apparently isolated positions near field boundaries approximately 300m to the south of the settlement (Dawson and Maul 1996) while inhumations were set in a cemetery closer to the settlement. At Willington, a cemetery, a mixture of inhumation and cremation was also found in the interface between margins of the settlement and the floodplain. In rural settings, Roman cremations and sometimes inhumations are often found in boundaries in fields and not necessarily in groups or near settlements. At Roxton (Taylor and Woodward 1983) the burials were located in nearby fields as was also the case with the burials at Odell. The hobnails recovered from a ditch separating the possible farmstead in a boundary ditch part of a possible double ditch droveway Trench 23 may indicate inhumation or discard.
- 3.1.4 To the South of this area, also along the gravel ridge, a set of adjoining enclosures K (Fig 6) was identified in the geophysical survey, clustered on a droveway consisting of parallel ditches and running towards the river Ouse to the East. Trenching confirmed the presence of ditches forming compact paddocks of Romano-British date. To the west, in the area of Trench 40 a further enclosure J had been identified by the magnetometer survey. The evaluation confirmed this was of archaeological origin of Romano-British date. It may represent an outlying paddock as was the case of Roxton (Taylor and Woodward 1983) or may be linked with K and obscured by the modern field boundary. The Middle Ouse valley is noted for sites with paddocks and enclosures. The paddocks in the South of the Application Site may be part of such system. To the North of the Application Site, at Wyboston TL 1757 was examined prior to gravel extraction and a group of Romano-British rectangular enclosures as well as extensive field ditches were found to have been dug through late Iron Age alluvial deposits. It proved to be a farmstead established in the Transitional period continuing in use into the late Roman period (Tebbutt 1957). At Odell an extensive field

system with rectilinear fields regularly grouped along a droveway running down to the river floodplain were identified.

- 3.1.5 Though there is pottery on the Site dating from early to late in the Roman period, the pottery peaks in the 2-3<sup>rd</sup> century AD, with early roman wares coming from the area of the Iron Age ditch in trench 17 on the west of the Site. As only a single piece of 4<sup>th</sup> century ware was recovered (from F.45 -Trench 27) it is suggested that the site was in decline by the late 3-4<sup>th</sup> century.
- 3.1.6 To the East of the gravel ridge the landscape consists of boundary ditches set in a regular orientation. The extensive field system extends beyond the Application Site: to the south of the present Application Site a series of linear cropmarks probably relating to enclosures (seemingly forming paddocks) or a field system are known. (HER 1832). It is known that enclosure in the Ouse was taking place on a large scale in the Romano-British period (Dawson 2000). C. 1Km to the South-West of the site, at Roxton (TL 157 735) (Taylor and Woodward 1983) excavation evidenced 2-3<sup>rd</sup> century occupation which consisted of field boundaries of similar profile and orientation. Evidence for 2-3<sup>rd</sup> century habitation within this field system was found in the distribution and deposition of pottery and other debris. (Taylor and Woodward 1983) while structural evidence was for buildings which may not have been for domestic use.
- 3.1.7 In terms of settlement hierarchy in the Romano-British period, the trenching evidence at Roxton points towards the individual farmstead end of the hierarchy rather than hamlets or villa, small sites with small number of occupants. The structural and finds evidence is too poor to suggest a villa and are suggestive of a low status settlement. The presence of few imports in the pottery collected as well genetic abnormalities in cattle (suggesting limited access to a wider genetic pool) denote poor access to a communication network while the crop weeds suggest cultivation of damp soils, denoting the use of marginal soils.
- 3.1.8 The East of the Application Site has potential for waterlogged deposits in the field boundaries and palaeochannels. The potential for waterlogged remains is higher to the East of Trench 9 and south of Trench 6 with potential for pollen and macro fossils in deep ditches and in palaeochannels/ponds.

### **3.2 Topographical setting of the Application Site**

- 3.2.1 In topographical terms the Application Site can be divided into three areas: the floodplain area to the East of Trench 6 and two gravel ridges: one along the western edge of the Site and another in the South East of the Site. Outside these ridges the land slopes down towards the Ouse. These changes of soils seem to have been responsible for the cropmarks identified in the first desktop (Luke 1998).
- 3.2.2 The trenching evaluation showed that Eastern edge of the Application Site comprised floodplain alluvial and occasional pond deposits. The test-pits opened in the eastern end of the Application Site identified a probable palaeochannel running N-S. It also identified a gravel terrace in the northeast corner of the Application Site Trenches 42-43. It may represent earlier courses of the river Ouse. A further palaeochannel detour/ pond was identified in the eastern end of Trench 44. To the west of the palaeochannel/ pond, along the whole length of

Trench 47, peat indicated that the area was stagnant slow flowing water thus suggesting marshy ground in this area.

- 3.2.3 In addition, substantial depths of alluvium were found in this part of the Application Site. There was an increase in the depth of alluvium towards the South and the East of the Application Site. Alluviation of this part of the Ouse began from the Late Iron Age onwards, increasing particularly towards the end of the Romano-British period and the early Saxon period (Robinson 1992).
- 3.2.4 The archaeology of the Application Site clusters on the western gravel ridge. The western part of the Application Area sits on a gravel ridge and provided the drier areas, more suitable for settlement and good arable cultivation.
- 3.2.5 To the East of Trench 27, the evaluation trenching suggests the ground was wetter, and seems to have been used for agriculture with scattered field system and boundary ditches. Further to the East the areas seems to have been too wet, and subject to flooding.
- 3.2.6 A pond adjoining a palaeochannel possibly a former course of the Ouse was identified in the north-east of the Site. The evaluative trenching identified a gravel peninsula in this part of the site though no archaeological remains were found.

### 3.3 Discussion

#### Aerial Photography

- 3.3.1 The cropmarks interpreted as possible palaeochannels and mapped by Bedfordshire Archaeological Services were not found. Some of the coincided with magnetometer anomalies interpreted in the survey as being of geological origin. They are thought to be of geological origin.
- 3.3.2 The archaeological remains were present in the area cropmark site HER 2664 though the enclosure was only identified in Trench 15 where a ditch F. 39 was of 19<sup>th</sup> century date. Other parts of the cropmark, the parallel (droveway?) ditches and some of smaller internal features were confirmed by magnetometry and trenching.

#### Magnetometry

- 3.3.3 The southern area of the site had been found to show high magnetic readings, providing good degree of the readings (Fig 5, 6) . Trenching showed that few of the linear features were false positives. The survey also detected smaller anomalies, pit -like anomalies. Some of these will be of natural origin but some were shown to be archaeological in origin. The enclosure and droveway suggested by the magnetometer survey were confirmed.
- 3.3.4 In the northern area was noted in the geophysical survey report to be less responsive than the southern area. Further tests showed that the magnetic readings of the topsoil were lower. Nevertheless the geophysical survey identified the more substantial linear features and pits. The Iron Age enclosure ditch was identified as well as the droveway N and ditches to the west and the water hole in Trench 23.
- 3.3.5 In the eastern part where ditch fills of the field system are clean and consist of re-deposited, clean clay there is little contrast between the topsoil fill and the subsoil so many of the field boundaries were not detected by the survey.

#### **Trenching**

- 3.3.6 Previously unknown activity was identified, namely structures probably beam slots from a timber building, drainage ditches from Trench 23 and 27. Some of the pit-like anomalies were defined as definite archaeology namely the watering holes in Trench 23 and the cremation pit in Trench 40. In this general area, though the parallel ditches (droveway) N was already known from the magnetometry survey, trenching has added greater detailed and date, and through finds, the character of the settlement.
- 3.3.7 Trenching has confirmed the archaeological nature of the enclosures and double ditched droveway detected in the magnetometer survey in the South of the Site.
- 3.3.8 In addition, trenching has confirmed and added to the pattern of linear ditches which seem to form a coaxial field system and dated at least some of the ditches to the Romano-British period. Given the shared alignment with other, undated, ditches, it likely that these also date from that period. Particularly in the north-eastern area of the Site, where the subsoil magnetism contrast with the natural was small and the ditch fills were of clean sandy soil, trenching detected ditches not picked up by magnetometry.
- 3.3.9 Trenching has confirmed the archaeological nature of the curvilinear ditch on the eastern edge of the Site in Trench 17 and dated it to the late Iron Age. Its variable width seems to be accounted by repeated cutting.
- 3.3.10 The evaluation has also qualified the status of the settlement: the pottery assemblage is poor, with a notable absence of imports, there is no indication of stone buildings or foundations. Its poor range of wares which is suggested to be the result of poverty or lack of access of good trade network. The environmental evidence suggests that the grain was cultivated in damp fields.
- 3.3.11 Finally the evaluation provided evidence on the topography of the Site in the Eastern edge where substantial alluviation was known to be present as shown by the borehole data. It identified a gravel island or peninsula in the North but trenching has not shown any archaeological remains on it.

#### **3.4 Proposed mitigation**

- 3.4.1 Any activities involving topsoil stripping, whether for soil storage or directly for extraction will negatively impact buried archaeological deposits and upstanding historical landscape.
- 3.4.2 Where no topsoil is removed *preservation in situ* ensues except for waterlogged deposits. Additional engineering measures would have to be undertaken if the waterlogged were to be preserved *in situ* in view of the danger of desiccation effected by de-watering.
- 3.4.3 Where preservation *in situ* is not possible, an appropriate programme of mitigation will be drawn up. A detailed programme of excavation and recording of archaeological deposits would have to be drawn up and agreed with the Archaeological Advisor to the Mineral Planning Authority and carried out.
- 3.4.4 The exact type of archaeological work in mitigation depends on the type of activity to be carried out by the quarrying operations (if any) and the nature of the archaeology. In terms of

the nature and the character of the archaeological deposits identified in the evaluative archaeological work. Fig 7 shows where above the subsurface archaeological deposits denoting settlement or occupation are present and will be negatively affected by the development proposals and where excavation is likely to follow.

- 3.4.5 In the areas of higher archaeological potential, coloured on Figs 7, and 8 it is proposed that a programme of excavation would be undertaken prior to extraction where topsoil stripping is to be effected. The programme of excavation would be phased in accordance with the phasing programme of the quarry but would be in advance of quarrying activities for each phase.
- 3.4.6 The programme of development works, as well as the areas of higher archaeological potential are shown in Fig 8. If during the quarrying period, plans for the topsoil storage areas are changed as part of a possible amendment scheme, then the strip, map and record area shown in light brown in the SW of Fig 8 would be decreased accordingly. The archaeological remains in these areas as they would not thus be affected by topsoil stripping or soil storage. Mitigation for these areas would then consist of preservation *in situ*
- 3.4.7 For the field systems, consisting of a network of extensive ditches, the most informative tool to recover their extent and character would be a programme of which would record the extent of the linear features of the field system and identify pits if present, by examining the top of the subsoil. The quarrying operations will require the full, stripping of topsoil and subsoil (where present) prior to the start of the excavation of the gravels for areas of extraction and subsoil bunds in terms of a watching brief some time in advance of the quarrying programme for the remainder areas of the extraction and soil storage areas.
- 3.4.8 The mitigation for the Palaeolithic can only be undertaken in the course of the quarrying operations as a periodic watching brief during the process of extraction itself which would aim to identify areas of soils within the gravel element in the rock face which would lead to the identification of areas of higher potential with a view to recovering bones and tools, and would take place in the river gravel elements and collection of artefacts and bones which may be embedded in the gravels.

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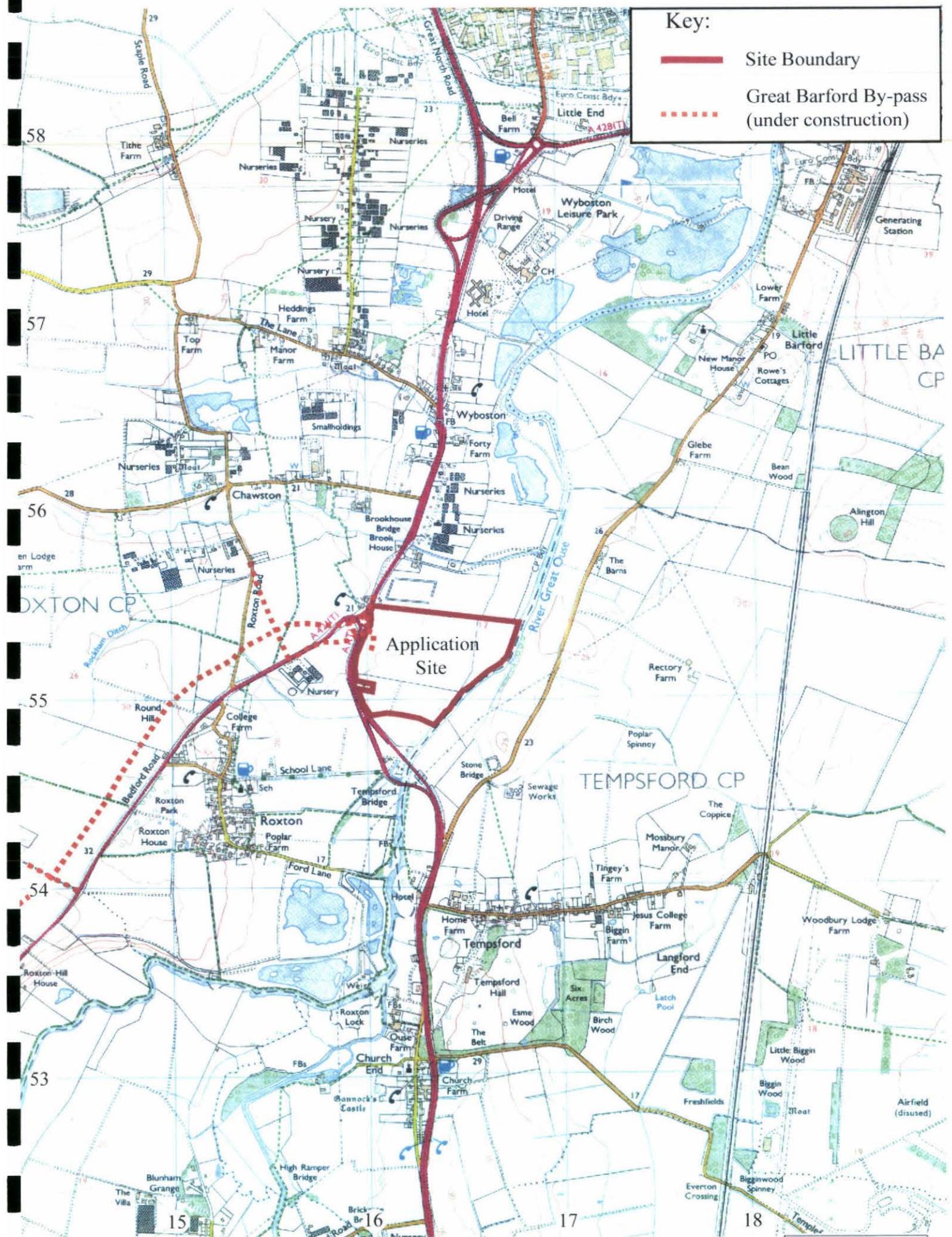


Fig. 1 Black Cat Island, Roxton Bedfordshire: Location Plan  
Scale 1:25000

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Black Cat Island

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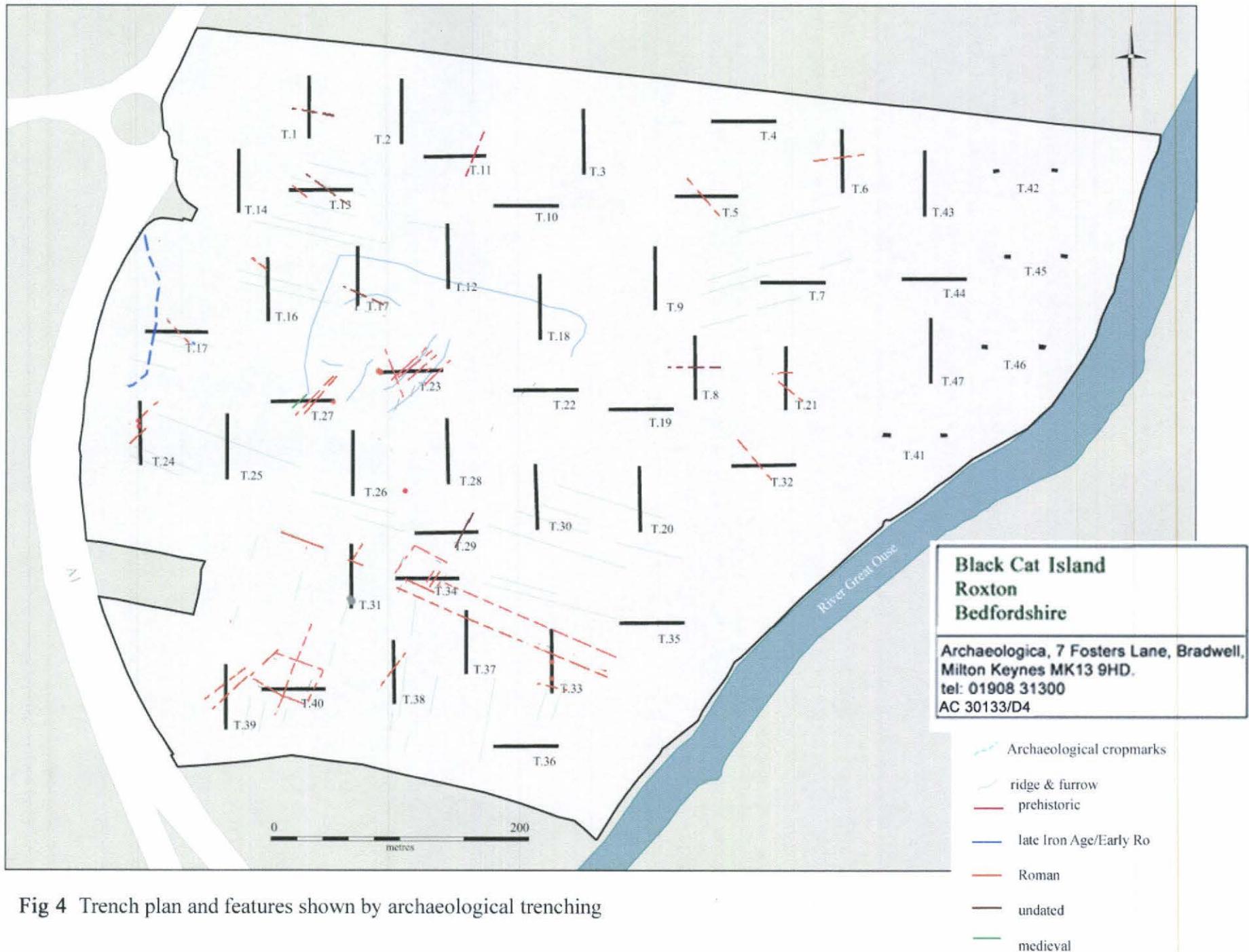
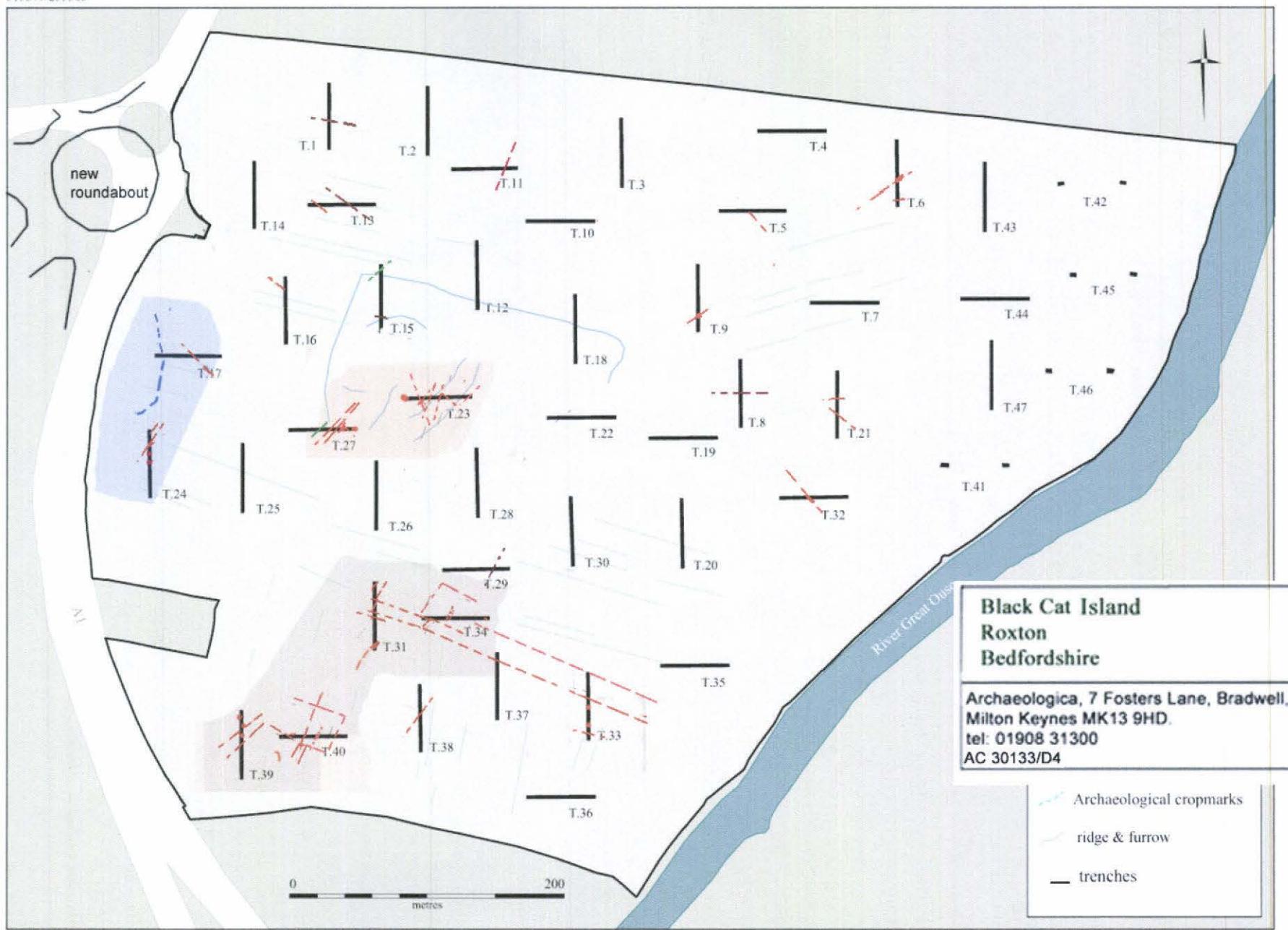


Fig 4 Trench plan and features shown by archaeological trenching

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Fig 7 Areas of higher archaeological potential as shown by geophysics and trenching.

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Figure 8 Development proposals, phasing and areas of higher archaeological potential, Black Cat Island, Roxton