

ERECTION OF A SINGLE STOREY EXTENSION AND  
OBSERVATION TOWER TO CLUB HOUSE,  
AND ERECTION OF AIRCRAFT STORAGE BUILDING,  
LINLEY HILL AIRFIELD, LINLEY HILL ROAD,  
LEVEN, EAST YORKSHIRE

ARCHAEOLOGICAL OBSERVATION,  
INVESTIGATION AND RECORDING

Ed Dennison Archaeological Services Ltd  
18 Springdale Way  
Beverley  
East Yorkshire  
HU17 8NU

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Author: Ed Dennison & Janet Phillips

Ed Dennison Archaeological Services Ltd  
18 Springdale Way  
Beverley  
East Yorkshire  
HU17 8NU

On behalf of

Hull Aero Club Ltd  
Linley Hill Airfield  
Leven  
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HU17 5LT

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## **EXECUTIVE SUMMARY**

In April 2011, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by Hull Aero Club Ltd to undertake a programme of archaeological observation, investigation and recording (a watching brief) during groundworks associated with the erection of an aircraft storage building at Linley Hill Airfield, Leven, East Yorkshire (NGR TA 0742 4592 centred). The watching brief was made a condition of full planning permission (application DC/09/00637/PLF/EASTSE).

Despite the area in question having some archaeological potential, the watching brief carried out during the excavation of 12 foundation pits produced nothing of archaeological interest, and no archaeological deposits or artefacts were uncovered. A U-shaped north-south aligned linear cut (003) seen in two pits appears to be a relatively modern feature, as was a small angled stake-like feature (005). One small length of timber (007), uncovered in the side of Pit 10, displayed no visible evidence of being worked and appeared to be a natural fragment left in the surrounding alluvial deposit (002).

## 1 INTRODUCTION

- 1.1 In April 2011, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by Hull Aero Club Ltd to undertake a programme of archaeological observation, investigation and recording (a watching brief) during groundworks associated with the erection of an aircraft storage building at Linley Hill Airfield, Leven, East Yorkshire (NGR TA 0742 4592 centred).
- 1.2 The archaeological work was made a condition of full planning permission, granted by East Riding of Yorkshire Council on 28th May 2009 (application DC/09/00637/PLF/EASTSE). The condition (number 3) stated that: "No development shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Local Planning Authority (PPG16, paragraph, 30; Circular 11/95, Model Clause 55). The scheme shall provide for:
- i) the proper identification and evaluation of the extent, character and significance of archaeological remains within the application area;
  - ii) an assessment of the impact of the development on the archaeological remains;
  - iii) proposals for the preservation in situ, or for the investigation, recording and recovery of archaeological remains and the publishing of the findings, it being understood that there shall be a presumption in favour of their preservation wherever feasible;
  - iv) sufficient notification and allowance of time to archaeological contractors nominated by the developer to ensure that archaeological fieldwork proposed in pursuance of (i) and (iii) above is completed prior to the commencement of permitted development in the area of archaeological interest; and
  - v) notification in writing to the Curatorial Officer of the Humber Archaeological Partnership of the commencement of archaeological works and the opportunity to monitor such works".
- 1.3 A 'Written Scheme of Investigation' was subsequently produced by EDAS in June 2011 (see Appendix 2), and approved by East Riding of Yorkshire Council on 30th August 2011 (application DC/11/30328/CONDET/EASTSE) following advice from the Humber Archaeology Partnership (ref SMR/PA/CONS/15476).
- 1.4 In addition to the construction of an aircraft storage building (hangar), the planning permission also allowed for the erection of a single storey extension and observation tower to the club house. However, this latter development is unlikely to be done in the foreseeable future (Mr R Robinson, Hull Aero Club, *pers. comm.*).

## 2 SITE LOCATION AND DESCRIPTION

- 2.1 Lindley Hill airfield lies on the north side of Lindley Hill Road, which runs west across Leven Carrs from Leven and Little Leven, East Yorkshire (see figure 1). The site of the proposed aircraft storage building lies on the west side of an existing hangar, which itself lies just to the west of the airfield clubhouse (see figure 2). The hangar development site, centred on NGR TA 0742 4592, was mown grass prior to the start of the development, and was used as a parking area for light aircraft.
- 2.2 The underlying geology is Cretaceous chalk, overlain by glacial sand and gravel (Institute of Geological Sciences 1977 & 1979) while the soil is a typical brown earth of the Wick 1 Association (Soil Survey of England and Wales 1983). The site lies at virtually 0m AOD.

### 3 METHODOLOGY

- 3.1 The watching brief was defined by the 'Written Scheme of Investigation' (see Appendix 2). More general advice produced by the Institute of Field Archaeologists in relation to watching briefs (IFA 1999) was also considered. The aim of the work was to monitor the groundworks (topsoil stripping and excavation of foundation trenches), in order to record and recover information relating to the nature, date, depth and significance of any archaeological features which might be present and which might be damaged by the development.
- 3.2 In the event, the groundworks only involved the excavation of 12 small foundation pits around the edge of the proposed hangar directly into the turf - the hangar would cover an area c.18m east-west by c.20m north-south. The pits would be filled with concrete to support the steel frame for the hangar and no topsoil strip would be required for the interior of the building; the grass would be killed off and the surface raised by the dumping of hardcore. The foundation pits typically measured 2m long by 1m square, and they were excavated to depths varying between 0.84m to 1.10m below existing ground level (BGL). The excavations were carried out using a JCB mini-digger with a toothed bucket due to the dry and compacted ground conditions.
- 3.3 The watching brief was carried out during a single visit, in dry and sunny conditions, on 22nd September 2011. Following standard archaeological procedures, each discrete stratigraphic entity (e.g. a cut, fill or layer) was assigned an individual three digit context number and detailed information was recorded on *pro forma* context sheets. A total of 7 archaeological contexts were recorded (see Appendix 1). In-house recording and quality control procedures ensured that all recorded information was cross-referenced as appropriate. The positions of the monitored groundworks were marked on a general site plan at 1:100 scale, and selected sections were drawn at a scale of 1:10. A photographic record was maintained using a digital camera.
- 3.4 Given the absence of any significant archaeological results or finds, and in accordance with current East Riding of Yorkshire Museum policy, no archive for the project was deposited with the museum, although site notes, plans and photographs have been retained by EDAS (site code LHL 11).

### 4 ARCHAEOLOGICAL INTEREST AND POTENTIAL

- 4.1 Information from the Humber Sites and Monuments Record (HSMR) notes that the development site lies within a major archaeological landscape. The River Hull supported early settlement and the remains of early occupation are recorded within this landscape as cropmarks. A complex of these cropmarks that could date back to the prehistoric period has been recorded in the area immediately adjacent to the development site - the complex includes a series of ditches with pits and possible enclosures and trackways.
- 4.2 Recent investigations by the Humber Wetlands Project have also identified a number of archaeological sites close to the River Hull, north and south of the airfield (Chapman *et al* 2000, 154-155). For example, within the area of Wilfholme Landing, near the locations of some 'bog-oaks' noted in the early 1980s, are a number of features defined by cropmarks located on a gravel ridge on the edge of a palaeochannel. A number of large timbers, recovered from an adjacent ploughed field, proved to be of middle Bronze Age date, and so are contemporary with a dirk (dagger) which was found during dyke clearance at Watton Beck (Trump 1985). However, subsequent fieldwalking, coring and sample excavation revealed nothing

of archaeological interest. Late Mesolithic and Bronze Age flints have also been recovered from fieldwalking around Eske Plantation and Eske Carr. A number of late Mesolithic and early Neolithic flints were also recovered from an area near High Baswick, where cropmarks also suggest a small potential Roman settlement.

## **5 RESULTS FROM THE WATCHING BRIEF** (see figures 3 and 4)

- 5.1 As noted above, a series of 12 foundation pits measuring 2m by 1m were excavated around the edge of the proposed hangar, to depths of between 0.84m-1.10m BGL (see plate 1).
- 5.2 Pits 1 to 3, 6 to 9 and 12 revealed a similar stratigraphy of a loose grey-brown silty-clay peaty topsoil (001) between 0.30m-0.45m deep overlying a sticky and firm grey-brown silty clay alluvial deposit (002) which extended to the full depth of the excavation (see section 1).
- 5.3 In Pits 4 and 5, a possible gully, or evidence of sub-soiling, was identified as a north-south aligned U-shaped cut (003) measuring a maximum of 0.49m wide and 0.20m deep (see sections 4 and 5). The feature was filled with a firm mid-brown silty clay (004) (see plates 2 and 3). It was not visible in Pits 6 and 8 to the south and north, and so was c.7.5m long. No artefacts or other dating material were recovered from the fill (004).
- 5.4 Also recorded in the north side of Pit 4 was a narrow slightly angled post/stake-hole like feature (005). It measured 0.07m wide and 0.34m deep, and tapered towards a point at the base. It contained a loose dark grey-brown silty clay fill (006).
- 5.5 Within the base of Pit 10 (see section 2), a length of soft water-logged timber (007) was uncovered in the section, lying horizontally in the alluvial deposit (002) (see plate 4). It measured 0.11m wide and 0.07m thick but, as it continued beyond the pit, its length was unknown. There was no evidence of any other associated features and the timber displayed no evidence of being worked; it was therefore considered to be of natural origin and was not investigated further.
- 5.6 Pit 11 (see section 3) also uncovered a modern ceramic land-drain at a depth of c.0.60m BGL, on a north-south alignment.
- 5.7 Overall, no significant archaeological artefacts, features or deposits were observed in the excavated pits, and no samples were taken for analysis. A visual examination of the spoil heaps arising from the excavations also revealed no archaeological artefacts.

## **6 CONCLUSIONS**

- 6.1 Despite the area in question having some potential, the watching brief carried out during the excavation of 12 foundation pits produced nothing of archaeological interest, and no archaeological deposits or artefacts were uncovered.
- 6.2 The U-shaped north-south aligned linear cut (003) identified in Pits 4 and 5 appears to be a relatively modern feature, rather than forming part of any prehistoric settlement. The area was low lying marsh land which was drained after the Second World War and it is possible this isolated feature forms part of these drainage works, although no dating material was recovered to confirm this. It was also noted that the area had been sub-soiled fairly recently, which could also account for the feature.

The small angled stake-like feature (005) seen in Pit 4 was identified as a probable modern tethering post for an aircraft.

- 6.3 The small length of timber (007), uncovered in a section of Pit 10 displayed no visible evidence of being worked and appeared to be a natural fragment. Its full length could not be determined but it was lying in a horizontal position in the alluvial deposit (002) with no signs of an accompanying cut or other features. Similar timbers are known to have been pulled up during ditching works, ploughing and subsoiling in the area (Mr R Robinson, Hull Aero Club, *pers. comm.*). It has the potential to be a piece of prehistoric bog-oak, but it was not considered necessary to excavate or investigate further.

## **7 BIBLIOGRAPHY**

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IFA (Institute of Field Archaeologists) 1999 *Standard and Guidance for an Archaeological Watching Brief* (and subsequent revisions)

Institute of Geological Sciences 1977 *Quaternary of the United Kingdom (South)*, 1st edition, Scale 1:625,000

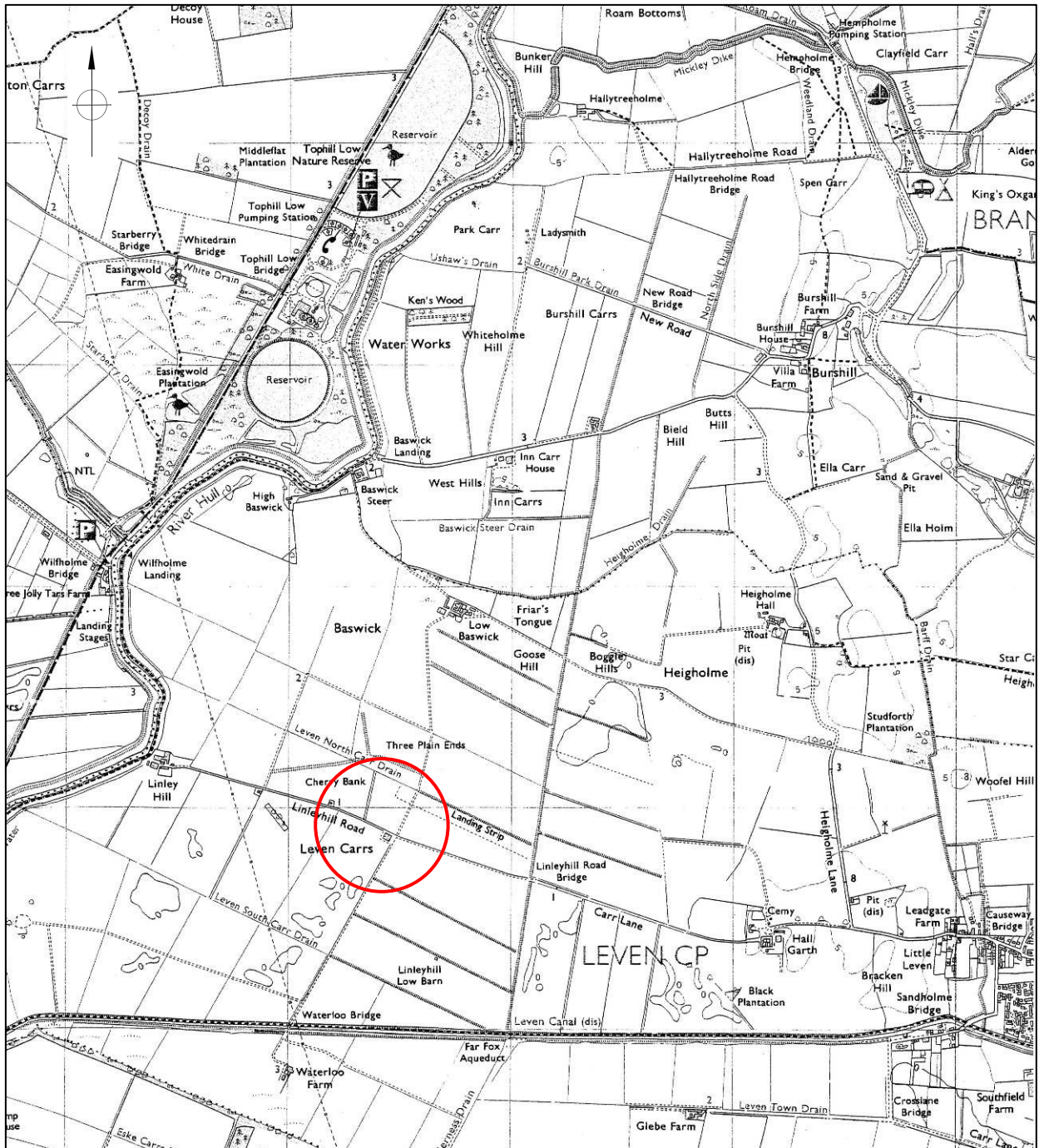
Institute of Geological Sciences 1979 *Geological Map of the United Kingdom (South)*, 3rd edition (solid), Scale 1:625,000

Soil Survey of England and Wales 1983 *Soils of Northern England* (Sheet 1), Scale 1:250,000

Trump, B A V 1985 'A Middle Bronze Age dirk from Wilfholme, North Humberside'. *Yorkshire Archaeological Journal* vol 57, 7-9

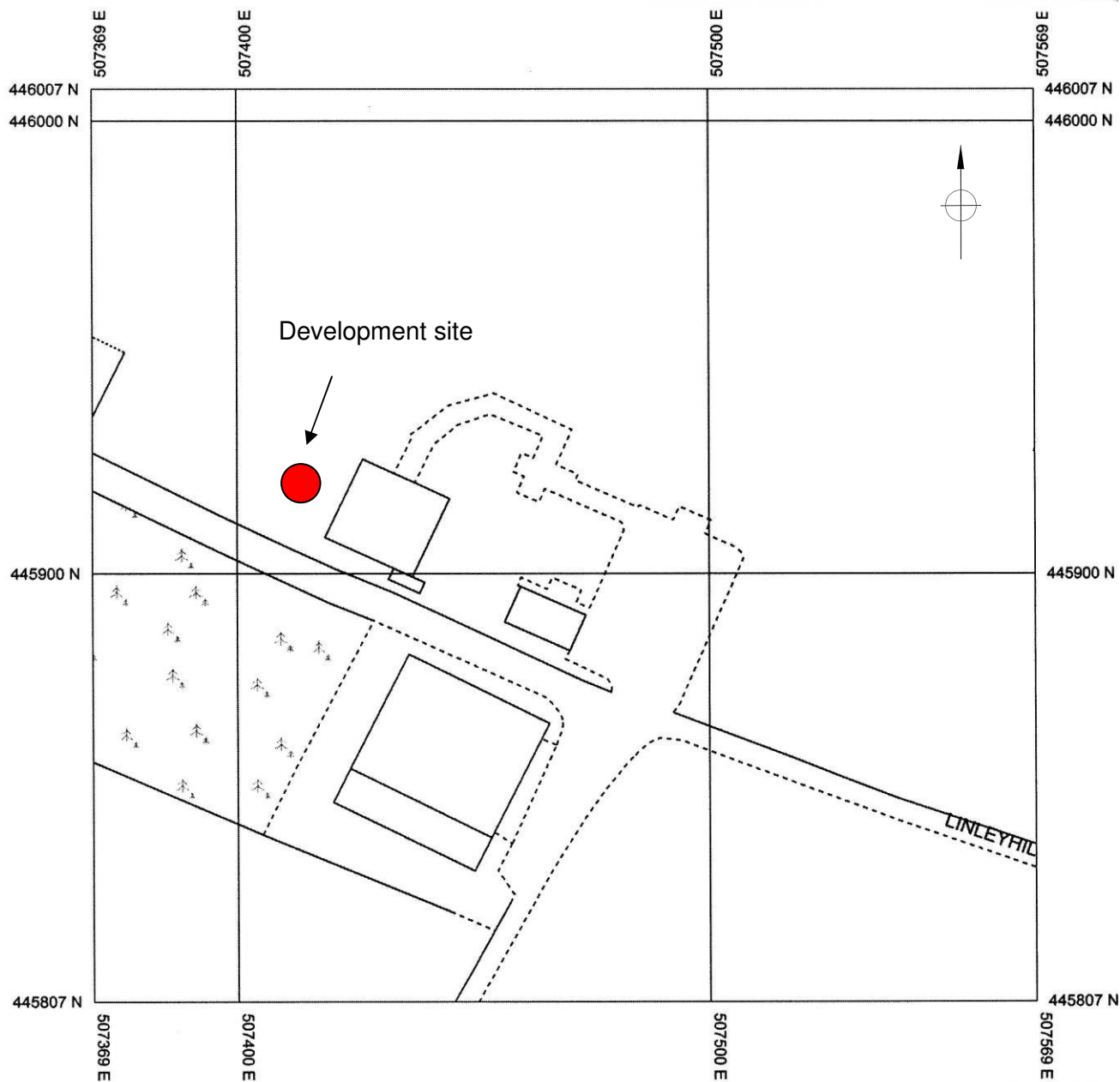
## **8 ACKNOWLEDGEMENTS**

- 8.1 The archaeological watching brief was commissioned and funded by Hull Aero Club Ltd. EDAS would like to thank Mr Rodney Robinson of Hull Aero Club for his co-operation in carrying out the work. The site recording was undertaken by Janet Phillips of East Riding Archaeology, and she produced the fieldwork records and a draft report. Ed Dennison produced the final report and drawings, and the responsibility for any errors or inconsistencies remains with him.



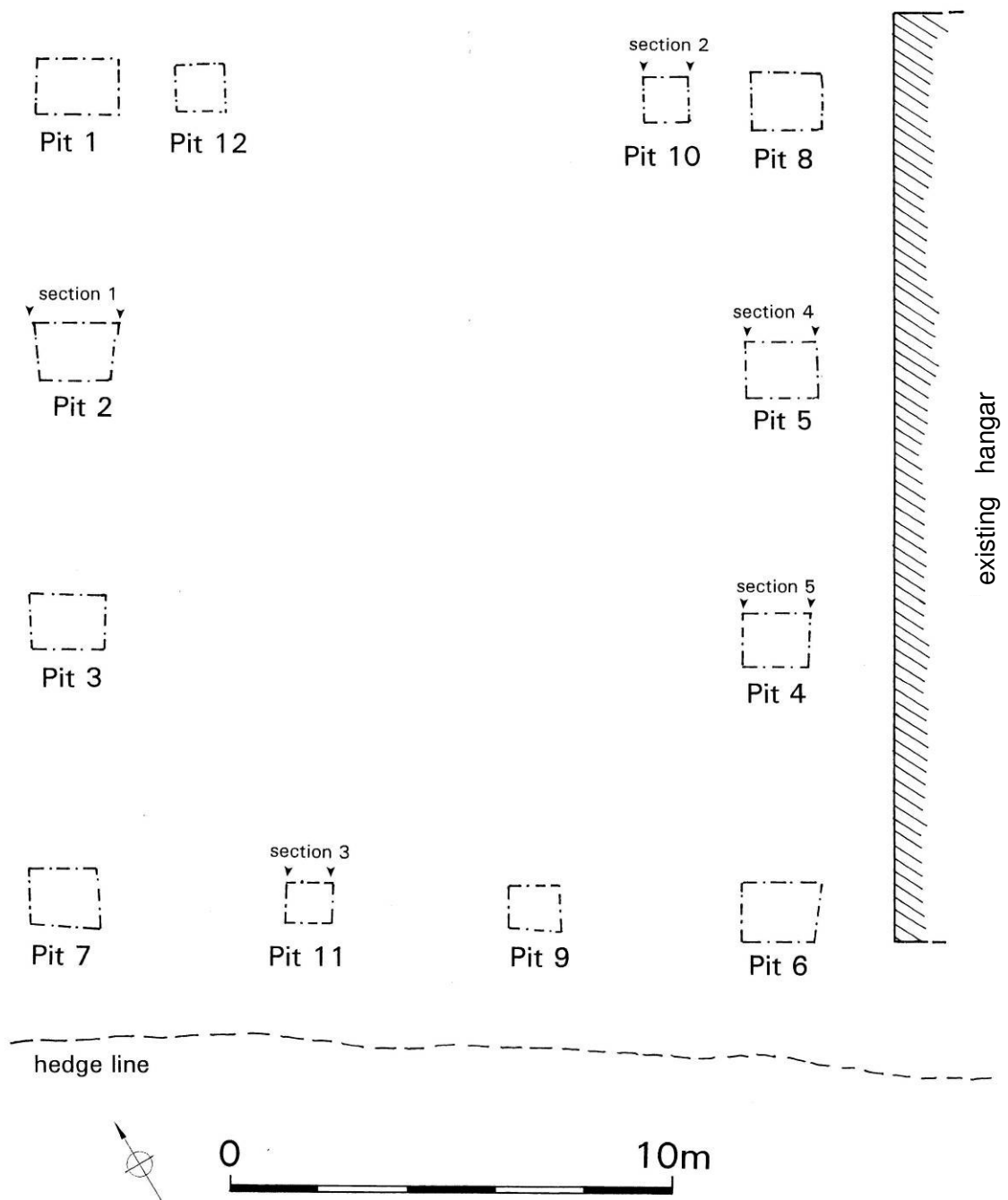
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PROJECT		LINLEY HILL AIRFIELD	
TITLE		GENERAL LOCATION	
SCALE		NTS	DATE NOV 2011
EDAS		FIGURE 1	

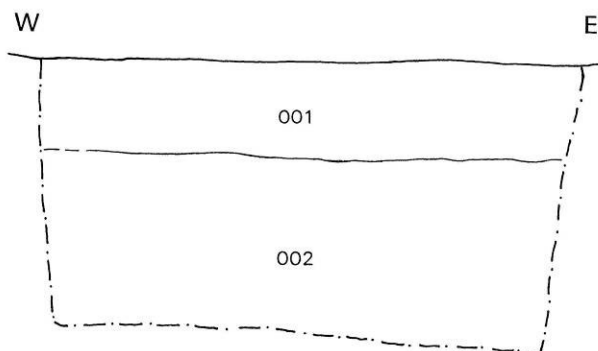


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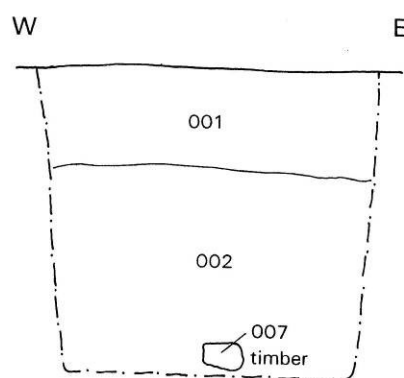
PROJECT		LINLEY HILL AIRFIELD	
TITLE		SITE LOCATION	
SCALE		NTS	DATE NOV 2011
EDAS		FIGURE	2



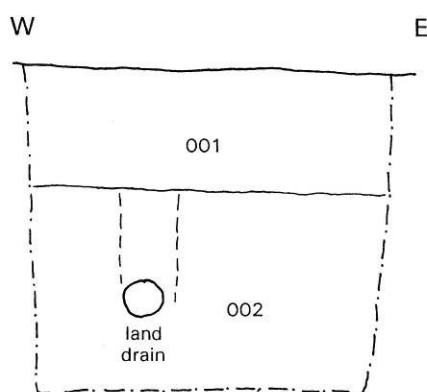
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TITLE		WATCHING BRIEF - PLAN	
SCALE	AS SHOWN	DATE	NOV 2011
EDAS		FIGURE	3



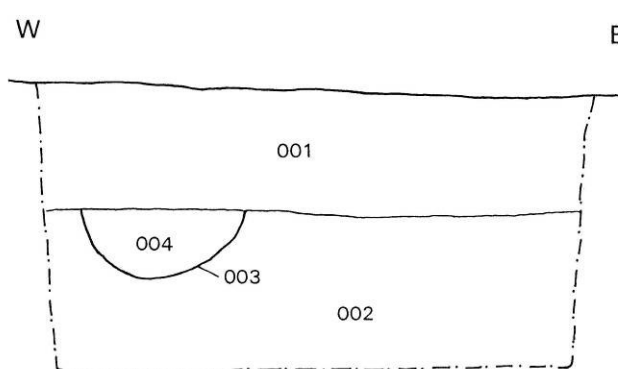
Section 1: North side of Pit 2



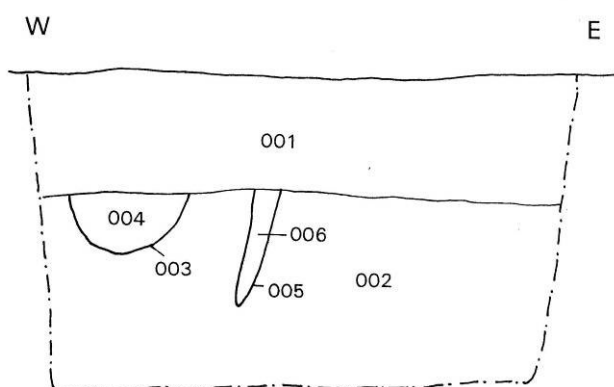
Section 2: North side of Pit 10



Section 3: North side of Pit 11



Section 4: North side of Pit 5



Section 5: North side of Pit 4



PROJECT		LINLEY HILL AIRFIELD	
TITLE		WATCHING BRIEF - SECTIONS	
SCALE	AS SHOWN	DATE	NOV 2011
EDAS		FIGURE	4

## **APPENDIX 1**

## APPENDIX 1: LIST OF CONTEXTS

<i>Context</i>	<i>Description</i>	<i>Area of site</i>
001	Loose grey-brown silty clay peat, 0.30-0.45m deep - topsoil	All pits
002	Sticky firm grey-brown silty clay, more than 0.65m deep - natural alluvial deposit	All pits
003	U-shaped cut, 0.35m-0.49m wide, 0.17m-0.20m deep, aligned north-south with concave edges and rounded base	Pits 4 & 5
004	Firm mid-brown silty clay - fill of 003	Pits 4 & 5
005	Cut for stake, 0.07m wide, 0.34m deep, slightly angled and tapering to a point	Pit 4
006	Loose dark-grey silty clay - fill of 005	Pit 4
007	Piece of horizontal soft waterlogged timber, 0.11m wide and 0.07m thick - no evidence for working	Pit 10

## **APPENDIX 2**

## **APPENDIX 2: EDAS WRITTEN SCHEME OF INVESTIGATION**

### **ERECTION OF A SINGLE STOREY EXTENSION AND OBSERVATION TOWER TO CLUB HOUSE, AND ERECTION OF AIRCRAFT STORAGE BUILDING, LINLEY HILL AIRFIELD, LINLEY HILL ROAD, LEVEN, EAST YORKSHIRE (application DC/09/00637/PLF/EASTSE)**

#### **1 INTRODUCTION**

- 1.1 This Written Scheme of Archaeological Investigation details the work required to undertake a programme of archaeological investigation and recording, to be carried out during groundworks associated with the erection of a single storey extension and observation tower to the club house, and the erection of an aircraft storage building, at Linley Hill airfield, Lindley Hill Road, Leven, East Yorkshire. This Written Scheme has been produced by Ed Dennison Archaeological Services Ltd (EDAS), at the request of the developers of the site, Hull Aero Club.
- 1.2 This document forms the 'Written Scheme of [Archaeological] Investigation' stipulated in condition 4 of the full planning permission for the development (application DC/09/00637/PLF/EASTSE), granted by East Riding of Yorkshire Council on 28th May 2009.
- 1.3 This Written Scheme of Investigation (WSI) has been prepared by Ed Dennison of Ed Dennison Archaeological Services Ltd (EDAS), on behalf of the developer (Hull Aero Club), in accordance with the above planning condition. Its content has been discussed and agreed with the Humber Archaeology Partnership.

#### **2 SITE LOCATION AND DESCRIPTION**

- 2.1 Lindley Hill airfield lies on the north side of Lindley Hill Road, which runs west across Leven Carrs from Leven and Little Leven, East Yorkshire. The site of the proposed aircraft storage building lies on the west side of an existing hanger, which itself lies just to the west of the airfield clubhouse (see figure 1). The hangar development site, centred on NGR TA0742 4592, is currently mown grass, and is used as a parking area for light aircraft.

#### **3 PLANNING BACKGROUND**

- 3.1 Full planning permission for the erection of a single storey extension and observation tower to the club house, and the erection of an aircraft storage building at Linley Hill airfield, Lindley Hill Road, Leven, was approved East Riding of Yorkshire Council Yorkshire on 28th May 2009 (application DC/09/00637/PLF/EASTSE).
- 3.2 One of the conditions (number 4) of planning permission relates to archaeological works, and states:  
"No development shall take place on the site until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority (PPG16, paragraph, 30; Circular 11/95, Model Clause 55). The scheme shall provide for:
  - i) the proper identification and evaluation of the extent, character and significance of archaeological remains within the application area;
  - ii) an assessment of the impact of the development on the archaeological remains;
  - iii) proposals for the preservation in situ, or for the investigation, recording and recovery of archaeological remains and the publishing of the findings, it being understood that there shall be a presumption in favour of their preservation wherever feasible;
  - iv) sufficient notification and allowance of time to archaeological contractors nominated by the developer to ensure that archaeological fieldwork proposed in pursuance of (i) and (iii) above is completed prior to the commencement of permitted development in the area of archaeological interest; and

v) notification in writing to the Curatorial Officer of the Humber Archaeological Partnership of the commencement of archaeological works and the opportunity to monitor such works. The supporting text to this condition notes that "This condition is imposed because the site is potentially of archaeological importance".

- 3.3 Advice from the Humber Archaeology Partnership (HAP), who advise the Local Planning Authority on archaeological matters, states that the first stage of this programme of archaeological work should comprise an archaeological evaluation by topsoil stripping, followed by the detailed cleaning and recording of exposed surfaces and selected excavation of any identified deposits or features (Phase 1). If these features or deposits are deemed to be significant, further work will be required to achieve physical or *in situ* preservation (Phase 2). If destruction is unavoidable, detailed excavation of selected features, followed by post-excavation analysis and publication of results, should take place to achieve 'preservation by record'.

## **4 ARCHAEOLOGICAL INTEREST AND POTENTIAL**

- 4.1 Information from the Humber Sites and Monuments Record (HSMR) notes that the development site lies within a major archaeological landscape. The River Hull supported early settlement and the remains of early occupation are recorded within this landscape as cropmarks. A complex of these cropmarks that could date back to the prehistoric period has been recorded in the area immediately adjacent to the development site - the complex includes a series of ditches with pits and possible enclosures and trackways. It is therefore possible that groundworks associated with this development might encounter archaeological deposits dating from the prehistoric period onwards.

## **5 NATURE OF THE DEVELOPMENT**

- 5.1 The proposals involve two elements, the erection of a single storey extension and observation tower to the club house, and the erection of an aircraft storage building. At the present time, only the aircraft storage building is going to be constructed, but this WSI covers both developments, so that the appropriate documentation is in place for when the extension is finally built.
- 5.2 The proposed extension to the club house will be built on the west end of the existing clubhouse (see figure 1). The new footprint measures 50m long by 67.7m wide, and it will be constructed using standard strip foundations.
- 5.3 The new aircraft storage building will be constructed immediately to the west of an existing hangar (see figure 1), and this will measure 160m long by 190m wide (304m<sup>2</sup>). The turf and a limited depth of topsoil (up to 300mm in total) will be stripped to facilitate the construction of a concrete pad which will serve as the floor of the storage building; the new floor level will be virtually the same as that surrounding the site. The roof will be supported on a steel frame which will require excavation of 12 pits around the periphery of the structure (see figure 2); these pits will measure either 1.2m by 1.6m or 1.0m square, and it is envisaged that they will be 800mm deep. According to the development proposals, no new drains or other services are to be dug, and there is no associated landscaping.

## **6 FIELDWORK METHODOLOGY**

- 6.1 The area of the hangar development (304m<sup>2</sup>) will be subject to an archaeological evaluation through topsoil stripping (Phase 1 work) followed by any subsequent Phase 2 work as defined in paragraph 3.3 above. The excavation of the pits around the hangar site and the foundations for the club house extension will be subject to an archaeological watching brief. All the archaeological fieldwork will be undertaken by EDAS, who are an archaeological organisation registered with the Institute for Archaeologists.

## On-site Methodology and Recording for the Hangar Development

### *Archaeological Objectives*

- 6.2 The objectives of the Phase 1 evaluation for the hangar site can be defined as follows:
- to determine the presence/absence of all archaeological deposits and features within the development site;
  - to identify and record in plan all the archaeological features within the development site; and
  - to provide an assessment of the potential and significance of any identified archaeological deposits and features within a local and regional context.
- 6.3 Once the Phase 1 evaluation is complete, an informed decision can be made regarding the future treatment of any identified remains and any mitigation measures that might be required prior to or during development (Phase 2 work). Depending on the nature of the remains and their location within the development site, the latter might include preservation *in situ* beneath the concrete slab of the development. However, if destruction of any archaeological remains is unavoidable, detailed excavation of selected features, followed by post-excavation analysis and publication of results, will be undertaken to achieve 'preservation by record'.
- 6.4 The objectives of any subsequent Phase 2 detailed work at the hangar site will therefore be to:
- identify and record through excavation all archaeological features within the development site which would otherwise be destroyed or disturbed by the development;
  - determine the extent, condition, function, relationships, character, quality of survival, importance and date of any identified archaeological deposits within the development site which would otherwise be destroyed or disturbed by the development; and
  - recover an adequate sample of the deposits and related artefactual and ecofactual materials to allow the determination of (i) the chronology of the site, its components and detailed phases, (ii) the inter-relationships between the various components of the site, (iii) the function of the various components of the site, and (iv) the potential co-existence or succession of sites in the immediate vicinity, so as to achieve 'preservation by record'.

### *Phase 1 Evaluation*

- 6.5 The topsoil across the area of the hangar site will be stripped by a mechanical excavator using a toothless ditching bucket in level spits to the depth required for the development. This topsoil strip will take place under constant archaeological supervision.
- 6.6 Once stripped, the exposed surface will be inspected in detail and any areas of archaeological potential and/or interest will be hand-cleaned. If no features are exposed, the underlying natural topography will be recorded. If any exposed and identified deposits or features of archaeological interest are evident, these will be recorded in plan and/or section, relative to the whole development site, at 1:50, 1:100 or 1:200 scales (as appropriate), and photographed. Should a small number of features be identified, these will be recorded as part of the Phase 1 work and limited investigation will take place to establish their depth and cross-section, and retrieve any potential dating material (see below). This recording will comprise photographs (35mm black and white/colour prints and digital shots), scale drawings (plans and sections at 1:50, 1:20 and 1:10 scales as appropriate), and written descriptions as judged adequate by the archaeologist on site, using appropriate proforma record sheets and standard archaeological recording systems. Unnecessary disturbance or destruction of archaeological features and deposits will be avoided. Several machine or hand-excavated sondages may be cut through deposits at the base of the excavated areas to confirm that natural deposits have been correctly identified.

- 6.7 At this stage, elements of intact archaeological structural features of early date, such as walls or hearths, will only be removed for necessary sampling and recording purposes if absolutely necessary. This may be necessary if the presence of the feature hinders the proper excavation or understanding of earlier or underlying deposits, or where its presence would pose a risk to the continuation of safe excavation. Otherwise, such features should normally remain *in situ*, to be dealt with as part of the Phase 2 works. Similarly, any human remains will be adequately recorded and left *in situ*, and not be unnecessarily disturbed at this stage.
- 6.8 Should a complex sequence of deposits and features be identified within the site, a decision will be made in conjunction with the Curatorial Officer of the HAP to determine what elements should be subject to further work to achieve either 'preservation in situ' or 'preservation by record'. This decision will also allow detailed costs and timescales to be prepared for this further work, which will need to be agreed between the client and EDAS. Excavators will not be operated in the immediate vicinity of any identified archaeological remains until those remains have been recorded as part of the Phase 2 work, and EDAS has given explicit permission for operations to recommence at that location

#### *Phase 2 Further Excavation*

- 6.9 Should further Phase 2 excavation work be required, all identified archaeological features and deposits will be excavated in a manner as so to fulfil the Phase 2 objectives (see above), to achieve 'preservation by record'.
- 6.10 All archaeological features or deposits will be recorded in plan and/or section to establish the stratigraphic sequence and, where necessary and possible, will be completely excavated down to naturally occurring deposits. This recording will comprise photographs (35mm black and white/colour prints and digital shots), scale drawings (plans and sections at 1:50, 1:20 and 1:10 scales as appropriate), and written descriptions as judged adequate by the archaeologist on site, using appropriate proforma record sheets and standard archaeological recording systems.
- 6.11 While the complete excavation of some features may not be necessary, the following sampling policy will be adopted:
- for linear features, a minimum sample of 25% of each linear feature less than 5m in length and a minimum sample of 15% of each linear feature greater than 5m in length (each section not to be less than 1m wide);
  - for discrete features, a 100% sample of all stake holes and a 50% sample of all pits, post holes and other discrete features less than 1.5m in diameter;
  - large pits, postholes or deposits over 1.5m in diameter will be sampled in sufficient quantity to define the extents of the feature and to achieve the objectives of the evaluation, but will not be less than 25% and will include a complete section across the feature to recover its full profile;
  - all intersections will be investigated to determine the relationship(s) between component features. Features with a greater depth than can be safely excavated in one stage will be stepped to enable the excavation and recording of their full depth - generally the maximum safe depth is 1.2m, but this will be dependant on local conditions.
- 6.12 In some cases, it may also be appropriate to use a mechanical excavator to remove deep intrusions (e.g. modern brick or other debris), or for putting sections through major features after partial excavation (e.g. large ditches). Limited sondages, if required, will be mechanically excavated through parts of the open area site to ensure that the identification of natural deposits is confirmed. Under no circumstances will the machine be used to cut arbitrary slots down to natural deposits.
- 6.13 A full written, drawn and photographic record of all material revealed during the course of the excavation will be made. The limits of the open area excavation will be surveyed, and individual archaeological features will be planned at 1:50 or 1:20 scales,

as appropriate. Sections of linear and discrete features will be drawn at 1:20 or 1:10 scale. All sections, plans and elevations will include spot-heights related to Ordnance Datum in metres as correct to two decimal places. Survey tie-in information will be undertaken during the course of the excavation and will be fixed in relation to nearby permanent structures and roads and to the Ordnance Survey National Grid. A minimum 35mm format for photography will be used (in monochrome and colour), supplemented if appropriate by digital photography. General photographs of the site will also be taken before, during and after excavation.

## **On-site Methodology and Recording for the Foundation Works**

### *Archaeological Objective*

- 6.14 The objective for the archaeological fieldwork carried out during the excavation of the pits and foundations is to record and recover information relating to the nature, date, depth, and significance of any archaeological features and deposits which might be affected by the ground works.

### *Fieldwork methodology*

- 6.15 All foundation works excavated for the development will be subject to archaeological monitoring as they are being dug, so that any archaeological deposits that might be uncovered can be immediately identified and recorded. Where mechanical equipment is to be used for the excavations (e.g. JCB or mini-digger), the main contractor will use a toothless bucket, to facilitate the archaeological recording.
- 6.16 If it becomes clear during the monitoring work that little of archaeological interest is likely to survive in the site, the recording work may be halted, in consultation with the Curatorial Officer of the HAP. However, if structures, features, finds or deposits of archaeological interest are exposed or disturbed, EDAS will be allowed time to clean, assess, and hand excavate, sample and record the archaeological remains, as necessary and appropriate according to the nature of the remains, to allow the archaeological material to be sufficiently characterised. Excavators will not be operated in the immediate vicinity of any archaeological remains until those remains have been recorded, and the archaeological contractor has given explicit permission for operations to recommence at that location.
- 6.17 The actual areas of ground disturbance, and any features of archaeological interest, will be accurately located on a site plan and recorded by photographs (35mm black and white/colour prints and digital shots), scale drawings (plans and sections at 1:50, 1:20 and 1:10 scales as appropriate), and written descriptions as judged adequate by the archaeologist on site, using appropriate proforma record sheets and standard archaeological recording systems.
- 6.18 If, in the professional judgement of the archaeologist on site, unexpectedly significant or complex discoveries are made that warrant more recording than is covered by this methodology, immediate contact will be made with the developer and the Curatorial Officer of the HAP. This will allow appropriate amendments to be made to the scope of the recording work, in agreement with all parties concerned; these amendments might, for example, include the requirement to sample archaeological and/or environmental deposits, and/or detailed excavation of specific structures. The possibility of temporarily halting work for unexpected discoveries will be discussed with the developer in advance of the development, and sufficient time and resources will be made available to ensure that proper recording is made prior to any removal.

### ***Finds Retrieval***

- 6.19 All finds (artefacts and ecofacts) visible during all the archaeological investigations will be collected and processed. A finds recovery and conservation strategy will be agreed before the commencement of any site works; this strategy will follow regional and

national guidelines (e.g. Society of Museum Archaeologists 1993; UKIC 2001). All artefacts will be washed and marked in a manner agreed with the recipient museum. Any recording, marking and storage materials will be of archival quality, and recording systems will be compatible with the recipient museum.

- 6.20 All artefacts will be collected, conserved as necessary (see below), stored and processed in accordance with standard methodologies and national guidelines in the appropriate materials and conditions to ensure that minimal deterioration takes place (Watkinson & Neal 1998). If necessary, a conservator will visit the site to undertake 'first aid' conservation treatment.
- 6.21 All bulk finds, defined as brick and tile, appropriate medieval and post-medieval pottery, building materials, animal bone and shell, will be washed and marked in a manner likely to be required by the receiving museum. The bulk finds will be appropriately bagged and boxed, and statistically recorded in accordance with standard methodologies and national guidelines. Where possible, ceramic building materials will be recorded on site, with only the diagnostic examples being taken off site for further examination. Animal bones will be hand collected from all excavated features, and will be bagged and labelled according to their excavated context; there will be no collection of material from unstratified contexts. Where deposits contain dense concentrations of bones, these will be bulk sampled (see above). All other finds will be treated as small finds.
- 6.22 Finds which are unstratified or from the topsoil or modern overburden will generally be retained for assessment.

### **Sampling Strategies**

- 6.23 As necessary, EDAS will also arrange for an appropriate number of site visits at suitable stages during the excavations by any appointed sub-consultants to allow them to carry out environmental sample processing and/or other assessment works.

#### *Sediment sampling*

- 6.24 As part of the archaeological investigations, deposits will be sampled for the retrieval and analysis of biological remains, and to assess their bio-archaeological potential. To this end, a number of samples will be taken from excavated features. It is not intended to institute an extensive blanket sampling policy involving the routine sampling of all features, but those specific contexts which appear to have high potential will be targeted. These may include burnt deposits and those with visible preserved organic material from specific types of feature, such as pit fills, ditch fills and occupation deposits/floor silts if clearly uncontaminated. Several background samples will also be taken from features with no visible potential.
- 6.25 Depending on the results of the Phase 1 work, a strategy for the recovery and sampling of environmental remains from the site will be produced, and this will include a reasoned justification for the selection of deposits for sampling which will be developed with an environmental consultancy and in conjunction with the English Heritage Regional Advisor for Archaeological Sciences, following regional and national guidelines (e.g. Association for Environmental Archaeology 1995; English Heritage 2002). Copies of the environmental strategy, which will address the study of faunal, plant and invertebrate remains, will be formulated once the Phase 1 evaluation is complete. At present, it is envisaged that the following sample types will be taken:
  - a single 10 litre general biological analysis (GBA) sample will be taken from targeted deposits;
  - a single 10 litre sample will be taken from sediments which appear to have accumulated naturally;
  - a small number of deposits will have 40–60 litre bulk-sieved (BS) samples taken, particularly if they are visibly rich in biological/organic material (such as small animal bone, insect remains or well-preserved vegetation); and
  - 100% samples will be taken from smaller features.

### *Specialist sampling*

- 6.26 The need for any specialist sampling will be assessed as part of the Phase 2 work. This may include monolith samples and 'spot' samples for particular purposes (e.g. recovery of snails, seeds, small bones, wood for identification).
- 6.27 Some of the excavated materials may also be suitable for radiocarbon, archaeomagnetic dating and/or dendrochronological determinations, as appropriate; where *in situ* timbers are found to survive in good condition, samples will be taken for dendrochronological assay. The post-excavation assessment (see below) will include recommendations for a programme of dating techniques, if appropriate.

### *Animal bones*

- 6.28 Animal bones will be hand collected from all excavated features, and will be bagged and labelled according to their excavated context. There will be no collection of material from unstratified contexts. Where deposits contain dense concentrations of bones, these will be bulk sampled (see above).

## **7 OFF-SITE WORKS**

### **Assessment**

- 7.1 Should no further archaeological work be required on completion of the Phase 1 work, the site records will be indexed and assessed, leading to the production of a report; this report will include the discussion of the excavation area based on the features recorded. The results of any specialist contributions will be integrated.
- 7.2 If a second stage of fieldwork is required, the initial report will take the form of an interim statement. On completion of all fieldwork, the combined results will be assessed and a unified phasing structure will be produced, resulting in the production of a detailed stratigraphic report.
- 7.3 All finds processing, conservation works and storage of finds from the site will be carried out by appropriately qualified staff or specialists (e.g. finds officer, pottery specialist, environmental specialist, human bone specialist etc) and in accordance with standards likely to be agreed with the recipient museum. The implementation of these standards will ensure compatibility with other sites in the museum's collecting area.
- 7.4 The site may produce some organic and/or metallic objects and materials. As well as any 'first aid' treatment on site, all organic and inorganic materials will be appropriately treated after excavation, following English Heritage guidance, including prior specialist recording for materials where there is a possibility of information loss during the process of conservation.
- 7.5 Following English Heritage guidance, all iron objects, a selection of non-ferrous artefacts (including all coins), and a sample of any industrial debris relating to metallurgy will be X-radiographed before assessment, and the process of selection for conservation will involve the appropriate specialists. All non-conserved material will be stored in stable conditions, while all other classes of material will be stored as and where appropriate.
- 7.6 All recovered small finds will be stored in the appropriate materials and storage conditions in accordance with national and regional guidelines. Vulnerable objects will be specially packaged, and textiles, painted glass and coins stored in appropriate specialist systems.

## **Archive Preparation and Deposition**

- 7.7 The site records from all types of investigation, comprising written records, plans and photographs, will be cross-referenced, and on completion of the project, prepared for archive, in accordance with accepted national and regional guidelines (e.g. Walker 1990; English Heritage 1991; Society of Museum Archaeologists 1995). EDAS will also liaise with ERYMS concerning their detailed requirements in advance of the start of fieldwork. Finds and environmental material will also be labelled, conserved and stored according to the above guidelines. If necessary, provision will also be made for the stable storage of paper records and their long-term storage on microfiche, in accordance with English Heritage requirements (e.g. Handley 1999).
- 7.8 The client is normally encouraged to donate the finds from the excavations to a museum; the archive should be deposited with a suitable repository which meets the criteria for the storage of archaeological material, in this case the ERYMS.
- 7.9 On completion of post-excavation work, ownership of the finds can be transferred to the museum, with the written archive also being transferred by EDAS. All recorded finds would be deposited as a matter of course, but discussions would need to take place on completion of post-excavation work to determine which bulk finds were of sufficient importance to be deposited. An allowance will be made as a contribution to the recipient museum towards the long-term curation and storage of materials.

## **Report Production**

- 7.10 Should no further Phase 2 work be required in connection with the proposed development, a report on the Phase 1 evaluation and the watching brief work will be produced, to include a summary and description of any features recorded at that stage, together with any key finds and dated artefacts, with a short discussion and (if applicable) recommendations. The report will include the site code, planning reference, SMR casework number, grid reference, dates of fieldwork, and the historical and archaeological background of the site.
- 7.11 If Phase 2 work is required, a subsequent report will include a detailed discussion of the sequence, together with specialist assessments prepared on completion of all fieldwork. This report will conform to the requirements of English Heritage (1991), and will include as a minimum:
- (a) a non-technical summary of the entire report;
  - (b) an introduction outlining the circumstances of the project, including references to planning application number(s), site codes, SMR casework number, the archaeological background, a detailed site description (including NGR), and the dates when fieldwork took place;
  - (c) a description of the methodology and techniques used and the objectives of the investigations;
  - (d) a detailed narrative description of the results of the excavations, with reference to context numbers;
  - (e) an interpretation of the overall structural and stratigraphic sequence established by the excavations, including phasing of the site sequence and spot-dating of the ceramics, with reference to the local and regional archaeological context;
  - (f) appropriate photographs as required to illustrate the report;
  - (g) inked plans showing an overall site plan, the location of the areas of topsoil strip within the site, individual plans and sections of identified features and deposits, all at appropriate scales, and any other plans and sections as may be required to illustrate the report;

- (h) a catalogue and post-excavation assessment of each category of artefact recovered from the excavations, including the spot dating of any ceramics, each undertaken by a relevant archaeological specialist and detailing the potential for any further analytical work and recommendations for selection of material to be deposited for long-term storage with the site archive;
- (i) a catalogue and post-excavation assessment of any faunal remains recovered from the excavations, including spot dating, each undertaken by a relevant archaeological specialist and detailing the potential for any further analytical work and recommendations for selection of material to be deposited for long-term storage with the site archive;
- (j) a catalogue of soil samples collected and a post-excavation assessment of the results of the soil sampling programme, undertaken by a relevant archaeological specialist and detailing the potential for any further analytical work and recommendations for selection of material to be deposited for long-term storage with the site archive;
- (k) catalogues and post-excavation assessments and/or summary reports of all scientific dating procedures or other analyses carried out and detailing the potential for any further analytical work and recommendations for selection of material to be deposited for long-term storage with the site archive;
- (l) individual specialist reports will contain non-technical summaries and tabulation of data in relation to the site phasing contexts, and should be presented as unedited appendices to the main report;
- (m) a statement of significance and potential for all categories of evidence, including stratigraphic, artefactual and ecofactual data;
- (n) recommendations for any further specialist analysis, and the need for further post-excavation and publication work;
- (o) recommendations for any storage and curation requirements;
- (p) an appendix containing a list and summary description of all contexts recorded;
- (q) a summary of the material held in the site archive, and details of archive location and destination;
- (r) a post-excavation assessment of each category of data or material held in the site archive, with a view to their potential for future study;
- (s) an appendix containing a copy of the project specification and/or the approved project design;
- (t) references and bibliography of all sources used.

- 7.12 Three copies of the final report will be produced, to be distributed to the client, the HAP and the Local Planning Authority. EDAS will also provide a copy of the final report in an electronic format, including figures and illustration, as a pdf file, which will also be passed to the HAP and other interested bodies.

### **Publication**

- 7.13 Even if the results of the Phase 1 work lead to a decision not to initiate any further Phase 2 work, it is still possible that the results are worthy of publication. Where no further work is envisaged, allowance will therefore be made for the preparation and publication of a brief note in a local journal outlining the results of the evaluation. If

further Phase 2 work is proposed, the publication of the results of this phase of evaluation will be covered by the recommendations in the project report.

- 7.14 The project will also be fully OASIS (Online Access to Index of Archaeological Investigations) compliant. Prior to the start of any fieldwork, an OASIS online record will be initiated and key fields completed on Details, Location and Creators forms. All parts of the OASIS online form will be subsequently completed; this will include an uploaded pdf version of the entire report.

## **8 TIMING OF THE PROJECT**

- 8.1 At present, no date for the start of the on-site archaeological works has been determined.
- 8.2 The archaeological recording work should not cause undue delay to the overall programme of site works, and much can be achieved through liaison and co-operation with the main contractor. However, the main contractor and developer will ensure that EDAS has sufficient time and resources to ensure compliance with all elements of this WSI. It is likely that the archaeological recording will be accomplished through a number of separate site visits, the number and duration of which will be determined by the speed of the development and/or excavations. Access to the site will therefore be afforded to EDAS at all reasonable times.

## **9 OTHER MATTERS**

### **Monitoring**

- 9.1 It is to be expected that EDAS will be subject to regular monitoring and supervision by the local archaeological curators (HAP), particularly during the site works. This will ensure that this Written Scheme of Investigation is being followed and that high professional standards are being maintained.
- 9.2 Reasonable prior notice (minimum one week) of the commencement of development should be given to EDAS, who will then inform the HAP, so that they may attend or monitor the recording work if they so wish.

### **Human Remains**

- 9.3 If *in-situ* human remains are encountered during the course of the groundworks, a Ministry of Justice licence will be applied for before any are removed. The presumption will be to leave any recent burials *in situ* unless they are likely to be disturbed by the proposed development, or their presence is preventing the aims of the evaluation from being satisfactorily fulfilled. It may be desirable to remove older remains for research purposes.
- 9.4 All human remains will be handled and excavated according to current standards (e.g. Brinkley & McKinley 2004). Such remains will be treated with due respect and adequately recorded using existing recording forms designed specifically for such use. Any skeletal material will be lifted and arrangements made for secure storage, unless the licence specifies reburial or cremation. Any disturbed or unstratified remains will also be collected for assessment and/or reburial.

### **Treasure**

- 9.5 The terms of the Treasure Act (1996) will be followed with regard to any finds which might fall within its purview. Any such finds will be removed to a safe place, and reported to the local coroner as required by the procedures laid down in the Code of Practice. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft.

## Health and Safety

- 9.6 Health and safety issues will take priority over archaeological matters. All archaeologists undertaking fieldwork will comply with all Health and Safety Legislation, this includes the preparation of a Risk Assessment. Necessary precautions should be taken regarding any underground services and overhead lines. EDAS will also make provision within their excavation strategies for the use of shoring, pumps and/or artificial lighting.

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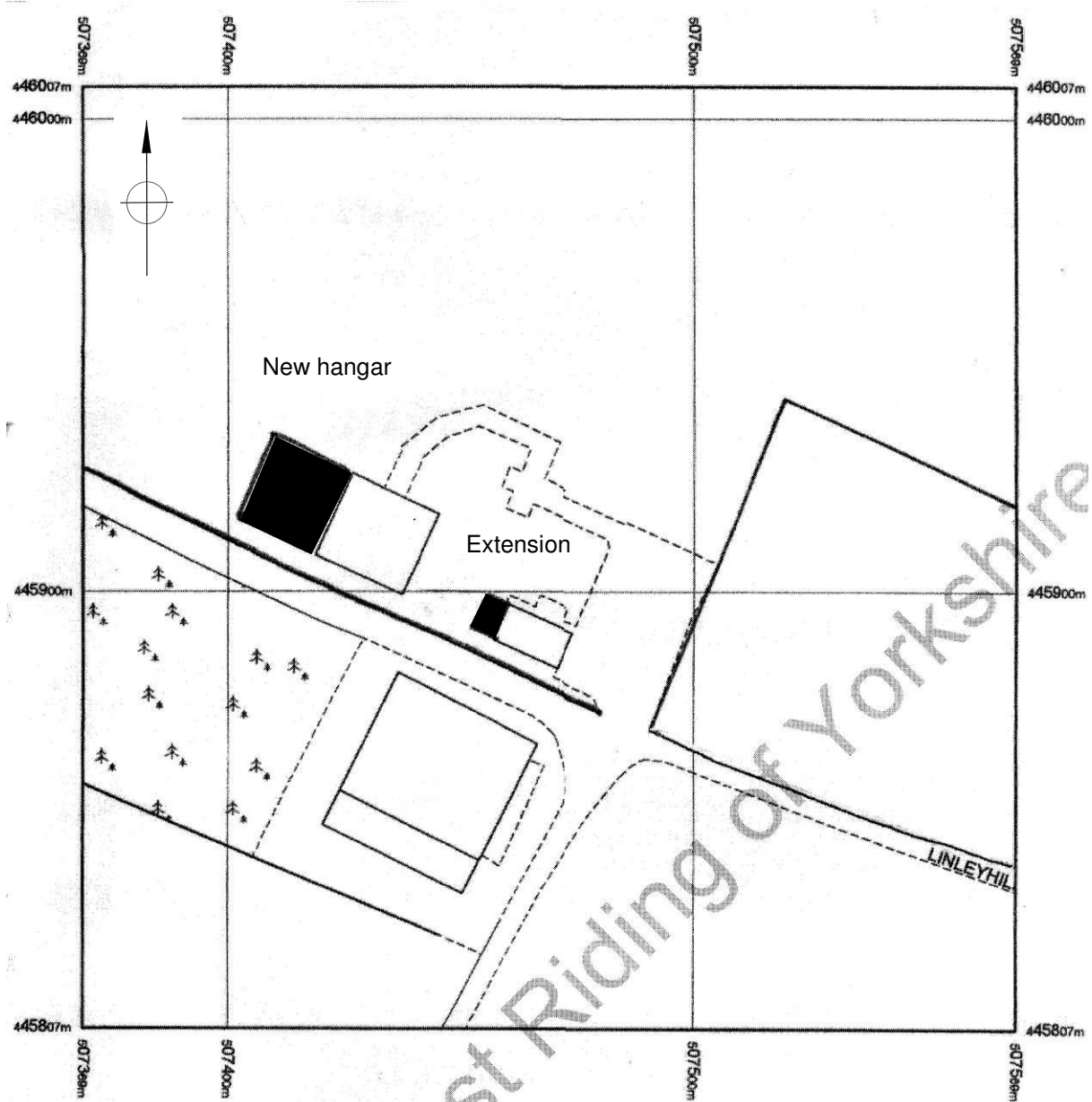


FIGURE 1: SITE LAYOUT  
(not to scale)

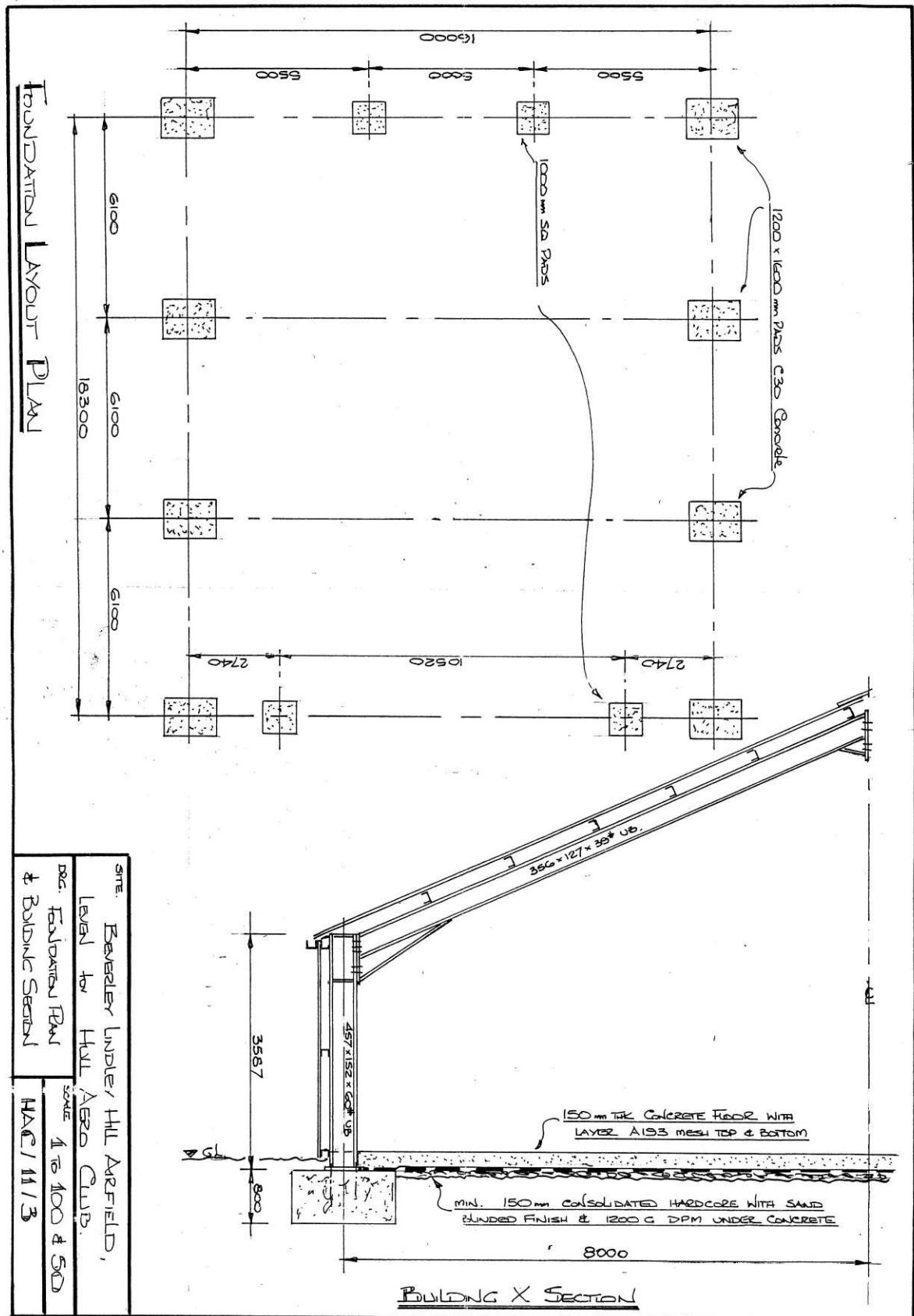


FIGURE 2: PROPOSED HANGAR DEVELOPMENT  
(not to scale - plan supplied by Hull Aero Club)