

Finches: Of 5 northern migrant species, the occasional appearances of Northern Bullfinches with winter thrushes are exceptional.

n. Records of Scarce and Rare Species - Rarities have no lasting place in any bird community but their appearances underscore the value of any bird-inhabited area.

Falcated Duck\* Ponds, 23<sup>rd</sup> and 27<sup>th</sup> August 1997; E. Asia.

Baikal Teal\* Ponds, 24<sup>th</sup> and 27<sup>th</sup> August 1999; E. Asia.

Red-footed Falcon Northern fields, 15<sup>th</sup> June 1997; E. Europe

Short-toed Lark Near ponds, in flight to south, 26<sup>th</sup> April 1998; S. Europe.

Yellow-browed Warbler Old hall wood, 18<sup>th</sup> September 2000; Siberia.

Short-toed Treecreeper Ponds, 21<sup>st</sup> November to 20<sup>th</sup> December 1998,- only record for WM; Europe.

Golden Oriole Heard in woods, 7 September 1996; breeds in E. Anglia.

\*May have been escapes from collections or zoos.

o. **Other wildlife** - No study has been made of any other class of wildlife but from the high diversity of birds and the resident status of Buzzards, the site is obviously well able to support good populations sizes. Its resources are also exploited by other higher animals. The commonest mammals (in terms of passing visibility) are Rabbit, Hare and Fox but clearly from signs, Badger and Mole are also in residence. Small rodents appear scarce\* probably accounting for Kestrels being restricted to 1 pair and Weasels and Stoats being rarities. No sign of deer has been found.

p. Prior to the 1996 drought, introduced Rainbow Trout abounded in the ponds and lower Lin Brook. Some must have survived, given recent visits by Cormorant and Heron.

#### 5.45 Amphibia & Reptiles

a. There are no known records of any reptiles being found on the site.

b. Common Frog (*Rana temporaria*), Common Toad (*Bufo bufo*) and one species of newt (either Smooth Newt (*Triturus vulgaris*) or, less probably, Palmate Newt (*T. helveticus*)\* were recorded during the survey, all from the SW margin of the South Pond. The frog record is based on presence of tadpoles (in abundance) and sighting an adult. A single adult toad was found under corrugated iron by North Pond. (\*The ambiguity regarding newt identification

arises because the record is based on eggs laid on leaves of Water Forget-me-Not and the eggs of the two species mentioned are indistinguishable).

c. There is no record of Great Crested Newt occurring on the site. The ponds may be suitable for this species, though the rather limited amount of aquatic vegetation suitable for newt egg laying and the presence of fish may be an adverse factor.

**d. Summary of Amphibia and Reptile Appraisal**

e. The species so far recorded are all common. The site probably has much potential as a habitat for amphibia, but populations appear to be quite small and localised.

**5.46 Fish**

a. Other than Three-spined Stickleback, which occurs plentifully in Lin Brook there are no records at the time of writing. Mention has been made of the ponds being stocked with Rainbow Trout in the past.

b. It is to be expected that the ponds will contain some coarse fish, though informed local opinion is that the ponds do not provide good fishing on account of the siltation which has considerably reduced the depth of water. Lin Brook is known to dry up occasionally in summer and this, together with the limited water depth, must restrict its potential as a habitat for fish.

**5.47 Summary of Fish Appraisal**

a. There are, as yet no records of the fish fauna in the two large ponds. All available information implies that the quality of habitat has become more limiting. Clearly this is a situation which could be redressed.

**5.48 Aquatic Invertebrates.**

a. The sampling of Lin Brook was intended to be sufficient to ascertain the water quality,

b. And the groups listed should be regarded as no more than indicative of the complement of aquatic invertebrates present.

Sample Point	1	2	3	4
Plecoptera	-	-	-	-
Ephemeroptera *	vo 7	o 7	o-f	7 -
Trichoptera **	o(2spp)14	o 7	o 7	o(2spp)14
Gammaridae	a 6	o 6	o 6	va 6
Simuliidae	f 5	a 5	vo 5	f 5
Asellidae	f 3	-	-	f 3
Erpobdellidae	f 3	f 3	f 3	-
Glossiphoniidae	f 3	f 3	o 3	o 3
Annelida	a 1	a 1	a 1	o-f 1
Diptera larvae		o	f	o
<b>BWP score</b>	<b>42</b>	<b>32</b>	<b>32</b>	<b>3</b>

\* family Baetidae \*\* fam. Limnephilidae

- c. The animals recorded at the four sample sites are all common species. More prolonged searching would almost certainly reveal other species.
- d. The assemblage is characteristic of lowland watercourses free from damaging pollution and with stony and muddy substrata.
- e. The BWP scores, which are based on the relative intolerance of species to low dissolved oxygen concentrations (higher no. = less tolerant) suggest that there is no significant deterioration in water quality between the sample points
- f. Swan mussel shells (*Anodonta cygnaea*) were found on the bank of the South Pond.
- g. Sampling the ponds for invertebrates has not yet been attempted.

5.49 **Landscape**

5.50 **Landscape Character**

- a. The landscape character of the site has been evaluated at two levels, by reference to the assessment contained in the Countryside Character National Mapping Project and a through a detailed 'finer grain' assessment of the study area as advocated in Planning and Policy Guidance note 7.

5.51 **The Countryside Character National Mapping Project** - compiled by the Countryside Agency, identifies 159 areas of distinct landscape character covering the whole of England. Each area may contain local differences, but will demonstrate a broadly identifiable character. The study area and its setting fall within the Needwood and South Derbyshire Claylands Character Area no 68.

- a. The key characteristics of this area which are relevant to the Byrkley Park site are as follows:
  - i. Rolling, glacial till plateau rising to prominent wooded heights above the central valley
  - ii. Wide shallow central valley
  - iii. Frequent plantations and ancient woodland in the former forest of Needwood.
  - iv. Varied hedgerow patterns: strongly rectilinear in Needwood Forest
  - v. Predominantly pasture with good hedges but some areas of more open arable with low hedges
  - vi. Red brick and half timber villages with sandstone churches
  - vii. Historic parks and country houses

b. The analysis of this area of countryside also identifies that a number of the parklands are in a state of disrepair. A reference has also been made to the woodlands, particularly the smaller more remote ones, which are currently suffering from not being actively managed.

c. The recommendations made by that report for the enhancement of the landscape character are aimed at managing the countryside, the following points being relevant to the Byrkley Park site are:

i. Within the area covered by the National Forest, it is proposed to enhance the and maintain the existing landscape especially the traditional pastoral character, the patchwork of hedged fields, the narrow lanes with high hedges and the red bricked buildings. Important vistas will be maintained. An intimate mix of forestry planting and rural farmland is proposed. Emphasis will be given to informal recreation and nature-conservation objectives, including the reinstatement of river valley meadows, grazing pastures in historic parks and species rich grassland.

ii. Elsewhere, parkland and the mixture of woodland, fragments of semi-improved grassland, hedges and wetland would benefit from continued conservation and management.

5.52 **Local Landscape Character** – within the framework of the broader character area, outlined in the Countryside Character Program, a more detailed assessment of the study area has been undertaken. This divides the landscape into eight areas that demonstrate broadly homogenous characteristics. Factors such as topography, vegetation, land uses and building structures have been considered during this process. The key characteristics of each of the character areas are described briefly below and the extent of each character type illustrated in Figures 7a and b.

**a. Woodland Plantation**

- i. Dense plantation / woodland - predominantly coniferous
- ii. Balanced, enclosed, intimate spaces created within uniform pattern of landscape
- iii. When viewed from a distance areas appear to be peaceful, but colourful and textured, particularly where deciduous planting is included in the woodland mix.

**b. Open Tree Groups**

- i. Mature trees set at irregular, wide intervals
- ii. Harmonious, intimate spaces created beneath canopies of trees
- iii. Colourful, diverse and textured, particularly when viewed from a distance

**c. Parkland / Agriculture**

- i. Wide, undulating open landscape which is harmonious and balanced
- ii. Landscape features include stream, mature trees, tracks, expansive grassland
- iii. Bordered by large hedgerows, woodlands and mature tree groups

**d. Agricultural**

- i. Undulating and broadly sloping, open landscape
- ii. Dominated by grassland which has muted uniform appearance
- iii. Interrupted by hedgerows, hedgerow trees, roads and tracks, occasional farm buildings constructed in red brick or light coloured render

**e. Wetland Corridor**

- i. Intimate small scale landscape within wooded areas, open and simple in areas without vegetation
- ii. Peaceful, balanced landscape set at bottom of shallow wide valley
- iii. Historical references around ponds interesting

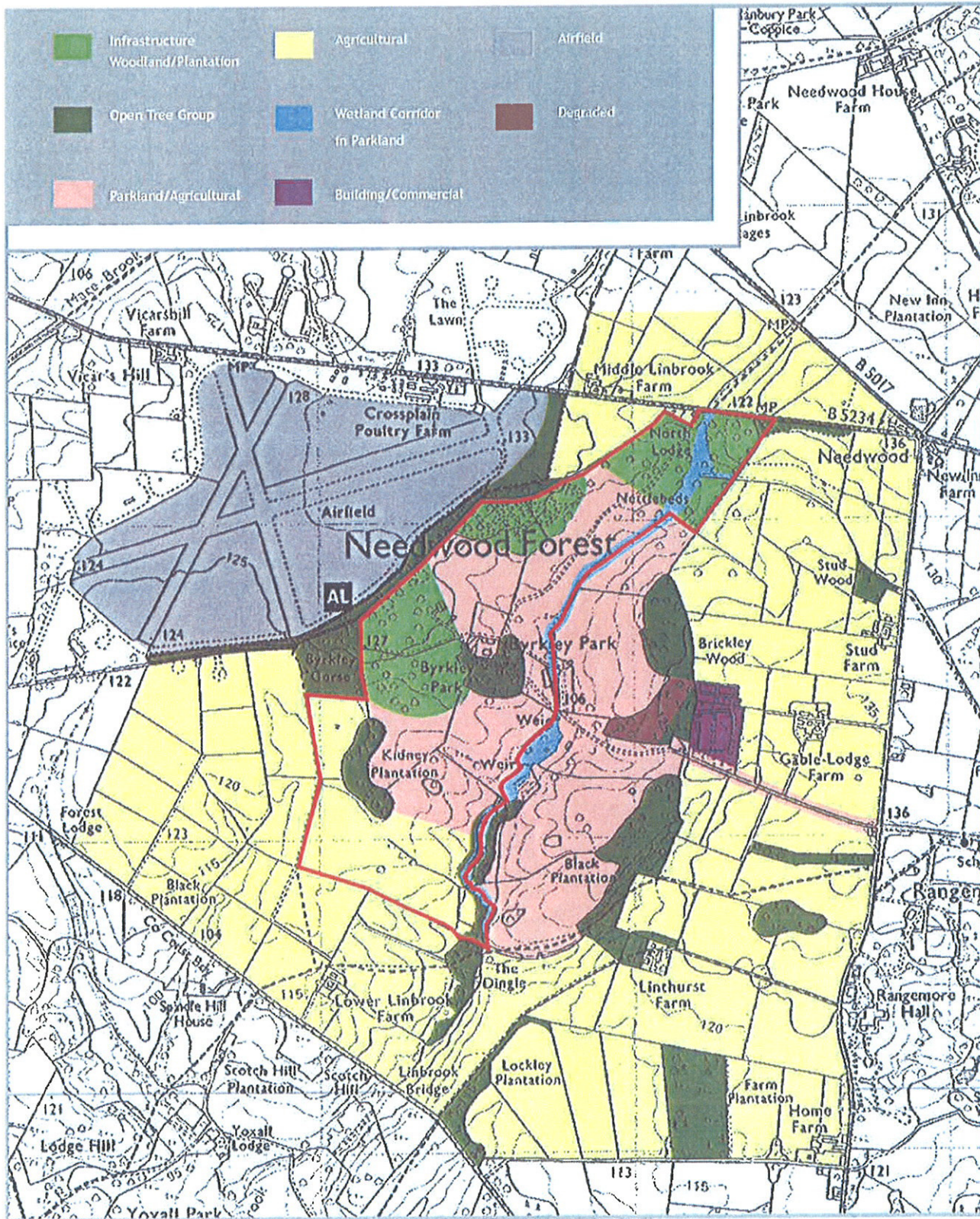
**f. Building Commercial (garden centre)**

- i. Mixed styles of architecture, modern extension to historical building
- ii. Busy, confined exterior space, dominated by car park and young planting
- iii. Surrounding landscape contains mature trees and woodland, restricting views out of the area and references to adjacent landscape character types

**g. Degraded**

- i. Recently felled woodland, chaotic, exposed and very rough
- ii. Gently sloping ground, top edge contained by retained woodland





Landscape Character - Existing

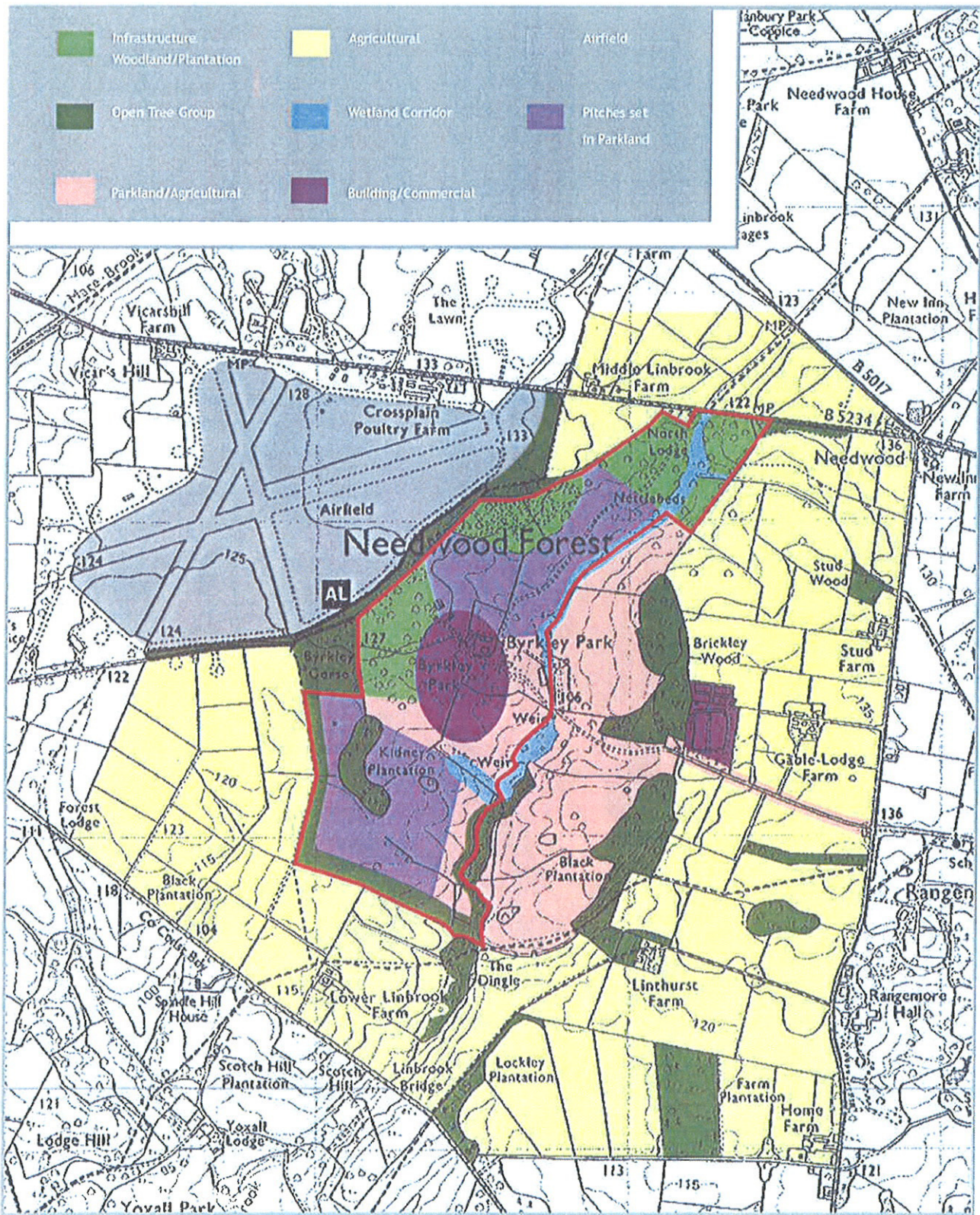
Fig 7a

# The National Football Centre

## Environmental Assessment







Landscape Character - Proposed

Fig 7b

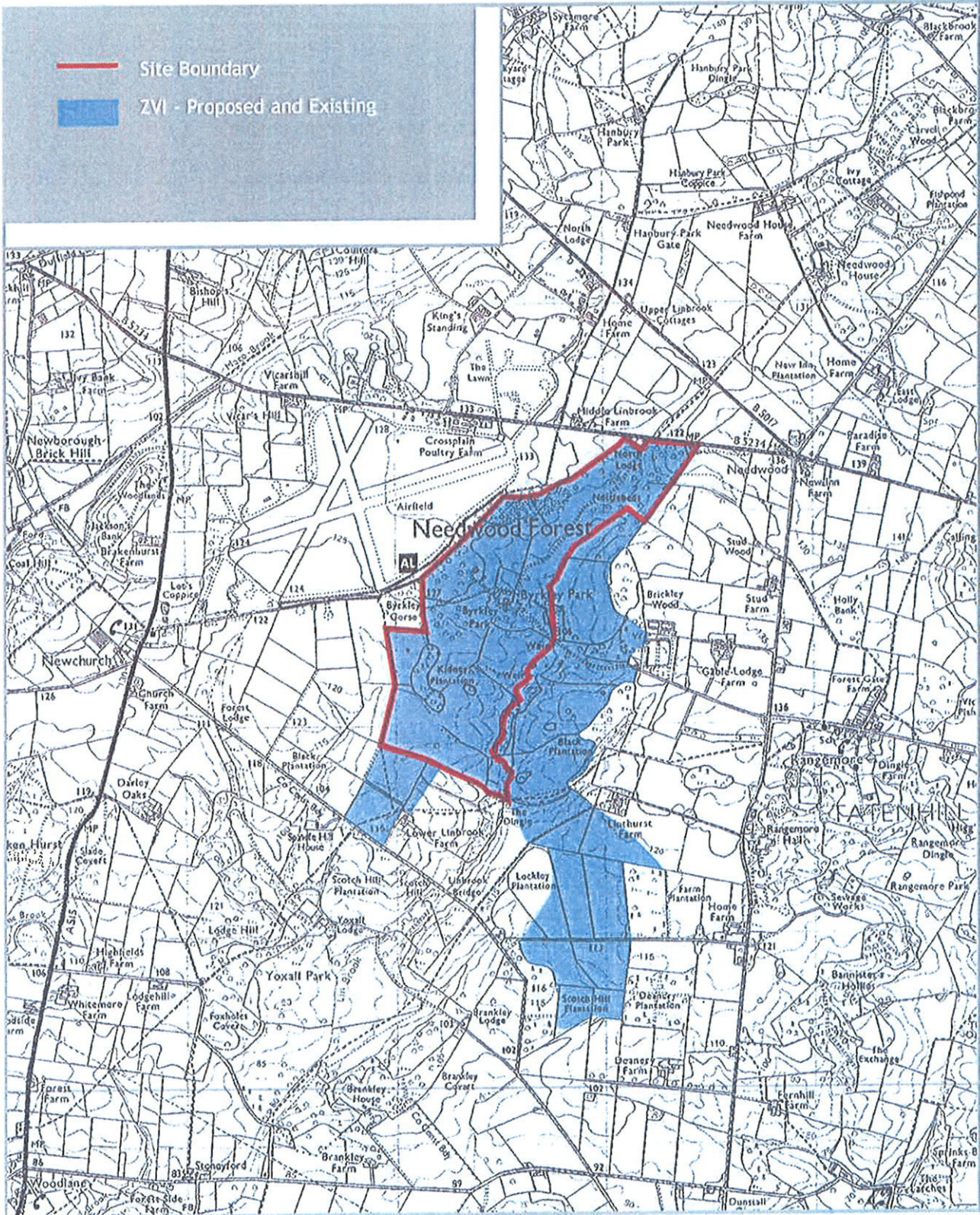
# The National Football Centre

## Environmental Assessment





- Site Boundary
- ZVI - Proposed and Existing



Visual Envelope

Fig 8

# The National Football Centre

## Environmental Assessment





#### h. Airfield

- i. Flat, open, expansive site – open and remote
- ii. Limited buildings and landscape features
- iii. Minimal mature tree planting and hedgerows containing edge of the character area

### 5.53 Local Landscape Character, Conclusions

a. From this analysis of the detailed character assessment, a number of conclusions can be drawn. The landscape character of the majority of the Byrkley Park site is Parkland/Agricultural, broken by pockets of Woodland Plantation and distinctive Open Tree Groups. A small number of the mature trees are exceptionally old and referred to as veteran oaks. The presence of these trees creates an historical reference which enhances the parkland nature of the site.

b. The character of the landscape surrounding the site is predominantly Agricultural, displaying similar traits to the Parkland, rolling arable and pastoral fields but with fewer individual mature trees and an increased number of dense hedgerow trees. The presence of Woodland areas is also a common trait through these two similar character areas.

c. The exception to this general pattern are two pockets of contrasting character types, the commercial development and degraded area of woodland clearance. To the north of the site the character of the expansive airfield contrasts sharply with the adjacent Parkland and Agricultural landscape.

### 5.54 Topography

a. The landscape within the site has an undulating form, within the general arrangement of a wide, shallow valley. Lin Brook flows through the center of the valley along a north-south axis. The height of the land around the northern end of the Lin Brook is approximately 115 AOD, falling to 95 AOD at the southern end of the park. The eastern and western boundaries of the site form the edges of the valley, the height of the top of the ridges being approximately 120 AOD and 127 AOD, respectively.

b. The height of key features within the landscape has been revealed by a detailed topographical survey of the site, which has been undertaken to understand minor topographical changes and assist with the detailed design of the scheme. It is interesting to note that the Kidney plantation and the woodland around the gatehouse are at the same level, approximately 120 AOD, whilst the group of oak trees around the disused pond is set lower in the landscape at approximately 115 AOD.

### 5.55 Vegetation

a. Vegetation within the site comprises a number of diverse woodland areas, mature tree groups and individual mature trees located in open grassland. This

varied treescape is the essence of the parkland landscape. A thorough tree survey was undertaken in May 2001, which recorded the species, size, quality, condition and location of every tree together with any comments or recommendations for necessary arboricultural works.

b. The survey revealed that the majority of the trees on the site, with the exception of the naturally regenerated species within the woodland areas, are either mature or older (classified as late-mature or senile). The most common species of tree is Oak with Lime and Horse Chestnut trees common throughout the site. A small number of Copper Beech trees are planted amongst the open tree groups, enhancing the parkland character of the landscape with the contrasting colour of their canopies. Woodland groups are dominated by either Oak or Pine.

c. A considerable number of the mature oak trees on the site are significantly older than their counterparts. The technical term for these trees is Veteran Oaks. These are approximately 500 years old, and can be distinguished from the general mature tree population by their large girth and limbs, hollowing trunks, dead limbs and shrinking canopy. Whilst these trees are in the latter stages of their life, and have large sections of the canopy that have died, they are exceptionally ecologically valuable.

d. In general the condition of the mature tree population is average, with minor afflictions including bark wounds, die back, epicormic growth or cankers. In some cases the cause of these problems has been cattle, which have been allowed to graze beneath the canopies, chewing on the bark and lower branches. It should be noted that these type of problems are typical of trees of this age, and in most cases will not effect the immediate life span of the tree.

e. The survey has also specifically identified mature trees that have exceptionally good form, are very poor quality or will be effected by the proposed development. For full details of species, location etc. refer to the Tree Survey document.

#### 5.56 Land Use

a. A study of the various character areas within the site revealed there are only two main land uses associated with the site, these are described below.

b. Woodland areas of either coniferous plantation or native species, together with fields containing groups of mature trees.

c. Sloping fields, containing semi-improved grassland, previously used for grazing but currently being used for generating silage. This area also contains some intermittent mature tree planting.

d. The surrounding landscape has three primary land uses, these being agriculture, the airfield and the garden centre.



**5.57 Ecological Quality**

a. The Byrkley Park site has been designated a Grade 1 Site of Biological Importance (SBI).

**5.58 Views of the Site**

a. A visual assessment has been undertaken to determine the extent of the current baseline site visibility. The standard two stage practice of establishing the zone of intervisibility (ZVI) together with an appraisal of existing views into the site has been adopted for this assessment.

**5.59 Zone of Visual Intervisibility**

a. A visual envelope for the existing site has been prepared and is illustrated in Figure 8. Significant features within the site, which are recognisable from long distances, are the two tall Wellingtonia trees located on edge of tree group in centre of site and the distinctive Cedar trees situated at the end of entrance road.

b. The site is relatively contained by surrounding woodland blocks, tree groups, dense hedgerow and the topography of landscape. The influence of these physical factors has generated a ZVI, which closely follows the boundary of the site along the western edge and significant parts of the northern and southern edges. Exceptions to this general pattern occur where breaks in the hedgerow allow limited views into the site from the public footpath adjacent to the airfield.

c. The eastern side of the site occupies an area of rising ground on the opposite side of the Lin Brook Valley. Clear and filtered views of the development will be attainable from this predominantly open pastoral landscape. The ZVI accordingly extends through this zone and is curtailed by the dense expanse of Brickley Wood situated along the eastern boundary of the site. An area of the woodland has been felled and replanted for commercial purposes. Through this clearing the upper parts of the garden centre can be seen from within the site. However high perimeter walls, the orientation of the buildings and sufficient woodland cover remain to screen any tangible views of the site from within the garden centre site and buildings.

d. The southern boundary of the site is the most open and therefore most visually sensitive. The topography of the landscape rises to the south-east, allowing clear views along the Lin Brook Valley, from the public footpath which links Linthurst Farm and Lockley Plantation. Beyond the footpath intervening hedgerow trees and small pockets of woodland planting increasingly filter views of the site.

e. Land beyond the south western-boundary of the site is comparatively level, and therefore views into the site are limited to where sections of the hedgerow have been maintained at a low height and contain no hedgerow trees. Lower Linbrook Farm is orientated away from the site. Views of the barn and out buildings can be seen from within the site over low sections of the hedgerow.

## 5.60 Viewpoints

a. Photographs have been taken from within and around the site to record existing views of the park. Strategic locations from which viewpoints are considered include the residential property on the B5234 and public footpaths within the vicinity of the site. Where footpaths have been closed due to foot and mouth disease a representative photograph has been taken from the nearest available point within the site. Each view is described below and the photographs and locations from which they were taken shown in Figure 9a. Photographs from each viewpoint are set out at Figures 9b, 9c, 9d and 9e.

b. **Viewpoint 1a and 1b** - This sequence of photographs shows the change in view from the entrance gate on the eastern boundary of the site and approach road towards the centre of the park.

1a From the entrance gate the views into the site are obscured by extensive tree cover with filtered views over to the north west.

1b The track passes through a gently undulating landscape, which falls towards Lin Brook. From this elevated position a clear view into the centre of the site is attainable.

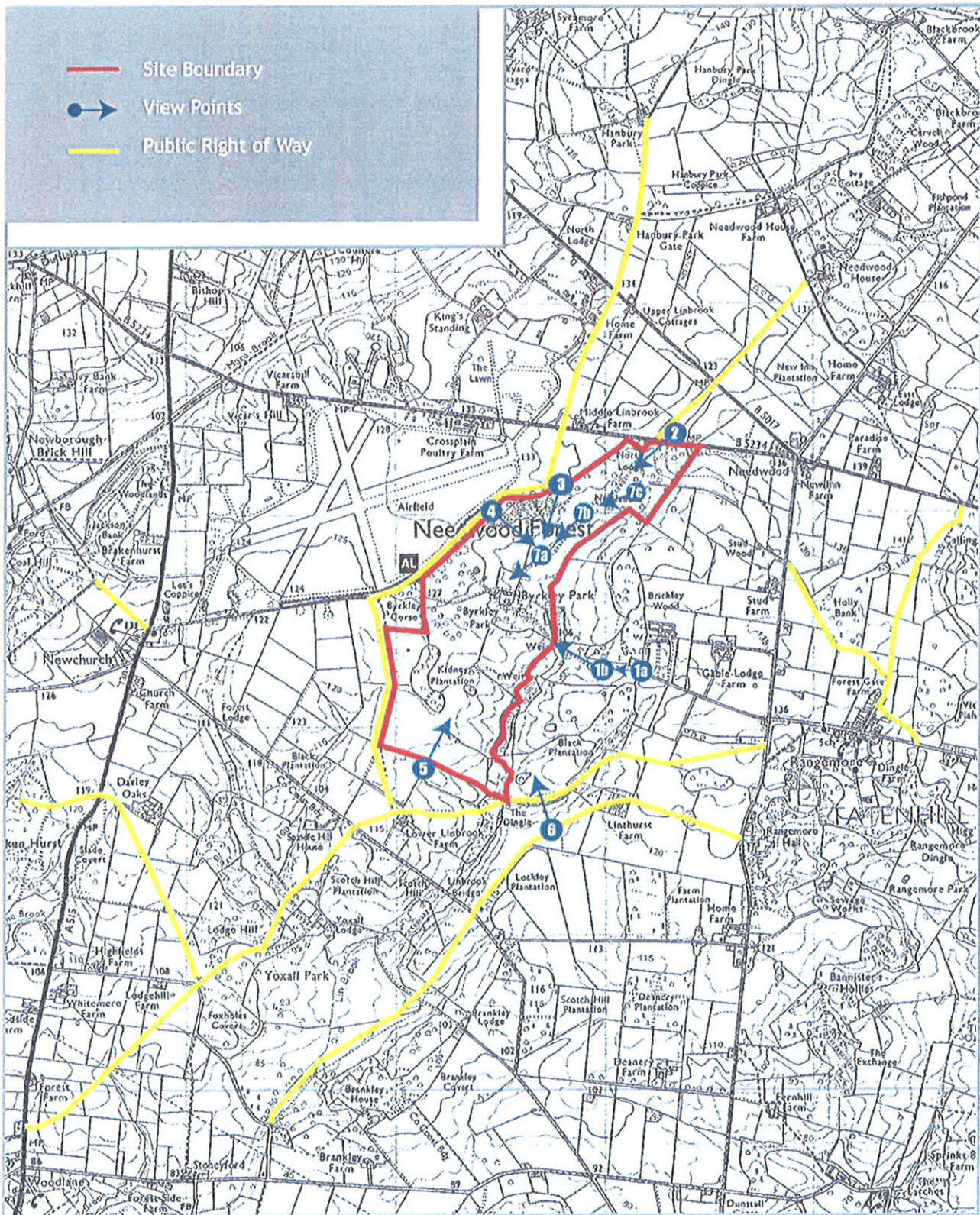
c. In the foreground of the view a series of mature trees, that are set at wide intervals, reinforce the parkland character of the landscape. In the middle distance of the view, to left between Chestnut and Hawthorn trees, is a dense area of tree planting located around the sides of the valley, which emphasises the sloping form of the landscape. Set on ground rising above this is the dense linear formation of the kidney plantation, stretching across the horizon in this section of view.

d. In centre of view the southern edge of the dense woodland block around the site of old lodge can be seen. Two Wellingtonia trees rise out of this woodland group, breaking the horizon in this part of the view to form a significant feature within the landscape. Beyond this woodland are groups of mature trees, which also have a dense appearance when viewed from this distance, forming the horizon in the centre of the view.

e. **Viewpoint 2** - View from the B5234 on the northern boundary of the site. This view is representative of the view from the adjacent public footpath, which is currently closed due to the foot and mouth disease.

f. The view is of an undulating parkland landscape. Long distance views into the site are curtailed by the numerous stands of mature tree planting. The line of hawthorn trees set at a lower level in landscape mark the route of Lin Brook. To the right of the view, the boundary fence surrounding North Lodge can be seen together with smaller scale domestic planting. Running parallel to the fence line is the northern section of the entrance track, which links into the centre of the site. This barely distinguishable view of the track is cut short by changes in topography of the landscape.





Key Views of Development

Fig 9a

# The National Football Centre Environmental Assessment







Key Viewpoints 1, 1a + 2

Fig 9b



g. **Viewpoint 3** - This view, from the western boundary of the site, is representative of the view from the public footpath running through the adjacent field, which is currently closed due to the foot and mouth disease.

h. From this location, the opposite side of the Lin Brook Valley can be seen, with the distinctive group of Wellingtonia trees rising above adjacent vegetation. The view into the site is filtered by mature trees which are located at intermittent intervals through the park. The gatehouse in the centre of the site can be seen through the gaps in these trees. The woodland edge, visible in the left of the view, is located just outside the site boundary. This effectively screens views into the site from the footpath as it continues around the western perimeter of the site and the airfield.

i. **Viewpoint 4** - View from the public footpath adjacent to the airfield on the western boundary of site.

j. This photograph does not show a typical representation of views into the site from the footpath. For the majority of this section of footpath views are screened by a dense mature hedgerow. A break in the hedgerow has allowed a glimpse into the site, framed by the tall vegetation. The landscape within the site falls towards Lin Brook. The tops of mature trees located on this sloping ground can be seen in the middle distance of the view. On the opposite side of the valley the open pastoral landscape can be seen together with the dark linear expanse of Brinkley wood, which forms the horizon in this part of the view.

k. **Viewpoint 5** - This view from the southern boundary of the site is representative of a view from Lower Linbrook Farm, as access to this property is restricted due to the foot and mouth disease.

l. The extent of this view is curtailed by the rising nature of the landscape in the foreground of the view. The oak trees, which feature prominently to the left of the view, are a remnant of an old hedgerow field boundary. To the right of the hedgerow oaks, the upper canopies of trees surrounding the disused pond are visible, the lower section of the tree being screened in this view by topographical changes in the landscape. In a similar manner the upper sections of the linear woodland adjacent to Lin Brook can be seen from this point, although it is likely that they would be screened from Lower Linbrook Farm by the hedgerow running along the site boundary. The edge of the Kidney plantation can be seen to the right of the view.

m. **Viewpoint 6** - View from the central section of the footpath that links Linthurst Farm with Lockley plantation.

n. This long distance view illustrates the undulating nature of this well vegetated landscape. The view is framed on either side by mature tree groups located on the eastern side of the site. Whilst both of these tree groups dominate and break the horizon of the view, the Wellingtonia trees are particularly significant due to their distinctive height and form.

o. Between the two tree groups a long distance view into the site is attainable rising above the linear stretch of vegetation growing along Lin Brook. The site

from this vantage point appears to be well wooded, with three of the different woodland and tree groups distinguishable from this point. The woodland area to the left, growing on the site of the former building, is notable for the Wellingtonia trees on the edge of the group. In the centre of the view the extensive group of mature trees can be seen, with the edge of Byrkley Gorse beyond. The landscape is broken up in the foreground of the picture by intermittent hedgerow vegetation.

#### 5.61 **Summary of Viewpoint Appraisal**

- a. A number of conclusions can be drawn from an assessment of the ZVI and viewpoint analysis.
- b. The site is relatively enclosed, resulting in long and short distance views into the site being filtered or screened by either intervening vegetation or the topography of the landscape. The majority of the photographs have therefore been taken from within close proximity to the site boundary, where mature trees and tree groups feature prominently in each of the views.
- c. The corresponding ZVI closely follows the site boundary, reflecting the enclosed nature of the landscape. The exception to this general pattern being in the south-eastern corner of the site, where there is limited vegetation and the ground rises away from the site. This is the most visually sensitive area of the surrounding landscape and will therefore be the most vulnerable to a change in the landscape.

#### 5.62 **Heritage and Archaeology**

- a. The site lies within the bounds of the medieval forest, or chase, of Needwood. At its core was Byrkley Lodge, a lodge of medieval origins, which subsequently became a country house.
- b. The landscape is characterised as rolling parkland, divided between pasture and woodland. It is approximately two kilometres from north to south and approximately one kilometre wide. A meandering stream, the Lin (or Lint) Brook flows southwards through the site, slightly east of centre. The land has a general slope down towards this from both east and west.
- c. The British Geological Survey's 1:50,000 map notes that the site is underlain by glacial till (boulder clay), which rests upon Tea Green Marl or Mercia Mudstone strata of the Triassic period. The glacial origin is apparent in the landscape in the undulations of the ground and in the cobbles which are commonly visible in the banks of the Lin Brook and in ploughed fields adjacent to the site.
- d. Towards the centre of the site are vestigial ruins of a late nineteenth century country house, set in woodland with a ha-ha to its south. This house replaced a late eighteenth century Lodge on the same site. North of this is the gatehouse entrance to the service court. Other ancillary buildings survive in varying states of decay, including an electricity station, a gas works, a pumping station and an