

A P S
ARCHAEOLOGICAL
PROJECT
SERVICES

DESK-TOP ASSESSMENT FOR THE PROPOSED CONSTRUCTION OF REED BEDS AT THE SEWAGE WORKS, WILLOUGHTON, LINCOLNSHIRE

Work Undertaken For Severn Trent Water Limited

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1. SUMMARY

A desk-top assessment was undertaken to determine the archaeological implications of the construction of reed beds at the sewage works, Willoughton, Lincolnshire. Several archaeological sites and findspots are located in the vicinity of the sewage treatment plant. These include a Romano-British settlement centred 100m northwest of the sewage plant, but surrounded by an extensive scatter of pottery and other occupation remains that spread mainly in a southerly direction. Prehistoric artefacts have also been recovered from 300m south of the sewage plant. Both of these archaeological sites and the proposed development area are located on the south side of a stream, now re-routed, that formerly crossed the area.

Assessed as regionally and locally important, the Romano-British site centred just northwest of the reed bed scheme may extend into the area of proposed development. Additionally, the old stream bed that crosses the area may contain ancient environmental remains. Present ground conditions were considered to be appropriate for geophysical survey. However, geological conditions in the immediate vicinity are not conducive to cropmark production.

2. INTRODUCTION

2.1 Background

Archaeological Project Services were commissioned by Severn Trent Water Ltd to undertake a desk-top assessment of the archaeological implications of the proposed construction of a reed bed at the sewage works at Willoughton, Lincolnshire. This archaeological assessment was undertaken in accordance with a brief set by the Archaeology Section, Lincolnshire County

Council.

2.2 Topography and Geology

Willoughton lies 18km north of Lincoln in West Lindsey District, Lincolnshire (Fig. 1). Spanning the western scarp edge of the Jurassic limestone ridge, the parish dips from 70m OD at its eastern limit to below 20m OD on the clay lowlands in the west. Ermine Street, the major north-south Roman highway (Margary 2d), defines the eastern boundary of the parish.

The sewage works are located at a height of c. 30m OD, half a kilometre northwest of the village in the civil parish of Willoughton, adjacent to the boundary with Blyborough parish. Centred on National Grid Reference SK92559373, the site of the proposed reed bed covers approximately one fifth of a hectare (Fig. 2).

A small stream valley, trending northwest-southeast, encloses the proposed development site. Stixwould series peloalluvial gley soils on thin clayey alluvium over glaciofluvial material are located in the valley, with Ragdale Association pelostagnogley soils developed in chalky till immediately to the northeast and southwest (Heaven 1986, 27, 24).

3. AIMS

The aims of the desk-top assessment were to locate and, if present, evaluate any archaeological sites in the vicinity of the proposed development area. Such location and assessment of significance would permit the formulation of an appropriate response to integrate the needs of the archaeology with the proposed development programme.

4. METHODS

Compilation of the archaeological and historical data relevant to the area of the proposed reed bed construction involved examination of all appropriate primary and secondary sources available. These have included:

- historical documents, held in Lincolnshire Archives
- enclosure, tithe, parish and other maps and plans, held in Lincolnshire Archives
- recent and old Ordnance Survey maps
- the County Sites and Monuments Record and aerial photographs
- archaeological books and journals
- place-name evidence

Information obtained in the literature and cartographic examination was supplemented by a walk-over survey of the proposed construction site. This walk-over survey investigated the present land use, condition and parcelling; the presence, or otherwise, of earthworks and artefact scatters; and the appropriateness for geophysical survey. Results of the archival and field examinations were committed to scale plans of the area.

5. RESULTS

5.1 Historical data

In the Domesday Book of 1086, two major manors are recorded in Willoughton parish. These two manors were perpetuated by endowments of the two 12th century religious foundations in the parish. Southwest of the present village, approximately 500m south of the sewage works, is the moated preceptory of the Knights Templars. After the suppression of

this order in 1312 the house passed to the Knights Hospitallers. To the southeast of the village is the moated site of a manor house or grange granted to the alien priory of St Nicholas of Angers. By the 14th century this moat was attached to a settlement element that may be identifiable with the hamlet of Helpesthorpe, whose tithes formed an adjunct to the priory's manor. A rectangular block of properties to the south of the moat probably represents this planned settlement element (Everson et al. 1991, 22).

Domesday recorded that in Willoughton parish there were 188 acres of meadow, split between the two manors. Blyborough parish was recorded as having 120 acres of meadow, a church and two mills (Foster and Longley 1921).

Major place-names in the immediate vicinity of the proposed construction area signify Scandinavian influence.

Blyborough - the stronghold of Bligr, from possible Old Norse personal name *Bligr* and Old English *burh*

Helpesthorpe - Hialp's thorp (dependent settlement), from Old Norse female personal name *Hialp* and Old Danish *thorp*

Willoughton - farmstead or village where willows grow, from Old English wilig and tun (Ekwall 1974)

Minor place-names recorded on the 1838 Blyborough tithe map and an 1855 plan of an estate in the same parish refer to previous land owners/holders of the numerous small closes. In consequence, little archaeological, historical or topographic evidence is provided by the field names. No information is available on

the minor place-names of Willoughton parish.

5.2 Cartographic Data

Willoughton sewage works are situated on the northern edge of Willoughton parish, alongside the boundary with Blyborough parish. Appropriate maps for the vicinity were examined.

Dating from 1769, the Willoughton Inclosure Award depicts the field which contains the sewage plant, and that immediately to the west, as one. A sinuous stream crossed this field from southeast to northwest.

The first edition of the one-inch Ordnance Survey map, dating from 1824, shows the area as open land traversed by a stream. Additionally, a tumulus is recorded at a point approximately 750m northeast of the proposed development area (Harley 1970). Subsequent examination revealed that this earthwork was the site of a medieval structure

Bryant's 'Map of the County of Lincoln' (1828) portrays the area of the proposed reed bed construction as open ground, crossed by a stream.

Blyborough tithe award of 1838 portrays the area immediately north of the proposed development area as small closes. Subdivisions have since been removed to form the present system of larger blocks. Field names recorded in the award mainly refer to past owners/holders of the land, though two of the three fields nearest to the sewage plant were omitted from the tithable area and were unnamed in the schedule. No tithe map for Willoughton parish is available.

An 1855 plan of Blyborough estate closely resembles the earlier tithe award, except

for a single instance of field boundary removal. Field names also replicated those in the tithe schedule, and those fields not named on the earlier map were, in 1855, described as paddocks.

The area of the proposed development was largely omitted from the 1917 map of the Estates of the Earl of Scarborough. However, the plan indicated that, in the field immediately east of that enclosing the sewage works, the stream still described a sinuous route and had not yet been canalised and redirected.

Ordnance Survey maps of 1906, 1953 and 1986 record the general area as fields. By 1953, the watercourse that crossed the area had been diverted.

5.3 Aerial Photograph Data

Aerial photographs held by the Archaeology Section, City and County Museum, Lincoln, and others published or transcribed in secondary sources were examined for evidence of archaeological remains.

Earthworks of Temple Garth moat, 500m south of the sewage works, are recorded on aerial photographs held by the Lincolnshire County Archaeology Section. These same photographs encompass the southern half of the field in which the sewage works are situated. However, no other cropmarks or earthworks (other than an apparently outlying fragment of the Temple Garth moat), are evident in the vicinity of the sewage treatment plant.

A survey, commenced in 1985, of aerial photograph coverage across northern Lincolnshire indicated that the areas of till, upon which Willoughton sewage works is situated, to be devoid of cropmarks. Isolated examples were, however, recorded from the extreme eastern end of this

geomorphological zone. Conditions more responsive to cropmark production occur on the high ground of the Lincoln Edge, which forms the eastern boundary of Willoughton and Blyborough parishes (Jones 1988, 8).

Cropmarks of a multiple-ditched linear boundary of probable prehistoric date have been recorded alongside the south boundary of Willoughton parish, approximately 2km southeast of the sewage works (Everson and Hayes 1984, 35, Fig. 3). Aerial photographs also record ring ditches of a probable Bronze Age barrow cemetery, overlaid by medieval ridge and furrow ploughing, in Blyborough parish, 1km northeast of the sewage plant (*ibid*, 36, Fig. 5).

5.4 Archaeological Data

Records of archaeological sites and finds held in the Lincolnshire County Sites and Monuments Record and other sources were consulted. Details of archaeological and historical remains falling within 1km of the proposed development area are collated here and committed to Fig. 3. A complete compilation of all readily accessible archaeological data pertaining to Willoughton and Blyborough parishes appears as Appendix 1.

County Sites and Monuments Record

Willoughton Parish

Reference	Description
Code	
V	Monks Garth, medieval
	moated site of alien priory
AA	Bronze Age flint axe and
	worked flints
AB	Mesolithic tranchet axe; an
	undated Urn
	Temple Garth, medieval

moat of Preceptory of Knights Templars St Andrew's Church, 19th century rebuild; contains Early English (c. 1190-1250) chancel arch

Blyborough Parish

Reference	<u>Description</u>
Code	
50445	Ring ditch, possible Bronze
	Age round barrow
50548	Romano-British occupation,
	tessellated (mosaic)
	pavement
50550	Romano-British occupation,
	tile, pottery, bronze weight
50735	Medieval hut site, Norman
	pottery

Fieldwalking has been undertaken in Blyborough parish, close to Willoughton sewage plant by Mrs Pat Albone during recent years. Records of artefacts recovered from the three fields nearest to the proposed development are:

Field B22	considerable amount of
	building stone, opus
	signinum (cement flooring),
	tile, pottery and slag. Much
	of the tile is vitrified,
	indicating the possibility of
	a kiln in the vicinity.
Field B28	two worked flints, three tile
	fragments, three Romano-
	British greyware sherds,
	three Medieval sherds
Field B33	one worked flint, one flint
	flake, nine Medieval sherds

No similar recent field survey or artefact recovery has been carried out in Willoughton parish (Mrs P Albone, pers comm).

5.5 Walk-over Survey

In mid-December 1993, a walk-over survey of the site of the proposed reed bed construction was undertaken. Visibility was good and the field had recently been ploughed, or otherwise turned. The area was, however, waterlogged with standing water up to c. 100mm deep in places.

No artefact concentrations were recognised. Among the very rare artefacts seen were occasional fragments of modern field drain, rare pieces of slag and modern glass. Flint was fairly plentiful but was apparently all natural. It was considered that the ground conditions at the time were probably appropriate for magnetometry survey but that the standing water would negate the effectiveness of resistivity.

6. **DISCUSSION**

Prehistoric remains within the parish are represented by artefacts and cropmarks. Flintwork and an (undated) urn have been recovered from the proximity of the sewage works. However, findspots of prehistoric artefacts are concentrated some distance from the sewage plant, in the square kilometre immediately east of the village of Willoughton. Other clusters of artefact distributions occur one kilometre south of Willoughton village, and close to the eastern boundary of Blyborough parish. Cropmarks of prehistoric boundaries occur close to both of these groups of artefact discoveries. Further cropmarks, of a Bronze Age barrow cemetery, exist near Blyborough Hall, one kilometre northeast of the proposed development area.

A Roman-British occupation site, indicated by masonry building remains and an extensive spread of artefacts, is located immediately northwest of the sewage works. Several similar sites, possibly villas or farmsteads, have been discovered elsewhere in the two parishes at points between one and two kilometres distance from the proposed development area. Scatters of artefacts representing other Romano-British activity have recovered from various locations throughout the two parishes, though no clusters of sites are readily identifiable. Ermine Street, the major north-south Roman highway, provides the eastern boundary of Willougton and Blyborough parishes.

Anglo-Saxon finds, including the site of a hut, are concentrated south and southeast of Willoughton village. Major place-names indicate the area to have been settled in the Scandinavian period (9th - 10th centuries AD). However, archaeological remains and historical evidence indicate that medieval settlement was focussed around the present villages, at least half a kilometre from the proposed development site. Field names and cartographic data indicate the vicinity of the sewage works to have been fields, crossed by a stream that has since been rerouted.

7. A S S E S S M E N T O F SIGNIFICANCE

For assessment of significance the Secretary of State's criteria for scheduling ancient monuments has been used (DoE 1990, Annex 4; see Appendix 2).

Period:

Evidence of Romano-British rural occupation has been recovered in the vicinity of the proposed development by past field survey. Apparently a villa or farmstead, such remains and functions are characteristic of countryside exploitation in the civil zone during the Roman period.

Rarity:

Small Romano-British villas or farmsteads are not rare on a national scale, though they may contain rare or unusual elements. Similar sites located elsewhere in the vicinity indicate that such establishments are typical of the pattern of rural settlement in this local area.

Documentation:

Records of archaeological sites and finds made in the Willoughton and Blyborough vicinity are kept in the Lincolnshire County Sites and Monuments Record. Period-specific synopses or syntheses of this evidence has been produced.

There are no appropriate historical surveys of the area.

Group value:

The group value of the Romano-British settlement is moderately high by virtue of the association with numerous and varied sites of contemporary date in the area. Evidence of multi-period exploitation of the landscape enhances the group value still further.

Survival/Condition:

Limited post-medieval development has occurred on the site, consequently buried deposits are likely to be well preserved. Artefacts and building material recovered during past field survey indicate some damage to the Romano-British settlement by ploughing, though archaeological deposits may survive below the limit of such agricultural disturbance. No previous archaeological intervention has been made into the site to assess the level of deposit survival.

Fragility/Vulnerability:

As the proposed development will impact the investigation area, possibly into natural strata, any and all archaeological deposits present on the site are extremely vulnerable. Additionally, the construction of the reed beds may alter the soil water regime and affect the continued survival of any waterlogged environmental evidence present on site.

Diversity:

Moderately high functional diversity is implied by artefacts previously recovered from the Romano-British settlement. In addition to general occupation remains, industrial activity is indicated by slag and vitrified tiles, possibly suggesting the proximity of a kiln.

Some period diversity is provided by prehistoric artefacts recovered from the vicinity.

Potential:

Potential is high that the Romano-British settlement immediately northwest of the sewage works spreads into the area of the proposed development.

Palaeoenvironmental material may survive within the bed of the relict stream that crossed the area until this century.

8. CONCLUSIONS

The concentrations of archaeological finds and observations represent occupation and use of the Willoughton and Blyborough area in the past. However, the distributions of recorded sites also reflect the concerted activities of locally-based archaeological fieldworkers. Such in-depth reconnaissance allows legitimate inferences to be drawn about past settlement patterns of the locality.

Although prehistoric artefacts have been recovered from the vicinity of the sewage plant, the evidence suggests that occupation and ritual sites are concentrated further east on slightly higher ground. No

details are available for the urn discovered approximately 300m south of the proposed development area. However, if prehistoric, the urn may signify the location of an otherwise unknown barrow. A funerary function remains probable for this urn even if it is not prehistoric but of later date, perhaps serving as a cremation vessel in the Romano-British or Anglo-Saxon periods.

A Romano-British site, possibly a villa or immediately farmstead, is located northwest of the sewage plant. Artefacts spreading from the occupation focus the possibility indicate that development area may fall within the limit of the earlier settlement. Both the Romano-British settlement and the proposed development site are situated on the south side of a stream that formerly crossed the area. Palaeoenvironmental material may survive by virtue of waterlogging in the relict channel.

No artefacts were recognised or recovered on the walk-over survey. The whole of the proposed construction area has ground conditions appropriate for geophysical examination by magnetometry survey and possibly, if surface water is shed, by resistivity. Geological conditions in the area of the sewage works are not conducive to the production of cropmarks.

9. ACKNOWLEDGEMENTS

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City and County Museum, Lincoln. Mrs Pat Albone kindly supplied information on results of fieldwalking in Blyborough parish.

10. REFERENCES

All of the following sources were consulted in the data-gathering exercise. However, as some references duplicated information available in others, not all of them have been specifically referred to in the text.

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Map of the Blyborough Estate in the County of Lincoln, 1855

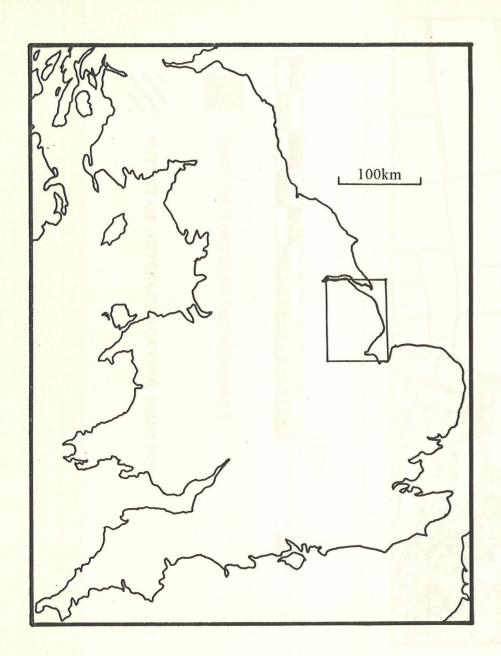
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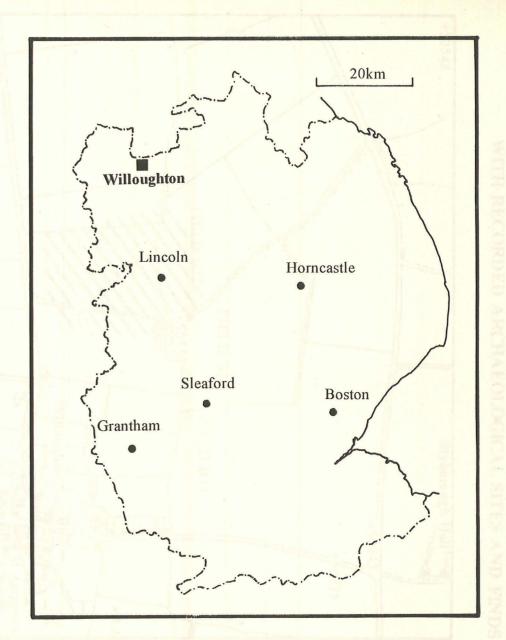
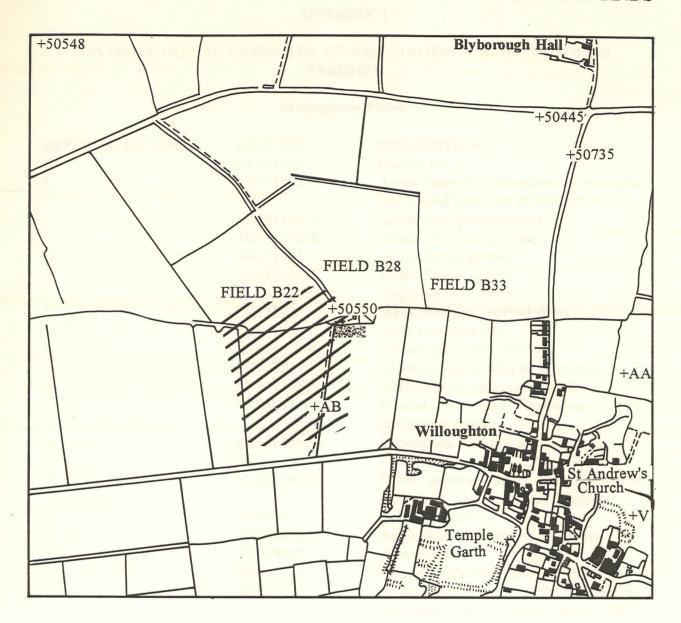
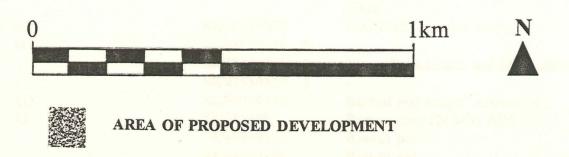
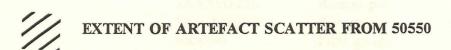


Fig. 2 SITE LOCATION PLAN, WITH RECORDED ARCHAEOLOGICAL SITES AND FINDS







APPENDIX 1

ARCHAEOLOGICAL GAZETTEER OF WILLOUGTON AND BLYBOROUGH PARISHES

Willoughton Parish

REFERENCE CODE	GRID REF.	DESCRIPTION
В	SK921927	Roman pot
C	SK93309270	Anglo-Saxon hut, ploughstones, medieval
		hut, glazed pot, coin of Edward I
110307	SK93349270	further site, ploughstones
11.0543	SK93369268	further site, ploughstones
D	SK931923	Anglo-Saxon pottery
	SK93099233	Anglo-Saxon pottery
	SK93099215	Anglo-Saxon pottery
Е	SK932922	Mesolithic site, worked flints
F	SK931919	Early Iron Age site
I	SK94609234	Site of mill, 1600 AD
J	SK921927	Romano-British villa or farmstead
K	SK93859279	Anglo-Saxon hanging bowl; flints
L	SK941928	Roman building materials, pot,
		millstones; flints
M	SK936659284	Unpolished flint axe and/or sickle
N	SK935929	Roman site, pottery
0	SK93429270	Three polished stone axe fragments;
		Early Iron Age blue glass fragments
R	SK9193	Roman pottery
S	SK93489352	Anglo-Saxon enamelled escutcheon
T	SK939927	Roman pottery
V	SK933932	Monks Garth moat, alien priory
	SK93169332	St Andrew's Church, 19th cent rebuild,
		containing Early English chancel arch
AA	SK93349361	Bronze Age unpolished flint axe and
		flints
AB	SK92439347	Mesolithic tranchet axe; urn
AC	SK93619338)	
	SK93489335 }	Upper Palaeolithic and Mesolithic sites
	SK93539317)	
AD	SK93979347	Barbed and tanged arrowhead
AJ	SK931929	Roman coin (268-70 AD)
	SK90969225	Roman pot
	SK91819179	Roman pot
	SK92069276	Roman pot
	SK91829192	Roman pot
	SK9393	Flint gouge

Blyborough parish

REFERENCE CODE	GRID REF.	DESCRIPTION
50325	SK91559538	Cropmark, linear boundary
50326	SK95959393	Cropmark, linear boundary
50327	SK95699350	Cropmark, linear boundary
50445	SK930943	Ring ditch ?Bronze Age barrow
50437	SK934950	Circular cropmark ?Bronze Age barrow
50437	SK932950	Two concentric circular cropmarks,
		Bronze Age barrows
50451	SK93689427	Iron helmet?
50507	SK93309440	Shrunken Medieval settlement remains
50548	SK917944	Romano-British occupation site,
		tessellated pavement
50549	SK91909480	Cropmarks, enclosures
50550	SK92459377	Romano-British occupation site, building
		material, pottery, tile, bronze weight
50574		Ermine Street Roman road
50724, 50725	SK953949	Flints; Roman pot
50726	SK93239484	Bronze Age bronze spearhead
50727, 50728	SK962942	Flint; Roman pot
50729	SK962939	Medieval and Post-Medieval Pot
50730	SK962939	Marks on aerial photograph
50732	SK93399454	St. Alkmund's Church, rebuilt 1877,
		retains Early English features
50733	SK93399454	Anglo-Saxon sculpted grave slab
50734	Unlocated	Sites of two Domeday Book watermills
50735	SK93099413	Medieval hut site, Norman pot
50736	SK95579476	Site of Post-Medieval windmill
50737	SK95699434	Site of Post-Medieval watermill
50738	SK93209455	Blyborough Hall and Gardens
50739	SK90769365	Roman pot
50740	Unlocated	Site of Medieval dovecote
Field B22		Building stone, opus signinum, Roman
		tile, Roman pot, slag
Field B28		Flints; Roman tile and pot; Medieval pot
Field B33		Flints; Medieval pot

Appendix 2

Secretary of State's criteria for scheduling Ancient Monuments - Extract from Archaeology and Planning DoE Planning Policy Guidance note 16, November 1990

The following criteria (which are not in any order of ranking), are used for assessing the national importance of an ancient monument and considering whether scheduling is appropriate. The criteria should not however be regarded as definitive; rather they are indicators which contribute to a wider judgement based on the individual circumstances of a case.

i *Period*: all types of monuments that characterise a category or period should be considered for preservation.

ii Rarity: there are some monument categories which in certain periods are so scarce that all surviving examples which retain some archaeological potential should be preserved. In general, however, a selection must be made which portrays the typical and commonplace as well as the rare. This process should take account of all aspects of the distribution of a particular class of monument, both in a national and regional context.

iii *Documentation*: the significance of a monument may be enhanced by the existence of records of previous investigation or, in the case of more recent monuments, by the supporting evidence of contemporary written records.

iv Group value: the value of a single monument (such as a field system) may be greatly enhanced by its association with related contemporary monuments (such as a settlement or cemetery) or with monuments of different periods. In some cases, it is preferable to protect the complete group of monuments, including associated and adjacent land, rather than to protect isolated monuments within the group.

v Survival/Condition: the survival of a monument's archaeological potential both above and below ground is a particularly important consideration and should be assessed in relation to its present condition and surviving features.

vi Fragility/Vulnerability: highly important archaeological evidence from some field monuments can be destroyed by a single ploughing or unsympathetic treatment; vulnerable monuments of this nature would particularly benefit from the statutory protection that scheduling confers. There are also existing standing structures of particular form or complexity whose value can again be severely reduced by neglect or careless treatment and which are similarly well suited by scheduled monument protection, even if these structures are already listed buildings.

vii Diversity: some monuments may be selected for scheduling because they possess a combination of high quality features, others because of a single important attribute.

viii Potential: on occasion, the nature of the evidence cannot be specified precisely but it may still be possible to document reasons anticipating its existence and importance and so to demonstrate the justification for scheduling. This is usually confined to sites rather than upstanding monuments.