INDEX DATA	RPS INFORMATION
Scheme Title A-417 North of Stratton to Nettleton Improvement	Details Arch Survey: Stage 3 Project Design
Road Number A417	Date (994
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County: Glaucestershire	
OS Reference 5091	
Single sided ~	
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A417 NORTH OF STRATTON TO NETTLETON IMPROVEMENT

ARCHAEOLOGICAL SURVEY: STAGE 3
PROJECT DESIGN

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November 1994

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Summary

The following is a project design for a stage 3 programme of archaeological fieldwork to be undertaken in advance of the construction of the proposed A417 North of Stratton to Nettleton Improvement.

The project design is produced by Gloucestershire County Council, Archaeology Service, County Planning Department, and was commissioned by Frank Graham Consulting Engineers on behalf of the Highways Agency. It is arranged in accordance with English Heritage guidelines for the production of project designs (English Heritage 1991a, Appendix 2) with some variation in the order of presentation and content to take account of the more limited nature of this document, which is essentially a brief for a programme of works, and contains no details of potential timescale and cost of such works.

The project follows on from a Stage 2 programme of archaeological evaluation of the proposed road scheme (Hoyle 1990). It draws on the results of that survey to:-

- Identify sites of archaeological interest within the corridor of the proposed road and associated ancillary works.
- Describe a suitable programme of archaeological works to mitigate the effect of the road construction.
- Justify the level of archaeological work with reference to current archaeological guidelines (English Heritage 1991b).

1 Background to the project

1.1 Location and description (Fig 1)

The proposed route of the A417 North of Stratton to Nettleton Improvement runs approximately north-west to south-east, covering a distance of c. 9.6 km from immediately to the south-east of Birdlip Quarry (SO 94001240) to the south-east of Daglingworth Quarry (SP 00250545).

With the exception of the north-western and south-eastern ends of the proposed road corridor, where large roundabouts have been designed to integrate the proposed road with existing roads, and where it detours to the west of the Centurion Garage (SO 97500940), the proposed route of the A417 North of Stratton to Nettleton Improvement closely follows the line of the existing A417 between Nettleton and Stratton.

The route cuts across the Cotswold hills, following a ridge of Great Oolite of the Jurassic limestone series (OS 1933) with deep river cut valleys to either side. Local outcrops of Fuller's earth clay are found in the north-western part of the proposed corridor where dry valleys have penetrated the overlying Great Oolite (op. cit.). In general the topsoil is shallow (c. 0.20m) and directly overlies the limestone bedrock, although thick deposits of colluvium are found in the valleys (Hoyle 1990).

In 1990 landuse in the area of the proposed road corridor was predominantly arable with some pasture, woodland, "set aside". and three disused limestone quarries (Hoyle 1990).

1.2 Period and site type

The general archaeological background of the proposed route has been summarised elsewhere (Hoyle 1990), and it is clear that this part of the Gloucestershire Cotswolds has been occupied, managed and exploited for over 8,000 years.

The periods and site types of the identified sites of archaeological interest are derived mainly from the results of the Stage 2 Archaeological Survey (Hoyle 1990) and consist mainly of sites spanning the period of the middle-late Iron Age to the Roman period (see below). Four post-medieval objects (three milestones and a commemorative stone) were also recognised in the course of the survey.

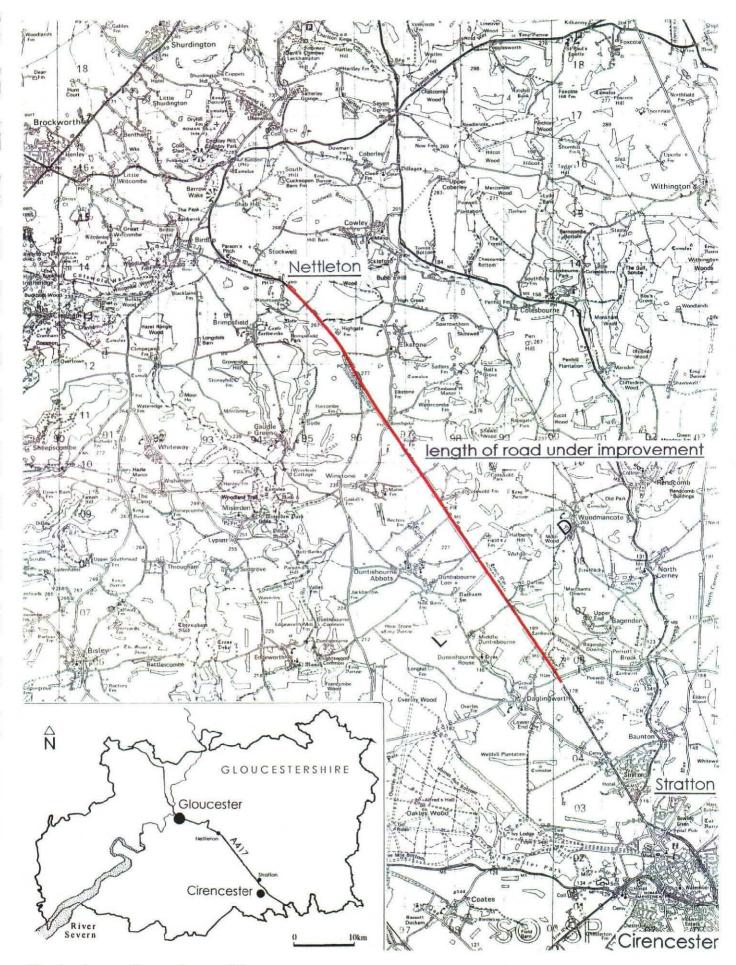


Fig 1: Location of road improvement scheme

1.3 Summary of previous work

The programme of archaeological work put forward in this proposal is the third stage of a programme of archaeological investigation of the proposed road corridor.

The initial phase (Stage 1) consisted of a desk-based survey of a broad corridor centred around the existing road, and was undertaken before detailed information on the proposed route was available. This survey collated published and unpublished documentary material, aerial photographs and the results of rapid field visits, to identify a number of sites of potential archaeological interest (Russett 1989).

Following this, a more intensive field survey of a more closely defined route was undertaken (Stage 2). This survey prospected for additional sites of archaeological interest by means of systematic fieldwalking, aerial survey and consultation of aerial photographs taken since the Stage 1 survey. Identified sites were further evaluated by means of trial excavation. This phase identified a number of sites within the "preferred route" of the proposed road, which would require further investigation before roadworks were allowed to begin (Hoyle 1990). It is the results of this stage of evaluation which form the basis of this project design

1.4 Area of proposed works

The area of proposed works discussed in this document is the area of the actual road construction, ancillary works and Compulsory Purchase Orders defined on 1:2500 scale maps Drg 9104/40/21A - 9104/40/24A, dated November 1991, supplied by the Frank Graham Consulting Engineers, and "The A417 Trunk Road (North of Stratton to Nettleton Improvement) Compulsory Purchase Order (No. SW) 199", sheets 1 - 14, issued by the Department of Transport - Southwest Construction Programme Division, and the "A417 North of Stratton to Nettleton Improvement: Landscape Proposals, Drawing 2895/9/301-306", prepared for Frank Graham Consulting Engineers by the Cooper Partnership

These documents do not provide complete information about the actual impact of the road construction and ancillary works in given areas, although they do include the area of all "off site" tree planting proposals and the site of the proposed "Itlay bund" at the southwestern end of the scheme.

With the exception of a two areas (see 4.1 below), it is assumed that the impact of the road construction, ancillary works and associated landscaping will result in the total destruction of all archaeological deposits within this zone.

2 Reasons and circumstances of the project

2.1 Construction of road

The project design has been commissioned by Frank Graham, Consulting Engineers, acting on behalf of the Highways Agency, in preparation for the construction of the A417 North of Stratton to Nettleton Improvement.

This scheme is now one of the first four DBFO road projects (Highways Agency 1994).

2.2 Summary of legal status

At the time of the 1990 survey 13 separate landowners were identified within the course of the proposed road corridor.

The ownership status of the land at the time of the proposed archaeological work is unclear.

None of the land within the proposed corridor forms part of a Scheduled Ancient Monument (English Heritage 1992).

The belt of trees known as "Gloucester Beeches" (OS Parcel 8300) is protected by a Tree Preservation Order.

The whole of the proposed road corridor falls within the Cotswold Area of Outstanding Natural Beauty.

3 Aims and objectives of the project

3.1 Aim

The aim of the project is:-

The preservation, either *in situ*, or by record, of all identified deposits of archaeological significance within the proposed route of the A417 North of Stratton to Nettleton Improvement.

3.2 Objectives

The objectives of the project can be summarised as follows:-

- 3.2.1 To undertake further evaluation in identified areas affected by road construction which were not evaluated in 1990, in order to enable a correct strategy for the mitigation of the effects of the road construction to be formulated for these areas.
- 3.2.2 To undertake an appropriate level of archaeological recording and sampling of all deposits of archaeological significance identified within the proposed route of the A417 North of Stratton to Nettleton Improvement.

An appropriate level of recording for each site is defined in terms of their perceived significance against nationally defined research priorities (English Heritage 1991b). The detailed breakdown of sampling strategies and their justification for individual sites is listed below (see 4).

3.2.3 To ensure the long term curation of the recovered data, and its dissemination in a form appropriate to its academic value in line with nationally defined guidelines (English Heritage 1991a).

4 Methods statement

The location of all sites mentioned is shown on Fig 2. Field numbers are taken from Hoyle 1990. Detailed plans of cropmarks and evaluation trenches are referenced to figure numbers in Hoyle 1990.

4.1 Preservation in situ

4.1.1 Field 7, OS Parcel 3945, Glos SMR 11200 (Hoyle 1990, Fig 4)

Evaluation in this field produced evidence of a Romano-British farmstead. An area of c. 1ha within this field is recommended for further excavation (see 4.4.2.1 below) although as the field lies at the head of a dry valley, it is possible that some archaeological deposits within the area of interest may be sealed by layers of later colluvium.

Wherever the groundworks of the road construction will not penetrate to the archaeologically sensitive layers, those deposits sealed by colluvium should be preserved in situ, although provision must be made to minimise the effect of the process of road construction in these areas.

4.1.2 Field 9, OS Parcel 2800, Glos SMR 4698 (Hoyle 1990, Fig 5)

Evaluation in this field produced evidence of a middle-late Iron Age partly enclosed settlement (see 4.4.2.2, Field 9, below).

An additional evaluation trench to the south-east of the cropmark concentration (Trench 4) produced evidence interpreted as possible in situ middle Iron Age occupation deposits sealed by a thick (c. 1m) layer of later colluvium.

The colluvium deposits, post-dating the possible middle Iron Age horizon, constitute a well preserved archaeological horizon in their own right, and such deposits have been identified by English Heritage as a potentially significant archaeological resource (English Heritage 1991a, 45).

The quality of evidence in this area has been categorised good.

The main carriageway and a minor slip road are both constructed on an embankment in this area (Drg No. 9104/40/21A, dated November 1991). Given this, it is unlikely that significant archaeological deposits will be penetrated by the road construction.

Accordingly, it should be possible to preserve these deposits in situ although provision must be made to minimise the effect of the process of road construction in this area.

If this is not possible, and the construction process is likely to penetrate the Iron Age layers or cause extensive damage to the sequence of later colluvium, it will be necessary to systematically sample the deposits. Advice on the most suitable sampling strategy must be sought from a qualified palaeoenvironmentalist before the commencement of the project.

4.2 Further evaluation

Objective 3.2.1 will be achieved by undertaking further evaluation in the following areas:-

4.2.1 Field 25, OS Parcel 0940, Glos SMR 4678 (Hoyle 1990, Fig 9)

This field was not evaluated in 1990 as, although an important cropmark complex associated with identified late Iron Age settlement is known from within it, the "preferred route" in 1990 was limited to the excavation of a drainage ditch along the field's southern edge and it was felt that the watching brief of the groundworks would be an appropriate response to this level of threat (Hoyle 1990). The most recent proposal, however, (Drg 9104/40/24A; Compulsory Purchase Order (No. SW) 199, Sheet No. 12, 36) shows that a lagoon, covering an additional area of c. 1600m² is to be excavated in the southern corner of the field.

Given the increased area under threat from groundworks, it will be necessary to undertake the following before a final assessment of the archaeological potential of the area can be made:-

- Check the position of known cropmarks against the location of the proposed lagoon.
- Trial excavation of at least a 2% sample of the area of the proposed lagoon. This can be achieved by the excavation of a single evaluation trench 20 x 1.6m (32m²). Where cropmarks are identified, they will be targeted for evaluation. If no cropmarks are recognised in this area, the evaluation trench should be positioned along the downward slope of the dry valley.

Given that the lagoon is situated on the slope of a dry valley, it is possible that colluvial deposits and/or waterlogged deposits will be encountered in the course of the evaluation.

These should be sampled for palaeoenvironmental evidence, and advice on a suitable sampling strategy is to be sought from a qualified palaeoenvironmentalist before the commencement of the project.

4.2.2 Fields 30 & 31, OS Parcels 2381, 2465, and 3545

When the Stage 2 evaluation was undertaken in 1990, the proposed impact of the road construction in these fields was minimal. Given this, and as both fields were under pasture, no archaeological evaluation was thought necessary. It was, however, acknowledged that the road layout in this area had not been finalised, and that further evaluation might be necessary if the adopted scheme differed markedly from that of 1990 (Hoyle 1990, paragraph 3.59).

Under the revised scheme a large proportion of these fields is to be taken up with the construction of two roundabouts and associated access roads (Drg 9104/40/24A; A417 Trunk Road, Daglingworth Quarry Junction, Compulsory Purchase Order (No. SW) 199, Sheet 1, 3a-3m) an area of c. 42100m², with an additional area of c. 8900m² (A419/A417 Trunk Road, Circnester and Stratton Bypass, Compulsory Purchase Order (No. SW) 199, Sheet 1, 1-1a) to the north-east.

A further area of c. 5500m², in the southern part of the field to the east (OS Parcel 3545; A417 Trunk Road Daglingworth Quarry Junction, Compulsory Purchase Order (No. SW) 199, Sheet 1, 3j) was not evaluated as part of the Stage 2 field evaluation of the A419/A417 Circncester and Stratton Bypass (D Woodward pers. comm.).

The total unevaluated area under threat from the revised scheme is c. 56500m²

These fields fall within the enclosed area of the late Iron Age "tribal capital" centred at Bagendon (Roberts 1989), a site of national importance, part of which is scheduled as an Ancient Monument, and a small rectilinear cropmark (Glos 4783) is recorded within the unevaluated area in OS Parcel 3545.

Given the increased area under threat from road construction, and the potential of these fields to contain significant archaeological remains,

it will be necessary to undertake the following before a final assessment of the archaeological potential of the area can be made:-

- Trial excavation of at least a 2% sample of the area (i.e. an area of c. 1130m²).
- The evaluation trenches should target the cropmark in OS Parcel 3545, and be randomly distributed in other parts of the area.
- The undifferentiated topsoil should be removed by mechanical excavator under archaeological supervision.
- All subsequent excavation and recording should be undertaken in accordance with the specification set out in the "Special requirements for archaeological work" issued by the Highways Agency.

4.2.3 Timing of the evaluations

The evaluations will be programmed as part of the proposed rescue archaeology works. They should be undertaken at the beginning of the scheme to allow time for the assessment of the results and further excavation as appropriate. A contingency must be allowed for further archaeological work in these areas, if the results of the evaluation recommend this as an appropriate response to the threat of the construction of the road and associated ancillary works.

4.3 Further excavation and recording

In order to achieve objective 3.2.2 it is necessary to define the identified deposits of archaeological significance and assess what level of archaeological recording is appropriate, given the threat imposed by the construction of the proposed road.

The Stage 2 field evaluation (Hoyle 1990) identified sites of potential archaeological significance. These were subdivided into categories based on their degree of archaeological significance. The categories were "national", "regional" and "local" archaeological significance, and the quality of the surviving evidence was categorised as "good", "moderate" and "poor" (op. cit., 75-77, see also 7.1-7.2 below). Consideration was also given to the enhanced significance of "group value" where the significance of an individual site could be enhanced by its association with a number of related contemporary sites or with sites of other periods (English Heritage 1991a, Appendix; see also 7.1.4 below).

4.4 Further excavation

The following lists identified archaeological sites, assesses their significance with reference to the results of the 1990 evaluation and nationally agreed research priorities (English Heritage 1991b), and defines appropriate levels of recording and sampling to be undertaken in advance of the construction of the proposed road.

Specifications for recording and sampling are found in the "Special requirements for archaeological work" issued by the Highways Agency.

4.4.1 Sites of national significance

The 1990 survey identified two sites which were interpreted as being of national significance:-

4.4.1.1 Field 20, OS Parcel 3346, Glos SMR 4683 (Hoyle 1990, Fig 6)

Summary

Prior to the 1990 evaluation, this site was known only as a three-sided rectilinear cropmark c. 10.5m across.

Field evaluation tentatively suggested that this feature may be the remains of a square ditched barrow dating to the late Iron Age-early Romano-British period (Hoyle 1991, 84).

The quality of surviving evidence was categorised as "moderate" for, although the mound had been completely removed by later activity, enclosure ditches, a residue of a buried soil with some indication of *in situ* burning, and what appeared to be a central cremation pit survived.

Only 5 examples of square ditched barrows with central cremation pits are known from southern Britain (Whimster 1981), and only a single (doubtful) square ditched barrow is known from Gloucestershire.

The site can be categorised as of national importance on the basis of the following criteria:-

- Rarity value (see DOE 1983, ii).
- The likely date of the monument, spanning the period c. 200 BC AD 200, i.e. the transition from the late Iron Age to Romano-

British periods, places it in one of the categories defined as academic priorities by English Heritage (English Heritage 1991b, 36).

• The potential for the survival of environmental evidence from the residue of buried soil in the centre of the monument.

Brief for further work

The area of interest is the whole of the area defined by the enclosure ditches within the area of the Compulsory Purchase Order. To the north and south it should extend by at least 5m beyond the outer lip of the enclosure ditches, and to the west it should extend to within 1m of the fence line. A total area of c. $250m^2$.

As the cropmark is transected by the edge of the land subject to the Compulsory Purchase Order (Compulsory Purchase Order (No. SW) 199, Sheet 10, 29). Any features associated with funerary ritual would have to be fully excavated even if these extended into the area not subject to the Compulsory Purchase Order.

The undifferentiated topsoil over the whole of the area is to be mechanically stripped under archaeological supervision.

The residue of buried soil is to be sampled for paleoenvironmental evidence. Advice on a suitable sampling strategy is to be sought from a qualified paleoenvironmentalist before the commencement of the project.

Any internal features are to be fully excavated, and bulk sampled for flotation for carbonised remains, especially human bone fragments. Advice on a suitable sampling strategy is to be sought from a qualified paleoenvironmentalist before the commencement of the project.

A sample of at least 75% of the exposed enclosure ditches should be excavated. The high level of excavation of this feature is to maximise the possibility of finding evidence for secondary burial within the ditches, or any other information on the function and date of the site.

Recording is to be undertaken according to the specifications set out in the "Special requirements for archaeological work" issued by the Highways Agency.

A Home Office burial licence will be required before any human remains can be excavated.

Objectives

The objectives of the excavation are:-

- To establish the date range of the site
- To establish the function of the site
- To establish the form of the monument (by ascertaining the presence or otherwise of a south-western ditch)
- To investigate the buried soil and collect palaeoenvironmental evidence from it.
- To investigate the possible course of Roman Ermin Street within the area.

4.4.1.2 Field 40, OS Parcel 7634, Glos SMR 4678 (Hoyle 1990, Fig 9)

Summary

Prior to the 1990 evaluation this site was known as a series of undated and superimposed rectilinear cropmarks, probably associated with similar cropmarks on the north-eastern side of the road (Fields 24, 25).

The results of the field evaluation suggested that the cropmarks represented the boundary ditches of a late Iron Age - early Roman settlement site. A high quality pottery assemblage, having close affinities with that found at the Dobunnic tribal capital of Bagendon, a site of national importance, was recovered. The site appears to have fallen out of use when the early Roman military road of Ermin Street (the present A417) was built across it no later than the early part of the second half of the first century AD (Margary 1955).

The quality of evidence was categorised as "moderate" for although no *in situ* occupation deposits were found and no internal features were identified within the small sample area evaluated, the enclosure ditches did not appear to be severely truncated by recent agricultural activity, and a thin (c. 0.25m) layer of colluvium sealed one of the identified ditches.

The site can be categorised as of national importance on the basis of the following criteria:-

- The likely date of the monument, spanning the period c. 200 BC AD 200, i.e. the transition from the late Iron Age to Romano-British periods, places it in one of the categories defined as academic priorities by English Heritage (English Heritage 1991b, 36).
- The above category is enhanced by the likely association of the site with the Dobunnic tribal capital at Bagendon and its clear relationship with the early Roman military road enabling a terminus ante quem to be placed on any of the recovered finds from the site.

Brief for further work

The area of interest for the site is the whole of the area defined by the enclosure ditches within the area of the Compulsory Purchase Order. This represents an area of c. 7300m².

The undifferentiated topsoil, and any identified post-medieval colluvium is to be mechanically stripped under archaeological supervision over the whole of the area of interest.

Subsequent to this the exposed substrate is to be cleaned by hand and further excavation and recording undertaken in accordance with the specifications set out in the "Special requirements for archaeological work" issued by the Highways Agency.

Objectives

The objectives of the excavation are:-

- To establish the date range, form and stratigraphic sequence of the site.
- To establish the function of the site with special reference to its apparent association with the late Iron Age tribal capital at Bagendon.
- To investigate the possible course of Roman Ermin Street within the area.

4.4.1.3 The Roman road of Ermin Street, Glos SMR 7542

Summary

The Roman road of Ermin Street was constructed by the middle of the first century AD as a military road linking the auxiliary forts at Cirencester and Kingsholm in Gloucester (Margary 1955). It remained in use throughout the Roman period, was turnpiked in the eighteenth century, and is still the main road between Gloucester and Cirencester.

The road can be regarded as a site of national importance on account of its role in the early Roman military advance across southern Britain, an event of major importance in the late Iron Age-Romano-British period, an understanding of which is defined as an academic priority by English Heritage (English Heritage 1991b).

For much of its length, between Stratton and Nettleton, the Roman road is assumed to have been on the same alignment as the present A417.

It was impossible to test this hypothesis in the course of the 1990 evaluation as the road was in use, and trial excavation on roadside verges was considered too dangerous.

It remains possible that evidence of the Roman construction, and the eighteenth century turnpike road which followed the same route, could survive beneath the modern road or roadside verge, and be adversely affected by groundworks associated with the proposed improvement scheme.

Brief for further work

It would be impracticable to undertake excavation in the whole of the areas in which the road improvement coincides with the existing road.

However, the following excavation should be undertaken:-

 A number of transects at intervals of 0.5km (i.e. 15 in all) each measuring 20m x 1.6m are to be excavated across the carriageway and verge of the existing road, where it coincides with the likely course of the Roman road. These works are to take place after the road has been closed for traffic.

- The trenches mechanically to be excavated under are archaeological supervision to the surface of the archaeologically significant horizon, after which excavation will be undertaken by hand to the depth required for road construction purposes (this information is currently not known) or to the surface of the undisturbed subsoil.
- Recording will be undertaken in accordance with the specification set out in the "Special requirements for archaeological work" issued by the Highways Agency.

Objectives:

The objectives of the excavation are:-

- To establish the degree to which the Roman road survives below the present road.
- To record details of the construction of the Roman road.
- To ascertain the existence of a buried soil below the Roman road, and enable palaeoenvironmental samples to be taken from any such horizon. Advice on a suitable sampling strategy is to be sought from a qualified palaeoenvironmentalist before the commencement of the project.
- To provide a framework for the understanding of any observations of the Roman road surface which may be made during the watching brief of the groundworks associated with road construction in other areas (see below).

4.4.1.4 "Outfall" to north-west and south-east of Five Mile House, OS Parcels 7516, 8800

Summary

Two "Outfalls" are scheduled to be excavated to the north-west and south-east of Five Mile House (Drg 9104/40/23A, Compulsory Purchase Orders 27l, 27p).

The north-westerly of these will cut across a linear bank, likely to be part of the surviving agger (the linear bank on which the road was constructed) of the Roman road, (Glos SMR 7542, Saville 1980, 31). The "Outfall" to the south-east will cut the likely course of the Roman road. As potentially part of the Roman road, these should be

considered to be part of a site of national importance (see above), and the structure of the road and its agger are likely to be particularly well preserved in the area to the north-west of Five Mile House.

Brief for further work

The course of both these "Outfalls" should be accurately marked out by the groundworks contractor.

Following this a trench at least 1.5m in width (or the width of the proposed "Outfall" trench if this exceeds 1.5m) should be archaeologically excavated in accordance with the specification set out in the "Special requirements for archaeological work" issued by the Highways Agency, along the alignment of the proposed "Outfalls" and for a distance of at least 20m from the edge of the present road. The trenches should be excavated to the undisturbed subsoil or the depth required for the "Outfalls", whichever is the shallower.

Once the trenches have been archaeologically recorded in accordance with the specifications set out in the "Special requirements for archaeological work" issued by the Highways Agency, they are to be backfilled and re-excavated by the groundworks contractor as part of their normal operations. The re-excavation of the "Outfall" trench should be observed to ensure that it conforms to the alignment set out for archaeological excavation.

Objectives

The objectives of the excavation are:

- To investigate the surviving structure of the Roman road and its agger, which are likely to be particularly well preserved in this area.
- To investigate any roadside ditches which may be discovered in this area.
- To investigate any buried soil sealed by the construction of the road and to take samples for palaeoenvironmental analysis. Advice on a suitable sampling strategy is to be sought from a qualified paleoenvironmentalist before the commencement of the project.

4.4.2 Sites of national significance (group value)

The 1990 evaluation (Hoyle 1990) identified a number of sites which were individually assessed to be of regional significance. The evaluation demonstrated that all of these sites fell within the date range of the middle-late Iron Age to the Roman periods.

The study of this period has been highlighted as an academic priority by English Heritage (English Heritage 1991b), and the spatial relationship of the sites, and the common relationship with Ermin Street, a fairly precisely dated early Roman feature, would enhance the individual importance of the sites, creating a group potential to contribute to an understanding of the interrelations between, and changes within, the settlement, landuse and communications during the middle Iron Age to Romano-British periods. As such these sites (along with the two sites of the same period individually categorised as being of national importance) should be collectively regarded as fulfilling English Heritage scheduling criteria for "group value" (see 7.1.4 below) of archaeological sites (DOE 1983) and, as such, should be categorised as being of national importance.

4.4.2.1 Field 7, OS Parcel 9345, Glos SMR 11200 (Hoyle 1990, Fig 4)

Summary

This site was discovered in the course of fieldwalking during the 1990 evaluation. Subsequent trial excavation revealed features interpreted as consistent with a Romano-British farmstead. A large clay-lined ditch, filled with Fuller's Earth clay, two parallel linear gullies and a large amphora apparently deliberately set into the ground, suggest the site may have had some industrial function, perhaps fulling.

A stone lined well, likely to be of Romano-British date, was also found in this area during excavation of a geotechnical test pit.

Although Romano-British farmsteads are not a rare site type, and are well known in the Upper Thames valley, few such sites have been investigated in the Cotswolds, and the possibility that the site may be associated with the process of fulling increases its archaeological potential.

A diffuse scatter of prehistoric flint flakes was also recovered in the course of the field walking survey. This was interpreted as indicative of undiagnostic prehistoric activity. No concentrations were identified and no prehistoric features were identified in the course of the field

evaluation. It remains possible, however, that prehistoric features will be found in the course of further excavation.

The quality of evidence was categorised as moderate to good as, although the features had been partly truncated by recent ploughing, the residue of an *in situ* occupation horizon was found. It also remains possible that, as the site is situated at the head of a dry valley, some features could be sealed by colluvial deposits (see 4.1.1 above).

Brief for further work

Although the proposed corridor of the North of Stratton to Nettleton Improvement differs in this area from the route which was evaluated in 1990, the revised scheme has an equal impact on the archaeological deposits of the site.

The area of interest within the area of the Compulsory Purchase Order, represents an area of c. The centred on the western concentration of recovered Romano-British pottery and the site of the well (Hoyle 1990, Fig 4), and further evaluation here is likely to simply confirm the results of the 1990 survey. It is also possible that surviving remains of the Roman road may be found within the revised area.

The undifferentiated topsoil is to be mechanically stripped under archaeological supervision over the whole of the area of interest. Subsequent to this the exposed substrate is to be cleaned by hand and further excavation and recording undertaken in accordance with the specifications set out in the "Special requirements for archaeological work" issued by the Highways Agency.

Any archaeologically significant deposits sealed by thick colluvial layers should be preserved *in situ* if the logistics of the construction work allow. In these areas provision must be made to minimise the effect of the process of road construction.

Any occupation horizons should be fully excavated and bulk samples taken for flotation. Advice on a suitable sampling strategy is to be sought from a qualified paleoenvironmentalist before the commencement of the project.

Objectives

The objectives of the excavation are:-

- To establish the date range, form and stratigraphic sequence of the site.
- To establish the function of the site with especial reference to the possibility of some industrial activity, perhaps fulling.
- To investigate the possible occupation horizons on the site.
- To investigate the possible course of Roman Ermin Street within the area.

4.4.2.2 Field 9, OS Parcel 2800, Glos SMR 4698 (Hoyle 1990, Fig 5)

Summary

Before the 1990 evaluation the site was identified as a rectilinear cropmark associated with a series of linear cropmarks and a number of small pit-like cropmarks.

Trial excavation in the area of the cropmarks (area of Trenches 1 - 3 in Hoyle 1990, Fig 5) produced evidence that they could be interpreted as the remains of a partly enclosed middle to late Iron Age settlement, although some of the linear marks were interpreted as caused by geological features.

Although hillforts are well known in the Cotswolds and have dominated the study of this period, few examples of smaller, undefended settlements and farmsteads are known, although more are suspected on the basis of cropmark evidence. The site has great potential to enhance our knowledge of the middle-late Iron Age settlement pattern of the Cotswolds which is poorly understood at present.

The quality of evidence in this area has been categorised as moderate. No *in situ* occupation horizons were found, and although no features were identified within the small sample of the interior examined, their presence, outside the evaluation trenches, is suspected on the basis of cropmark evidence.

Brief for further work

The area of interest, measuring c. 2500m², is centred around the area enclosed by the rectilinear cropmark and enclosed the pit like marks to the north (area of Trench 2-3 in Hoyle 1990, Fig 5) within the area of the Compulsory Purchase Order.

The undifferentiated topsoil is to be mechanically stripped under archaeological supervision over the whole of the area of interest.

Subsequent to this the exposed substrate is to be cleaned by hand and further excavation and recording undertaken in accordance with the specifications set out in the "Special requirements for archaeological work" issued by the Highways Agency.

If, as is suggested by the cropmark evidence, features interpreted as Iron Age storage pits are found, it is possible that some fills of these features will be suitable for bulk sampling for flotation. Advice on a suitable sampling strategy is to be sought from a qualified paleoenvironmentalist before the commencement of the project.

Objectives

The objectives of the excavation are:-

- To establish the date range, form and stratigraphic sequence of the site.
- To establish the function of the site.
- To investigate the possible course of Roman Ermin Street within the area.

4.4.2.3 Field 20, OS Parcel 3346, Glos SMR 4682 (Hoyle 1990, Fig 6)

Summary

Before the 1990 field evaluation, the site was identified as two roughly parallel linear cropmarks.

Trial excavation produced evidence interpreted as indicating that the cropmarks represented the remains of a Romano-British trackway ditch and an Iron Age boundary ditch which had been partly cut by a Romano-British quarry probably associated with the construction or repair of Ermin Street immediately to the south-west.

Although trackway and boundary ditches are not an uncommon class of monument, a full knowledge of their date and nature can contribute to a better understanding of the pattern of settlement and communication systems within a region at a given period.

Roman quarries constitute a rare site type within the county of Gloucestershire, with only two securely dated examples known. It should be noted that both these examples produced evidence of a secondary use as burial sites.

The quality of the evidence has been categorised as moderate as the rock cut features have not been excessively truncated by ploughing.

Brief for further work

The north-western limit of the area of interest within the area of the Compulsory Purchase Order, is defined by the north-western of the two linear features, and extends c. 10m to the south-east of the south-eastern ditch, encompassing an area of c. 300m².

The undifferentiated topsoil is to be mechanically stripped, under archaeological supervision, over the whole of the area of interest.

Subsequent to this the exposed substrate is to be cleaned by hand and further excavation and recording undertaken in accordance with the specifications set out in the "Special requirements for archaeological work" issued by the Highways Agency.

Provision must be made for the possibility of the recovery of human remains in the quarry infill. A Home Office burial license will be require before any human remains are excavated.

Objectives

- To establish the date range, form and stratigraphic sequence of the component parts of the site.
- To establish the function of the component parts of the site.
- To investigate the possible course of Roman Ermin Street within the area.

4.4.2.4 Field 37, OS Parcel 1400, Glos SMR 4680 (Hoyle 1990, Fig 8)

Summary

Before the 1990 evaluation, the site in Field 37 was known as a rectilinear cropmark of unknown date. The orientation of the cropmark was similar to that of the cropmarks in Field 40 (see above), and like those marks, it was cut by the modern (and therefore, presumably, the Roman) road.

The results of the evaluation interpreted the cropmark as a middle-late Iron Age enclosure, the partly filled ditch of which had been cut by a quarry pit likely to be of early Romano-British date, and probably relating to either the construction or maintenance of Ermin Street.

The interpretation of the enclosure was unclear as the evidence for domestic occupation was limited to a single potsherd and a small quantity of animal bone recovered from the fill of the ditches. Few examples of this type of site have been investigated in the Cotswolds (see 4.4.2.2, Field 9 above), and the nature and economic basis of small middle to late Iron Age settlements is not well understood. The relationship of the site to the enclosure to the north-west (see 4.4.1.2, Field 40 above) is also important in terms of an understanding of the middle - late Iron Age landscape.

Known Romano-British quarries are also a rare site type within Gloucestershire (see 4.4.2.3, Field 20, above).

The quality of evidence was categorised as moderate as, although deep features did not appear to be seriously truncated by modern agricultural activity, the limestone bedrock was directly sealed by the undifferentiated plough soil, suggesting that *in situ* occupation horizons are unlikely to have survived.

Brief for further work

The area of interest, within the Compulsory Purchase Order, can be defined as that enclosed by the ditches of the Iron Age enclosure extending c. 15-20m to the south to encompass the full extent of the Romano-British quarry, a total area of c. 5650m².

The undifferentiated topsoil is to be mechanically stripped under archaeological supervision over the whole of the area of interest.

Subsequent to this the exposed substrate is to be cleaned by hand and further excavation and recording undertaken in accordance with the specifications set out in the "Special requirements for archaeological work" issued by the Highways Agency.

Provision must be made for the possibility of the recovery of human remains in the quarry infill. A Home Office burial license will be require before any human remains are excavated.

Objectives

The objectives of the excavation are:-

- To establish the date range, form and stratigraphic sequence of the component parts of the site.
- To establish the function of the component parts of the site.
- To establish the relationship of this enclosure with the similarly aligned, and date enclosure in Field 40 (Glos SMR 4678, see 4.4.1.2 above).
- To investigate the possible survival of Roman Ermin Street within the area.

4.4.2.5 Field 41, OS Parcel 5156, Glos SMR 9432 (Hoyle 1990, Fig 10)

Summary

Before the 1990 evaluation the site in Field 41 was known as a single linear cropmark.

The results of the evaluation interpreted this as a single ditch of unknown date. Some evidence of cobbling in the fill suggested that this feature was a roadside/trackway ditch, and the cobbling was remarkably similar to that found in the side ditches of the Roman road excavated in Field 44 (see below) suggesting that the two features may be contemporary.

Although trackway ditches are not an uncommon class of monument, a full knowledge of their date and nature can contribute to a better understanding of the pattern of settlement and communication systems within a region at a given period.

The quality of evidence was categorised as moderate. No evidence of the trackway surface survived although a residue of metalling was found in the upper fill of the ditch indicating that the trackway ditch had not been severely truncated by ploughing.

Brief for further work

The area of interest is centred on the line of the ditch, and extends c. 20m to each side to allow for the possible survival of a parallel ditch demarcating the limit of the trackway or road. A total area of c. 2000m².

The undifferentiated topsoil is to be mechanically stripped under archaeological supervision in this area.

After stripping, the exposed substrate is to be inspected, and further excavation and recording, in accordance with the specifications set out in the "Special requirements for archaeological work" issued by the Highways Agency, is to be undertaken in the area of the identified ditch and any parallel ditch.

Objectives

The objectives of the excavation are:-

- To establish the date and form of the ditch.
- To establish the function of the ditch
- To investigate any surviving junction with Roman Emnin Street,

4.4.2.6 Field 44, OS Parcel 0050, Glos SMR 4677 (Hoyle 1990, Fig 11)

Summary

Before the 1994 evaluation this site consisted of two parallel linear cropmarks.

These were evaluated by trial trenching and interpreted as the side ditches of a minor Roman road linking rural settlements with Ermin Street.

Although the course of many major Roman roads is known, few minor roads have been investigated. As a class of monument trackways and roads can enhance an understanding of the interrelation of contemporary sites and of the changing patterns of communication within the landscape. The network of minor roads, which must have linked settlements to each other and to the main trunk road system during the Romano-British period, is not well understood.

The quality of evidence was categorised as moderate, since, with the exception of a few discrete cobbles, and some spread into the fills of the side ditches, no trace of the actual road surface survived.

Brief for further work

The area of interest can be defined as the area encompassed by the side ditches of the road within the area of the Compulsory Purchase Order, representing an area of c, 500m^2 .

The undifferentiated topsoil is to be mechanically stripped under archaeological supervision over the whole of the area of interest.

Subsequent to this the exposed substrate is to be cleaned by hand and further excavation and recording undertaken in accordance with the specifications set out in the "Special requirements for archaeological work" issued by the Highways Agency.

Objectives

The objectives of the excavation are:-

- To establish the date of the road.
- To investigate any surviving evidence of the structure of the road.
- To investigate any surviving junction with Roman Ermin Street.

4.4.2.7 Field 44, OS Parcel 0050, Glos SMR 11023 (Hoyle 1990, Fig 11)

Summary

Before the 1994 evaluation this site had been identified as two parallel linear cropmarks.

These were evaluated by trial trenching and interpreted as the side ditches of a poorly maintained unmetalled road, probably of Romano-British date, which had degenerated into a much narrower trackway.

Although trackway ditches are not an uncommon class of monument, a full knowledge of their date and nature can contribute to a better understanding of the pattern of settlement and communication systems within a region at a given period.

The quality of evidence was categorised a moderate, as no trace of any road surface survived and no evidence of metalling was recovered from the side ditches.

Brief for further work

The area of interest can be defined as the area encompassed by the side ditches of the trackway within the area of the Compulsory Purchase Order, representing an area of c. 500m^2 .

The undifferentiated topsoil is to be mechanically stripped under archaeological supervision over the whole of the area of interest.

Subsequent to this the exposed substrate is to be cleaned by hand and further excavation and recording undertaken in accordance with the specifications set out in the "Special requirements for archaeological work" issued by the Highways Agency.

Objectives

The objectives of the excavation are:-

- To establish the date of the trackway.
- To establish the sequence and date of the changes in width of the trackway.
- To investigate any surviving junction with Roman Ermin Street.

4.5 Watching Brief

The specifications for the archaeological "watching brief" can be found in the "Special requirements for archaeological work" issued by the Highways Agency.

4.5.1 A watching brief should be maintained on the all earth moving operations (principally topsoil stripping) which are likely to disturb archaeological deposits.

The reasons for this are:-

- the proposed road corridor represents a 9.5km transect across a landscape known to have been inhabited since at least the later mesolithic period, c. 6000BC.
- Not all types of archaeological evidence are susceptible to the evaluation and prospecting methods adopted in the course of the 1990 survey, and valuable information, which could not reasonably have been anticipated, could be revealed in the course of earth moving operations.
- The present A417 follows the course of the Roman Ermin Street (Glos SMR 7542) and the eighteenth century tumpike between Gloucester and Circnester for much of the area of the proposed North of Stratton to Nettleton Improvement. It is possible that evidence of the structure of these roads or roadside structures or features relating to them could be revealed in the course of earth moving operations.
- 4.5.2 Attention is drawn to the following areas in which should be observed with particular attention:-

4.5.2.1 Fields 10, 11 & 12, OS Parcels 4479, 6453, 6453, Glos SMR 4322

Large amorphous cropmarks in this area (Glos SMR 4322) are thought likely to represent post-medieval quarrying, or be of natural origin (Hoyle 1990). Observation of groundworks in this area could establish the origin of these marks.

4.5.2.2 Fields 24 & 25, OS Parcels 0005 & 0940, Glos SMR 4678

A drainage ditch, to be excavated along the eastern edge of the proposed road, will pass through pass through part of a late Iron Age cropmark complex (Glos SMR 4678, see Field 40 above).

4.5.2.3 Field 28, OS Parcel 0052, Glos SMR 4126 & 4679

A linear cropmark (Glos SMR 4126) runs perpendicular to the modern road in this field. The cropmark has been interpreted as evidence of a recent field boundary, and was not evaluated in 1990. Observation of groundworks in this area could establish the origin of the mark.

A roughly circular cropmark (Glos SMR 4679) is located c. 15m to the east of the limit of the proposed road corridor in this field, and it is possible that features associated with this cropmark may be exposed in the course of the groundworks.

4.5.2.4 Fleld 28a, OS Parcel 0049, Glos SMR 20451

The excavation of a drainage ditch and some embanking is to take place to the south-west of a bank and ditch dating to the late Iron Age-early Roman period (Glos SMR 2045). Observation of groundworks in this area may reveal evidence for the continuation of the earthwork.

4.5.2.5 Field 34, OS Parcel 6500, Glos SMR 4125

No evidence for the continuation of the late Iron Age-early Roman earthworks to the north-east (see Field 28a above) was found when this field was evaluated in 1990. It remains possible that evidence for this feature was obscured by the north-western wall to this field (Glos SMR 4125) at that time. Observation of groundworks in this area could would clarify the situation.

4.5.2.6 Field 36, OS Parcel 4038, Glos SMR 4126 & 11228

The fill of a large undated feature (Glos SMR 11228) was recorded in the section of a geotechnical test pit (Ground Investigation Pit 51A). The fill was similar to that recorded in possible Roman roadside quarries. Observation of groundworks in the area has the potential to establish the form and date of this feature.

A linear cropmark (Glos SMR 4126, see 4.5.2.3 above) runs perpendicular to the road in this field. In this area the cropmark coincides with a known post-medieval field boundary (Hoyle 1990), although observation of groundworks in this area has the potential to establish the origin of the mark.

4.5.2.7 Field 47, OS Parcel 6500, Glos SMR 11205

An undated ditch of possible archaeological significance (Glos SMR 11205) was recorded in the section of a geotechnical test pit (Ground Investigation Pit 202). Observation of groundworks in this area has the potential to establish the form and date of this feature.

4.5.2.8 Field 49, OS Parcel 3550, Glos SMR 9433

Vague linear and slightly curved cropmarks (Glos SMR 9433) are recorded in this field. They are situated to the west of the area of the proposed road works and may be natural in origin.

An additional curved linear cropmark was interpreted as a modern water pipe trench (Hoyle 1990, 26).

No evaluation took place in this field as it was under grass at the time of the 1990 survey. The above interpretations of the cropmarks could be investigated by observation of groundworks in this area.

4.5.2.9 Field 55, OS Parcel 2266, Glos SMR 4322

Amorphous cropmarks (Glos SMR 4322) similar to those from Field 10 (see above) are known in this field. Although the encroachment of the construction of the road and associated ancillary works is minimal in this area, the origin of the marks could be established by observation of the groundworks in this area.

4.5.2.10 The Highwayman Public House, Road junction between Fields 17, 18, 52 & 53, Glos SMR 3724

The Beechpike Toll House (Glos SMR 3724), serving the eighteenth century turnpike between Gloucester and Circumster, was situated at this junction (see 4.5.2 below). Observation of groundworks in this area may record evidence of the structure of this building.

4.5.2.11 Tin Chapel to east of the Highwayman Public House, Glos SMR 7534

A small building (Glos SMR 7543) is recorded to the east of the Highwayman Public House (SO 96721057).

This building which dates to the late 19th/early 20th century, was constructed out of corrugated iron and acted as a meeting house or chapel.

It had been demolished by 1990, and although of flimsy construction, observation of groundworks in this area may provide evidence further details of its construction.

4.5.2.12 The Portway, Glos SMR 3820

Proposed improvements to minor roads adjacent to the modern A417 (reference 3/193, 40863, 40865; Compulsory Purchase Order (No. SW) 199, sheets 1 & 3) affect the Portway (Glos SMR 3820) a medieval route between Gloucester and the Cotswolds suspected, in places, of having Roman origins (Hoyle 1990).

Observation of groundworks in these areas could provide additional information on the nature and date of this route.

4.6 Objects of archaeological significance

Provision must be made for the careful removal, packaging and long term curation, in an appropriate location, of the following objects:-

4.6.1 Field 9, OS Parcel 2800, Glos SMR 9868

A post-medieval milestone (Glos SMR 9868) is situated to the southwest of the above field.

4.6.2 Field 17, OS Parcel 5900, Glos SMR 11204

A nineteenth century commemorative stone (Glos SMR 11204) recording the site of the Beechpike Toll house, is built into the southern wall of this field.

4.6.3 Field 28a, OS Parcel 0049

A post-medieval milestone situated to the west of the above field. This milestone is listed and, consequently, listed building consent is needed before it can be removed.

4.6.4 Field 45, OS Parcel 0066, Glos SMR 9873

A post-medieval milestone (Glos 9873) situated to the east of the above field, on the opposite side of the modern A417. This milestone is listed and, consequently, listed building consent is needed before it can be removed.

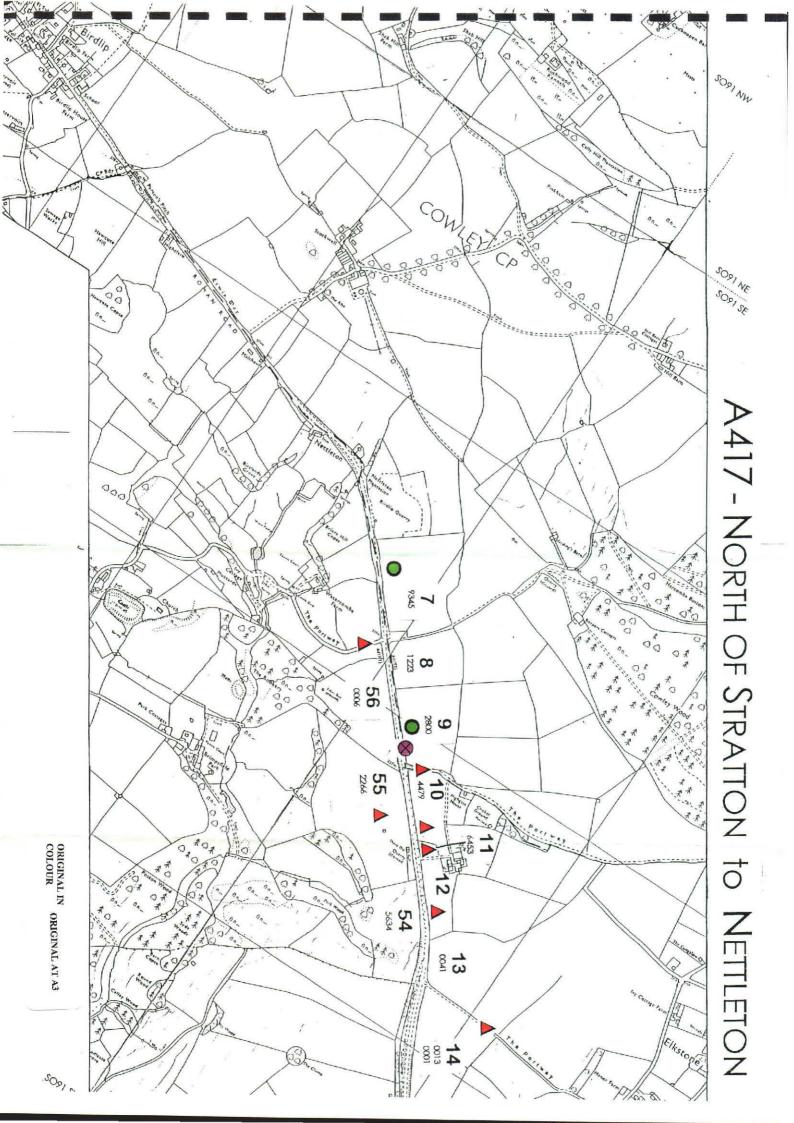
4.7 Site archive and assessment of recovered data for further analysis

Objective 3.2.3 can be achieved by creating a site archive of the recovered data in line with English Heritage specification (English Heritage 1991a, Appendix 3).

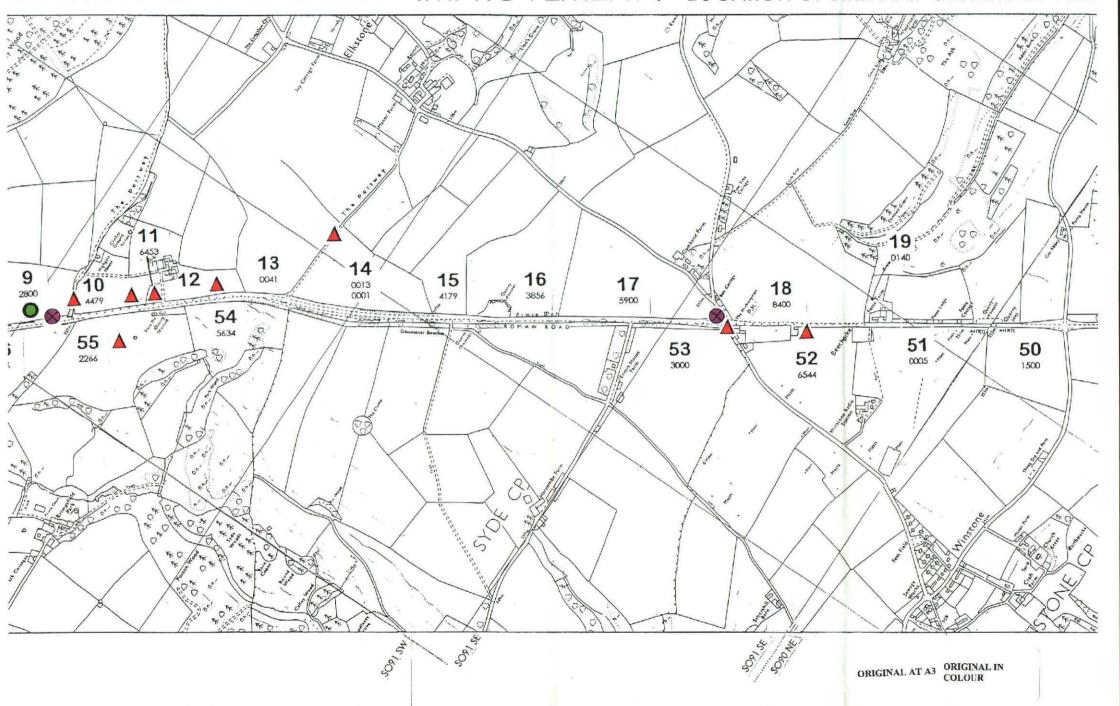
This should be followed by the creation of an assessment report setting out the factual data recovered during the project, assessing its potential for further analysis, and stating provision for long term curation and conservation of the data. The assessment report should be in line with English Heritage specifications (English Heritage 1991a, Appendix 4).

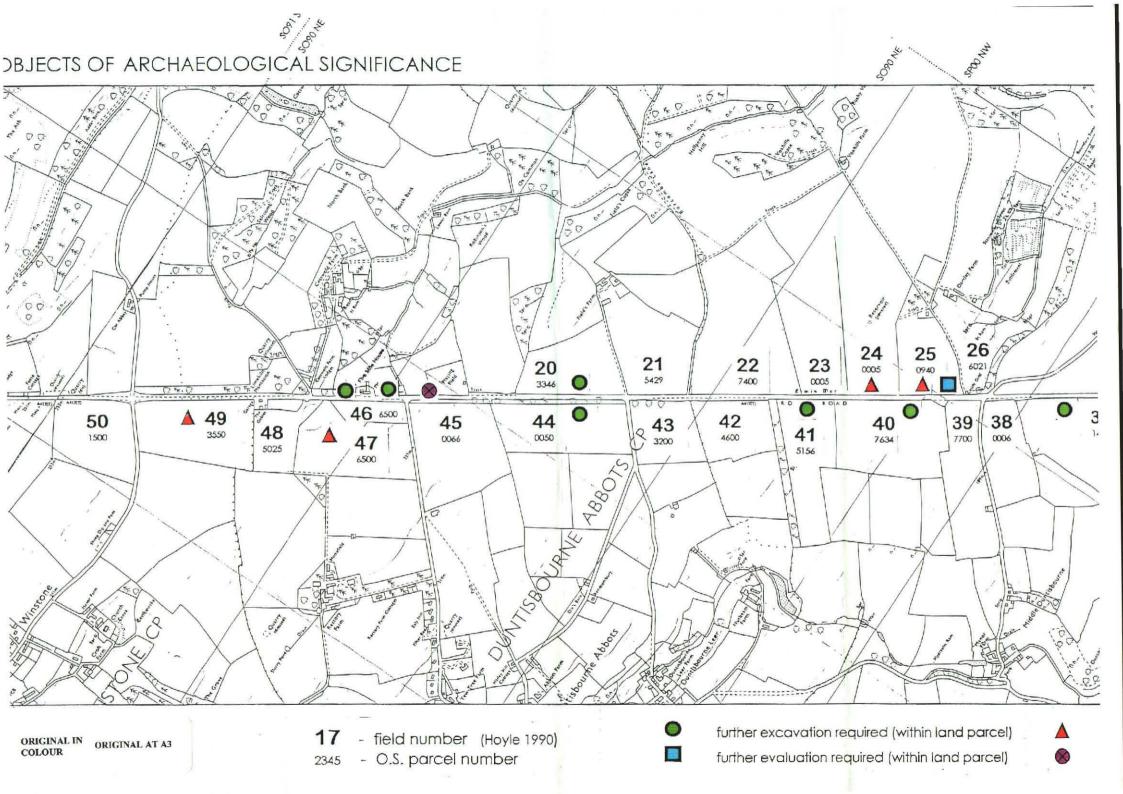
The degree of subsequent research work would be dependent upon the results of the assessment report, and be specified in an updated project design for the post-excavation works (English Heritage 1991a, Appendix 5).

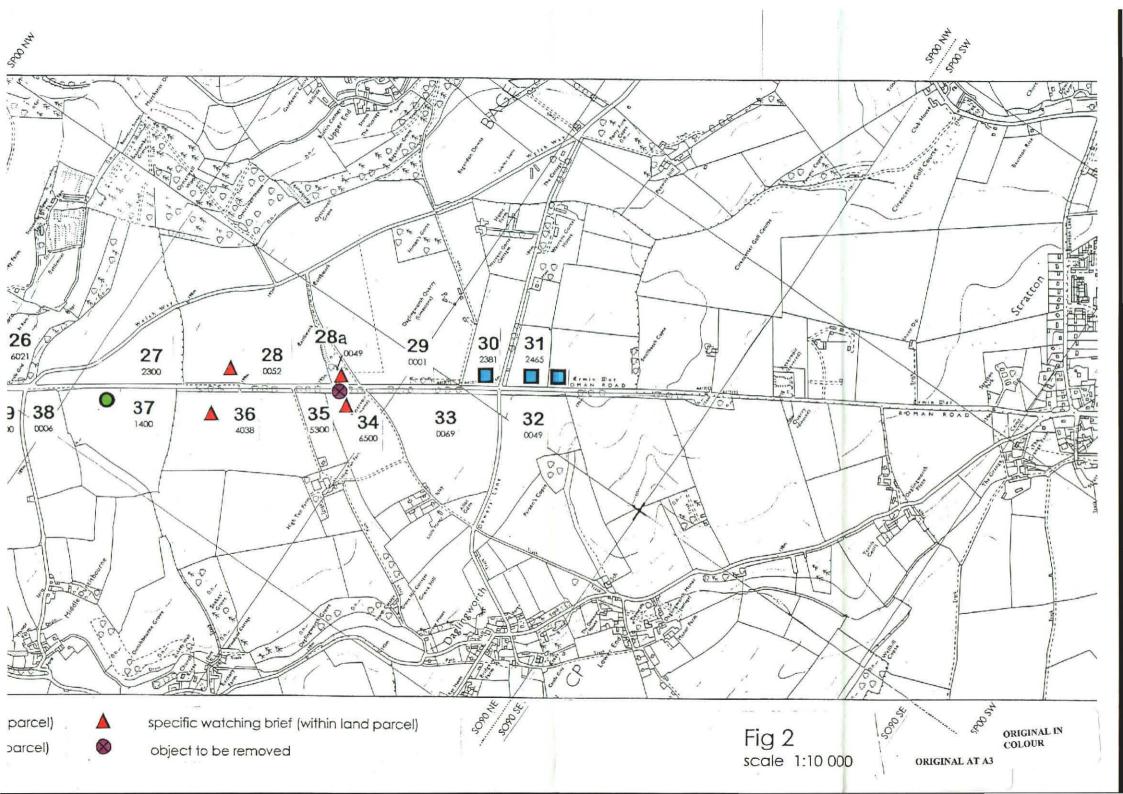
Any further research should culminate in the production of a research archive according to English Heritage specifications (English Heritage 1991a, Appendix 6) and publication of selected results in appropriate regional or specialist journals. Any published report should be produced in accordance with English Heritage specifications (English Heritage 1991a, Appendix 7). At the least a note summarising the scope of the project and its results will be submitted to relevant journals such the Transactions of the Bristol and Gloucestershire Archaeological Society, appropriate period journals and the Gloucestershire County Sites and Monuments Record.



TRATTON to NETTLETON IMPROVEMENT: LOCATION OF SITES AND OBJECTS OF ARC







	5	Bibliography	y	
i i		BGS	1933	Geological Survey of England and Wales: Drift Sheet 235 Cirencester scale 1:63360
1		DOE	1983	Scheduling of Ancient Monuments -
_				Criteria for Selection
		Highways Agency	1994	DBFO Projects Information and Pre-qualification Requirements August 1994
I		English Heritage	1991a	Management of Archaeological Projects English Heritage
1		English Heritage	1991b	Exploring our Past Strategies for the archaeology of England
				English Heritage
		English Heritage	1992	County List of Scheduled Monuments: Gloucestershire English Heritage, March 1992
		Hoyle JP	1990	A417 North of Stratton to Birdlip Improvement Archaeological Survey: Stage 2 GCCAS unpublished report
		Margary ID	1955	Roman Roads in Britain I
I		Trimeday 117		London
1		IFA	1992	Standard Guidance for Archaeological watching Briefs Institute of Field Archaeologists
		Roberts JP	1989	The Late Iron Age to early Roman settlement at Bagendon A summary of the archaeological evidence with recommendations for further assessment GCCAS unpublished report

Russett V 1989 The conversion to dual carriageway of

the A417 Birdlip to Stratton Trunk

Route

A preliminary assessment of the archaeological implications GCCAS unpublished report

Saville A 1980 Archaeological Sites in the Avon and

Gloucestershire Cotswolds CRAAGS Survey No. 5

Bristol

Whimster R 1981 Burial Practices in Iron Age Britain

A Discussion and Gazetteer of the Evidence c. 700 BC - AD 40 British Archaeological Reports

British Series 90

6 Acknowledgements

The writer would like to acknowledge the following for their assistance with the production of this project design:-

- Jan Wills, the Gloucestershire County Archaeological Officer, who discussed aspects of the proposed project with the author and commented on the draft of this proposal.
- Nigel Harriss, Gloucestershire County Archaeology Section illustrator, who prepared the figures and cover.
- Dave Woodward of Frank Graham Consulting Engineers, who provided information and advice on aspects of the proposed road construction.

7 Definitions of categories of archaeological significance and quality of surviving evidence

7.1 Archaeological significance

The categories of archaeological significance used in the report are:-

7.1.1 National significance

The assessment of the significance of a site within a national context has been made with reference to the Secretary of State's criteria for the scheduling of ancient monuments. These are:

 Period, Rarity, Documentation, Group Value, Survival/Condition, Fragility/Vulnerability, Diversity, Potential (DOE 1983).

7.1.2 Regional significance

The assessment of regional significance has been made where a site has potential to contribute to the understanding of the given archaeological period or activity within a regional context. Such sites could include those which represent a class of monument well documented at national level but rare within a given region, or classes of monument not necessarily rare within a region, but not well documented or understood within that region.

7.1.3 Local significance

The assessment of local significance is applied to sites thought likely to contribute to the understanding of a given archaeological period or activity within a local context.

7.1.4 Group value

The geographical and chronological interrelationship of archaeological sites forming a discrete group within a given landscape may result in the significance of such sites as a group being greater than the individual significance of the sites which form the constituent parts of the group. Thus sites which individually could be assessed as being of regional significance might together form a group of national significance, as taken as a whole they demonstrate the changes in landuse, communications and settlement pattern within a given area through time (DOE 1983).

7.2 Quality of Evidence

The categories of quality of evidence used in this document are:-

7.2.1 Good

This category is used where above surface features, structural remains, or occupation deposits survive in situ.

7.2.2 Moderate

This category is used where erosion, usually from ploughing, has removed vertical stratigraphy, such as *in situ* occupation deposits, but where features cut into the subsoil are well preserved.

7.2.3 Poor

This category is applied where erosion has severely truncated the archaeological deposits.