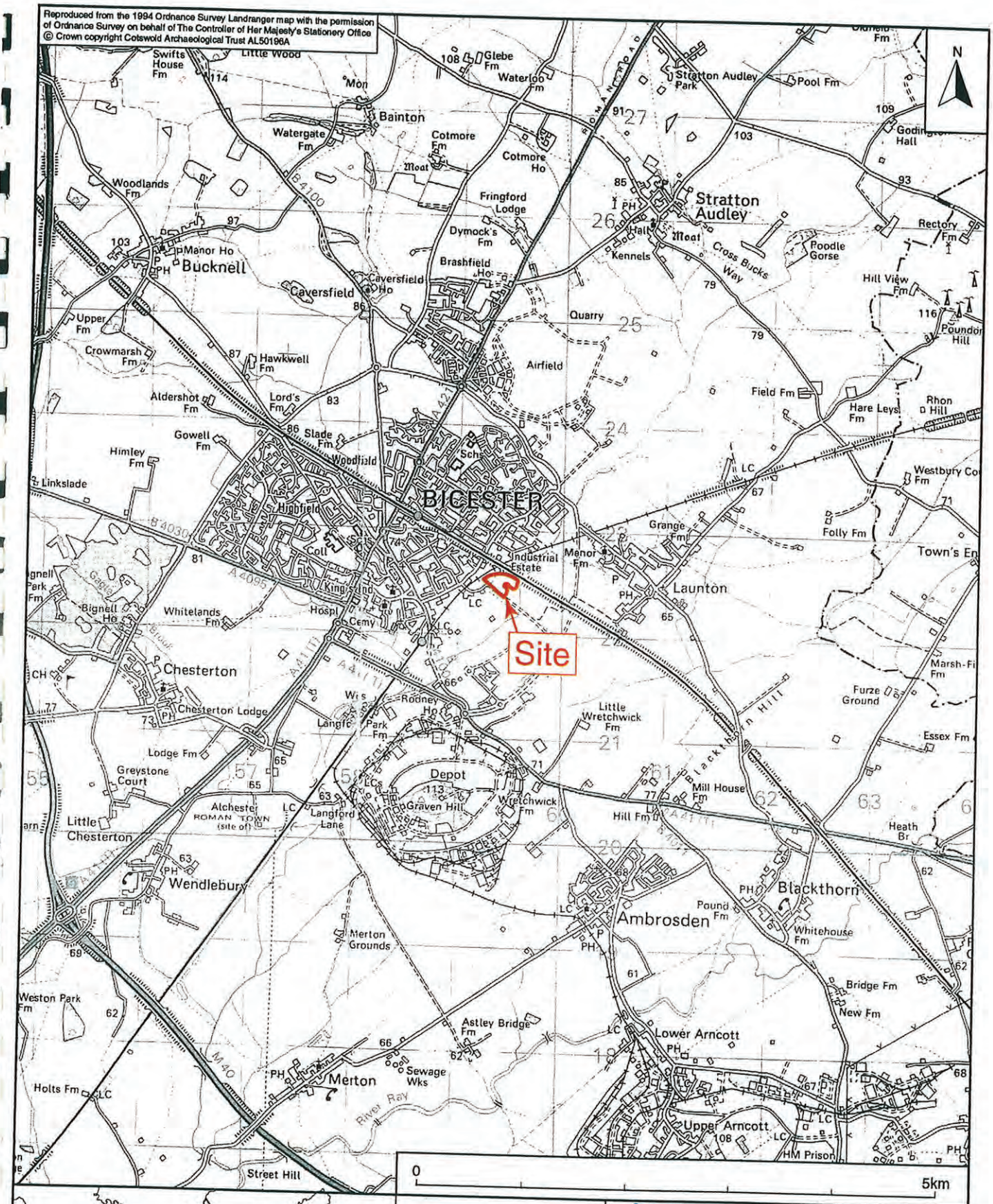

COTSWOLD ARCHAEOLOGY

PROJECT TITLE: Land north of Gavray Drive, Bicester, Oxfordshire		
FIGURE TITLE: Site location plan		
SCALE: 1:50,000@A4	PROJECT NO.: 1963	FIGURE NO.: 1

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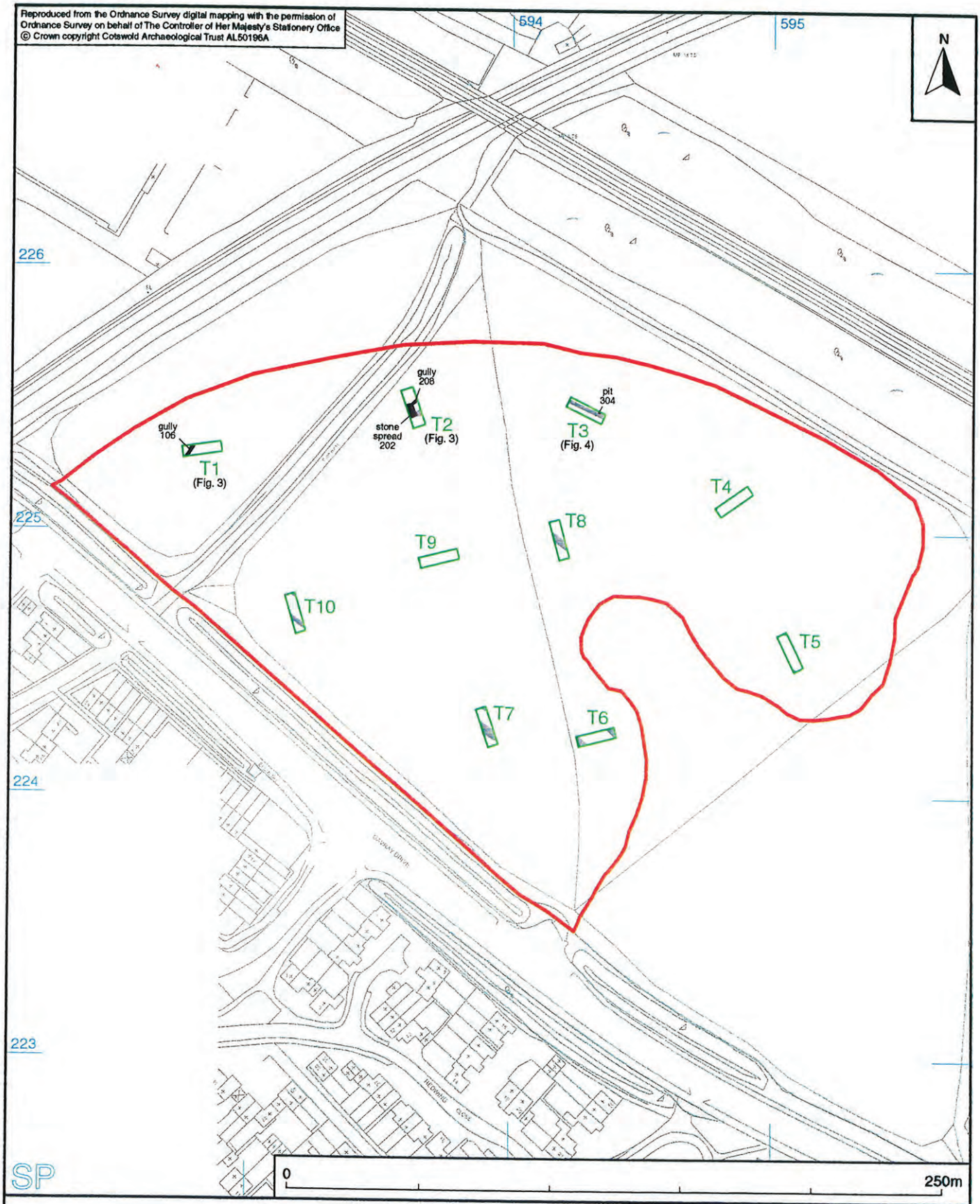


site

evaluation trench

archaeological feature

furrow

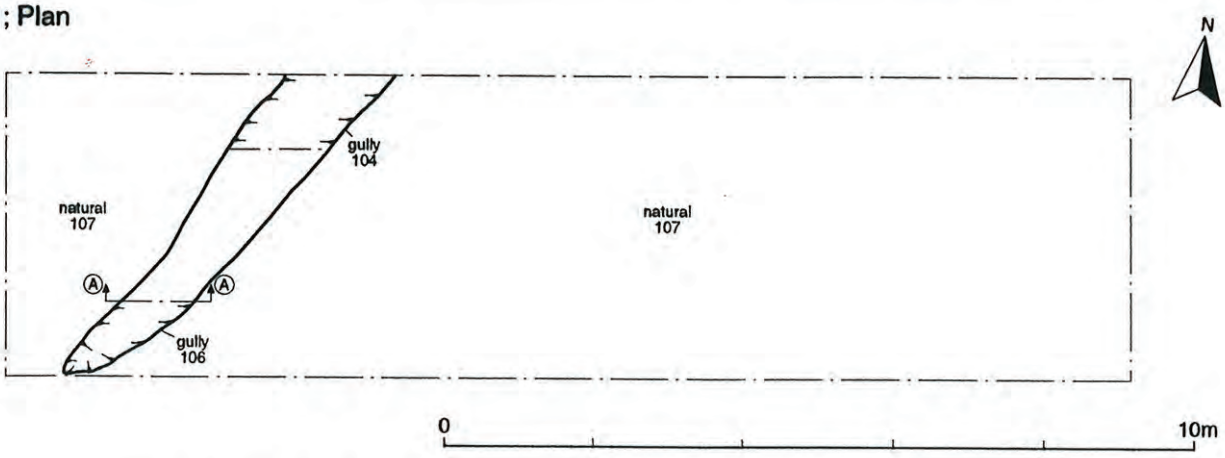
COTSWOLD ARCHAEOLOGY

PROJECT TITLE
Land north of Gavray Drive, Bicester, Oxfordshire

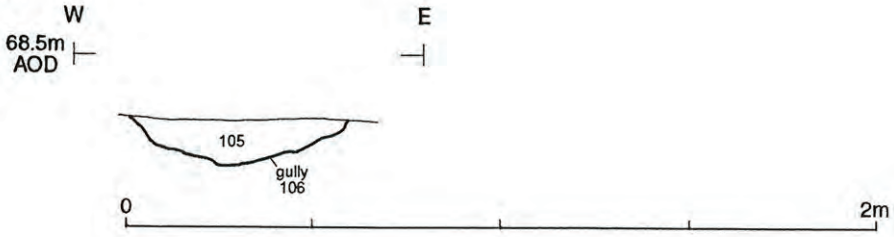
FIGURE TITLE
Trench location plan

SCALE	PROJECT NO.	FIGURE NO.
1:2000@A4	1963	2

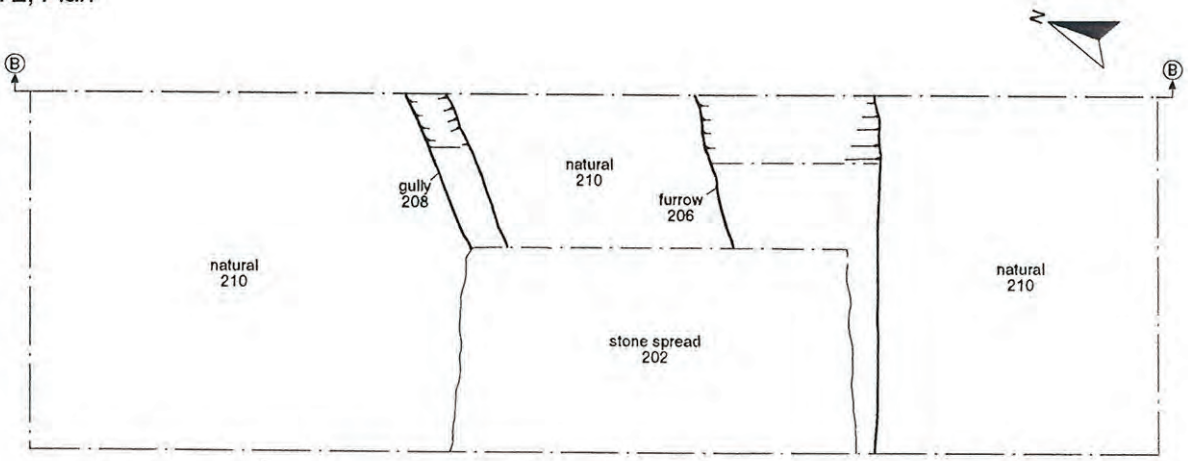
Trench 1; Plan



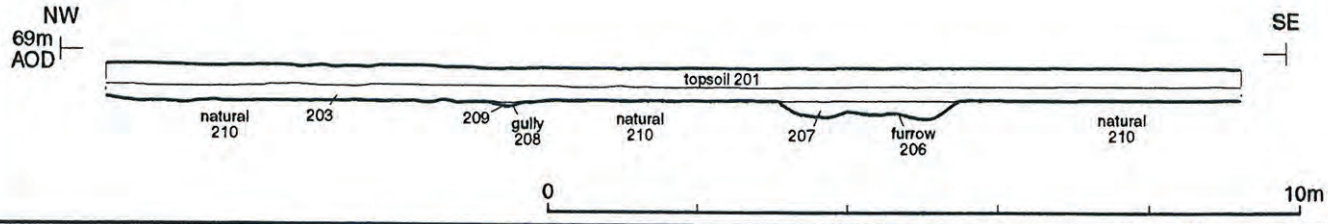
Trench 1; Section AA



Trench 2; Plan



Trench 2; Section BB



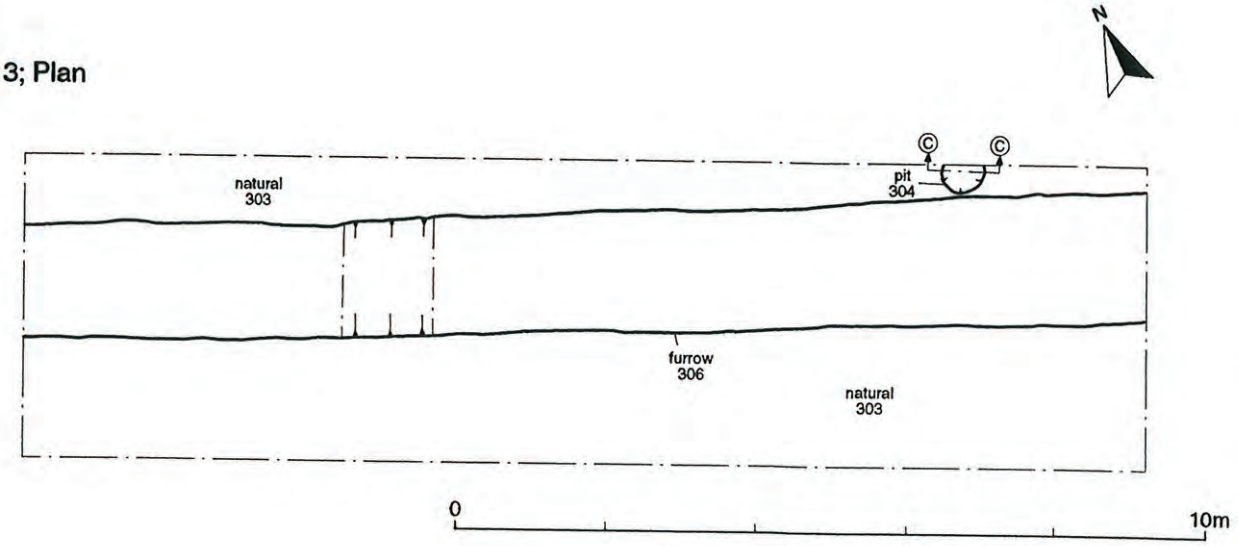
COTSWOLD ARCHAEOLOGY

PROJECT TITLE
Land north of Gavray Drive, Bicester, Oxfordshire

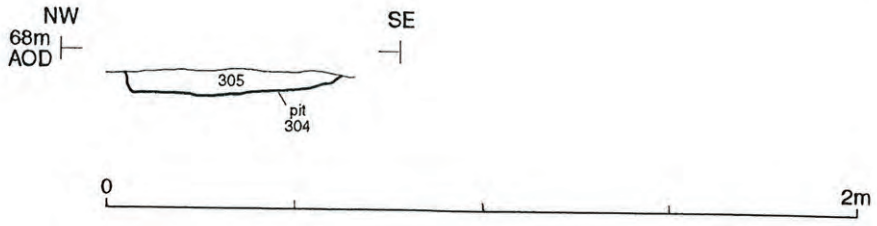
FIGURE TITLE
Trenches 1 and 2; Plans and sections

SCALE @ A4	*PROJECT NO.*	*FIGURE NO.*
1:100 and 1:20	1963	3

Trench 3; Plan



Trench 3; Section CC



COTSWOLD ARCHAEOLOGY

PROJECT TITLE
Land north of Gavray Drive, Bicester, Oxfordshire

FIGURE TITLE
Trench 3; Plan and section

SCALE @ A4	PROJECT NO.	FIGURE NO.
1:100 and 1:20	1963	4

Plan

Plan EDP 1 The Site Archaeology Areas Requiring Mitigation
(EDP124/106 27 October 2014 TS/MM)

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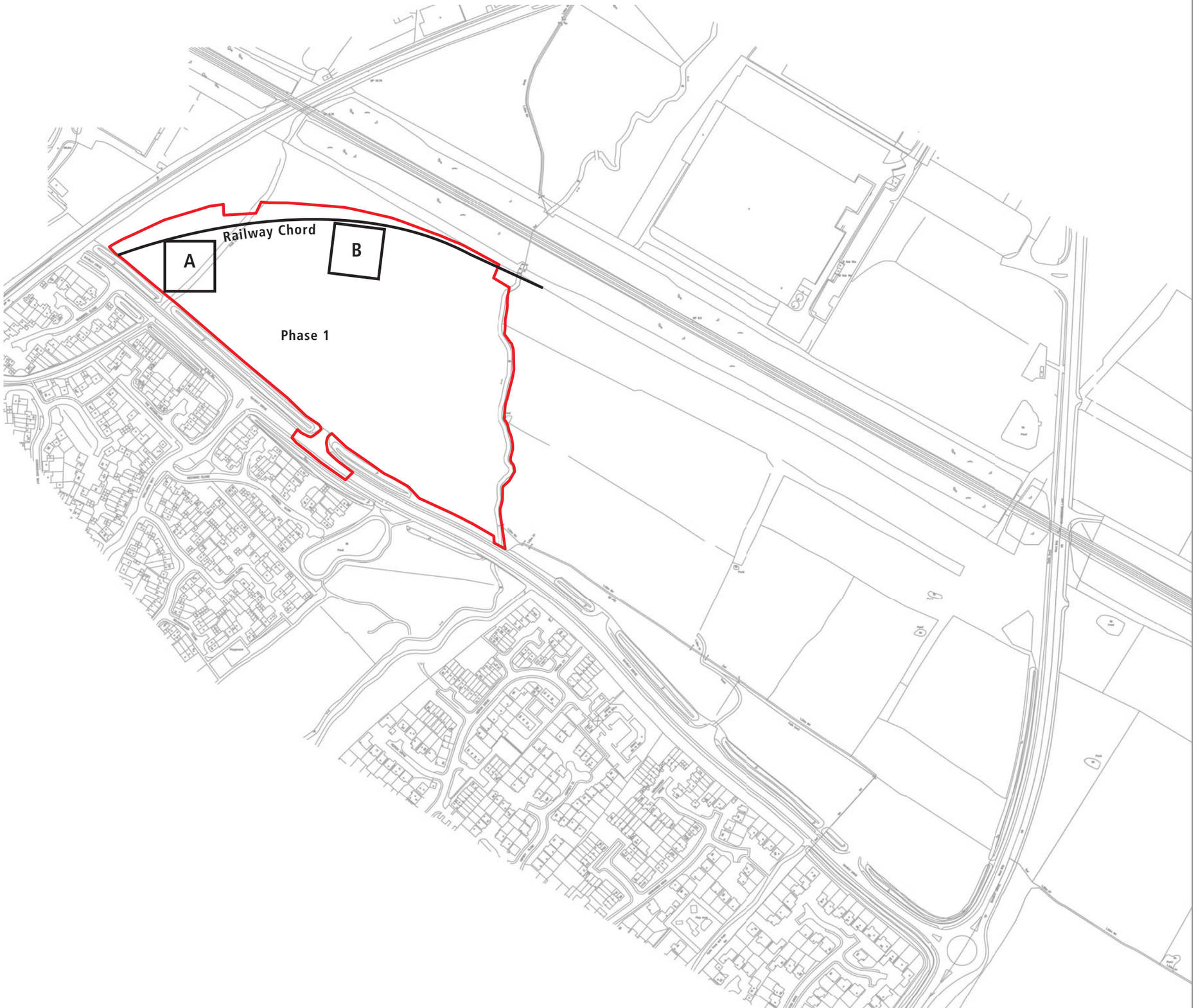

Site Boundary

A-B Mitigation areas referred to in the Specification

N

0 200m

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client

Galagher Estates Ltd

project title

Gavray Drive West, Bicester

drawing title

Plan EDP 1: The Site Archaeology Areas Requiring Mitigation

date	27 OCTOBER 2014	drawn by	TS
drawing number	EDP 124/106	checked	MM
scale	NTS		

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Mixed Sources
Product group from well-managed forests and other controlled sources
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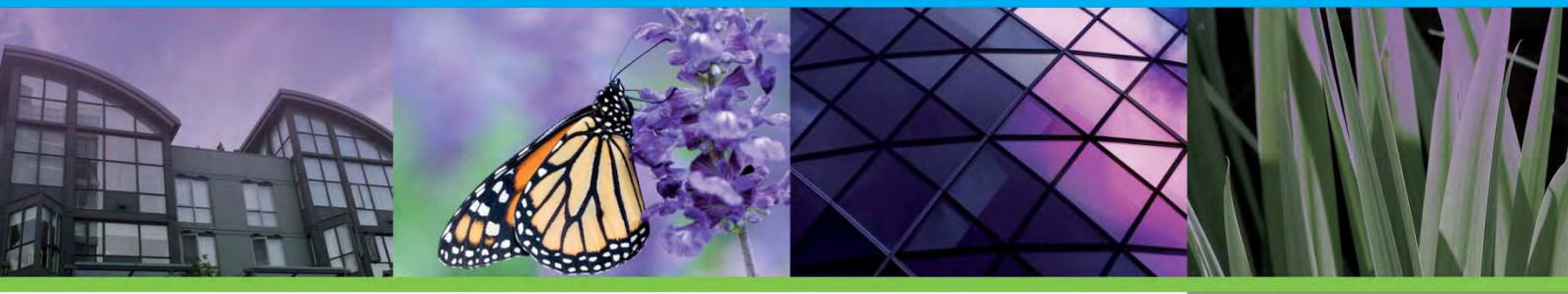
© 1996 Forest Stewardship Council

iema corporate member

Registered Organisation

Landscape Institute
Registered practice



12 AGRICULTURAL AND SOIL RESOURCES

VOLUME 2

APPENDIX 12.1

Extracts from Volumes 1 and 2 of CPM Environmental Statement December 2004

Agricultural Land Classification

Contents

4.15 CPM surveyed the application site at a detailed resolution of approximately 1 auger boring per hectare to establish ALC grade.

Farming Circumstances

4.16 Assessing the possible effects of the proposed development upon the management of farmland requires analysis of the existing farm business operations. This has included discussions with the land owner and farmer in relation to the nature, extent and land use of the farming business occupying the site.

Baseline Conditions

The Site

4.17 The application site covers an area of approximately 24.5 hectares. All agricultural land on the site is permanent pasture. The site is topographically flat with some localised undulations in the south east and is dissected by a deep cut waterway running north to south. When surveyed, the south east of the application site was overgrown with long grass, the area west of the waterway was much shorter grassland with evidence of significant urban fringe effects including trail bikes, small fires and numerous pathways. No area of the site was in agricultural production at the time of survey.

Climate

4.18 The Meteorological Office, in collaboration with the Soil Survey and Land Research Centre (SSLRC) and MAFF have produced climatological data for ALC at points on 5km intersections of the National Grid. This information has been interpolated by CPM to provide site specific climatic data. The climate data for Land North of Gavray Drive, Bicester, are given in **Table 4.2**:

Table 4.2: Climate and Altitude Data for Land North of Gavray Drive, Bicester

Grid Reference	SP 596 224
Altitude (m aod)	66
Average Annual Rainfall	664
Accumulated Temperature > 0°C (Jan-June)	1429
Field Capacity Period	143
Moisture Deficit, Wheat	106
Moisture Deficit, Potatoes	97

4.19 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness and accumulated temperature above 0°C between January and June (AT0), as a measure of the general warmth of the site during the growing season.

4.20 Climate does not impose an overall limitation on ALC grade at this site. Climate does however have an important influence on the interactive limitations of soil wetness and soil droughtiness.

Soils and Parent Materials

4.21 The Soil Survey of England and Wales map sheet for south east England (Sheet 6, 1983) shows soil associations for the site to be a Wickham 2 series. This is described as a slowly permeable, seasonally waterlogged fine loam or fine silty over clay soil with small areas of slowly permeable calcareous soils on steeper slopes.

4.22 Field survey work by CPM identified topsoils with a predominantly clayey texture across the site. In a few auger borings soils were textured as clay loams with a sandy clay loam subsoil (as defined in Laboratory results Appendix 1 (Volume 2- Technical Appendix, Chapter 4)). Evidence of waterlogging (gleyic properties and ochreous mottles) was identified in some of the shallow topsoils and in all but one of the subsoils.

4.23 A slowly permeable layer (SPL), which suggests a wetness limitation, was consistently identified across the site in all but one of the auger borings. In general, characteristics of the SPL (gleyic properties and ochreous mottles) were clearly and strongly developed. The exception, auger boring 13 (as shown on **Figure 4.1**), had a topsoil texture of sandy clay loam underlain with coarse sand and gravels. The different textural properties in this isolated area coupled with the capability of gravel to assist with subsoil drainage are perhaps the reasons that no SPL could be identified here.

Relief and Drainage

4.24 The site is topographically flat with a few local undulations in the small fields to the south east. At the time of survey (7 June 2004) surface waterlogging was not evident. Drainage of the site consists of one stream running north to south across the site. At the time of survey the stream was flowing although at a low level.

4.25 Land quality is not limited by gradient, micro topography, erosion or flood risk on any part of the application site.

Soil-Climate Interaction

4.26 In general terms, soils with a higher clay content can retain a larger volume of plant available water, reducing the soil droughtiness limitation. When wet, a soil with a higher clay content is more vulnerable to structural damage caused by cultivation, livestock and vehicle traffic. Soils with a high clay content in the topsoil are therefore subject to a higher soil wetness and workability limitation.

4.27 Topsoil across the site is predominantly clay with one area of medium and heavy clay loam. A S.P.L could be identified close to the surface in all but one of the auger samples by identification of significant gleying and ochreous mottling in the soil profile. This suggests that the soils found at Gavray Drive, Bicester, are subject to a water logging/wetness limitation (wetness class IV) as described in Appendix 2 (Volume 2- Technical Appendix, Chapter 4). Where a SPL could not be identified, a high proportion of gravel in the subsoil and sandy clay textured subsoils were found. This assists the subsoil drainage and reduces the water logging potential (wetness class II).

ALC Grades

4.28 The MAFF provisional Agricultural Land Classification Map (1:63,360 scale, sheet No. 143), an extract of which is given in Appendix 3 (Volume 2- Technical Appendix, Chapter 4), shows the site within an area of Grade 4 land. Although these classifications are valuable guidance, superseded methodologies used for these maps do not differentiate between ALC Grades 3a and 3b. CPM survey undertaken in accordance with revised MAFF guidelines (1988) enabled an accurate classification to be made.

4.29 The area of each ALC grade within the Gavray drive survey area is given in **Table 4.3** and shown on **Figure 4.1**.

Table 4.3: Results of the ALC Survey of Land North of Gavray Drive

ALC Grades	Area (ha)	Area (%)
2	1.0	4
3b	23.5	96
TOTAL	24.5	100

4.30 Grade 3b land (moderate quality agricultural land) is found covering approximately 96% of the application site. Soil profiles are typically shallow clayey topsoil over clay subsoil. The soils are restricted to Grade 3b by a wetness limitation (wetness class IV) and associated workability limitation related to the soil texture.

4.31 Grade 2 land covers a comparatively insignificant area (4%) in the centre of the site (see **Figure 4.1**). The profile typically consists sandy clay loam topsoils with no evidence of gleying, or ochreous mottles. Subsoils were textured as sandy clay, with no evidence of waterlogging in the profile. Sandy clay and underlying gravels assist drainage of this area (auger point 13, **Figure 4.1**). Although the wetness class according to the MAFF guidelines gives an outcome of wetness class I, this was downgraded to wetness class II due to the presence of rushes which suggest that the soils are not as freely drained as observations suggest. This land is restricted to ALC Grade 2 by a droughtiness limitation.

4.32 Best and most versatile land (Grade 3a or above) accounts for approximately 4% (1.0ha) of the total land area.

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H261

Please quote above code for all enquiries

MR RICHARD BAKER

SOIL SAMPLES

ANALYTICAL REPORT

Sample Reference :

TOPSOIL 5

Sample Matrix : SOIL

Laboratory References	
Report Number	69691
Sample Number	85038

Date Received	14-JUN-2004
Date Reported	18-JUN-2004

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Sand 2.00-0.063mm	47	% w/w
Silt 0.063-0.002mm	23	% w/w
Clay <0.002mm	30	% w/w
Textural Class	Clay Loam	

Released by *W Sherratt* Principal Scientist Date *18/06/04*

Natural Resource Management Ltd, Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel +44 (0) 1344 886338 Fax + 44 (0) 1344 890972 E-Mail enquiries@nrm.uk.com Web www.nrm.uk.com

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MR RICHARD BAKER

SOIL SAMPLES

ANALYTICAL REPORT

Sample Reference :

SUBSOIL 5

Sample Matrix : SOIL

Laboratory References	
Report Number	69691
Sample Number	85039

Date Received	14-JUN-2004
Date Reported	18-JUN-2004

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Sand 2.00-0.063mm	55	% w/w
Silt 0.063-0.002mm	15	% w/w
Clay <0.002mm	30	% w/w
Textural Class	Sandy Clay/Sandy Clay Loam	

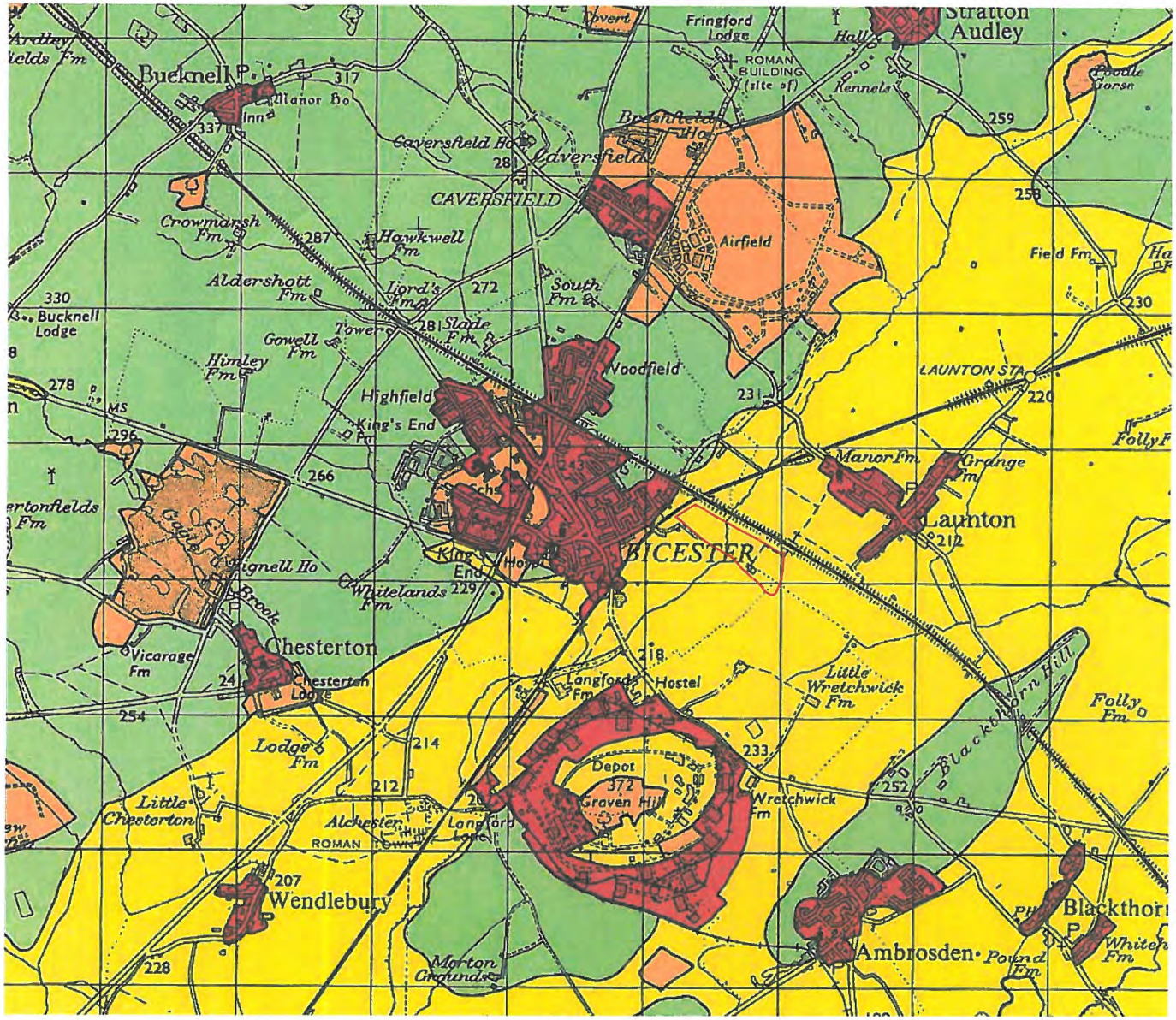
Released by *W Sherratt* Principal Scientist Date *18/06/04*

APPENDIX 2: DEFINITION OF SOIL WETNESS CLASSES

Wetness Class	Duration of Waterlogging[1]
I	The soil profile is not wet within 70cm depth for more than 30 days in most years[2]
II	This soil profile is wet within 70cm depth for 31-90 days in most years or, if there is no slowly permeable layer within 80cm depth, it is wet within 70cm for more than 90 days, but not wet within 40cm depth for more than 30 days in most years.
III	The soil profile is wet within 70cm depth for 91-180 days in most years or, if there is no slowly permeable layer within 80cm depth, it is wet within 70cm for more than 180 days, but only wet within 40cm depth for between 31 and 90 days in most years.
IV	The soil profile is wet within 70cm depth for more than 180 days but not within 40cm depth for more than 210 days in most years or, if there is no slowly permeable layer within 80cm depth, it is wet within 40cm depth for 91- 210 days in most years.
V	The soil profile is wet within 40cm depth for 211 – 335 days in most years.
VI	The soil profile is wet within 40cm depth for more than 335 days in most years.

[1] The number of days specified is not necessarily a continuous period.
[2] 'In most years' is defined as more than ten out of twenty years.

APPENDIX 3: MAFF PROVISIONAL AGRICULTURAL LAND CLASSIFICATION



- Grade 3
- Grade 4
- Other Land in Non-Agricultural Use
- Land Predominantly In Urban Use
- Proposed Site

N

0 1Km

Drawing Title	**Appendix 3: MAFF Provisional Agricultural Land Classification Extract From Map Sheet 145**
Client	Gallagher Estates Ltd & London and Metropolitan
Project	Land North of Gavray Drive, Bicester, Oxfordshire
Scale	As shown
Drawing No	CPM2172/44a
Date	11/04 RWB/MP
Checked	ND

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cpm
Akeman Barns, Coln St Aldwyns, Cirencester, Gloucestershire GL7 5AW
Tel : 01285 - 750555 Fax : 01285 - 750536 E-mail : info@cpm-uk.co.uk

Figures

Drawing Title: **Figure 4.1: Distribution of ALC Grades and Auger Boring 13 Location**

Client: Gallagher Estates Ltd & London and Metropolitan

Project: Land North of Gavray Drive, Bicester, Oxfordshire - Phase 1

Scale: As shown

Drawing No: CPM2172/42a

Date: 11/04 RWB/MP

Checked: RB

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14 GROUND CONDITIONS

Odyssey Markides

GAVRAY DRIVE BICESTER
OXFORDSHIRE

Earthworks Report

Report No. 14-033-001

December 2014

GAVRAY DRIVE, BICESTER
OXFORDSHIRE

Earthworks Report

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Project No. 14-033

December 2014

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-	Draft	JPG	SR	JM	BAC	22.12.14

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14-033-002 – Earthworks Plan Option 1

14-033-003 – Proposed Contours Option 1

14-033-004 – Earthworks Plan Option 2

14-033-005 – Proposed Contours Option 2

14-033-006 – Typical Cross Sections

APPENDICES

Appendix A – JBA Consulting Drawings (Extracts form FRA)

1. INTRODUCTION

1.1. Project Summary

Odyssey Markides has been commissioned by Gallagher Estates to undertake the highways, and earthworks design strategies for Gavray Drive, Bicester, Oxfordshire to serve a new development comprising of approximately 171 new residential units (120 market dwellings and 51 affordable houses) on the western side of the existing land. This report outlines the strategies for the elements of work to be undertaken.

This report should be read in conjunction with the Flood Risk Assessment prepared by JBA

1.2. Site Location

The location of the site is represented in Figure 1.

Figure 1 – Site Location

The topographic survey shows the site to be generally flat with levels varying from approximately 66.0m to 69.0m AOD.

2. EARTHWORKS DESIGN

2.1. Introduction

As it is a requirement from the local council to implement a Sustainable Drainage System solution on the project, options have been investigated by JBA Consulting in order to determine the optimal solution.
The conclusion made in the JBA Consulting Flood Risk Assessment is that a drainage blanket beneath the road surfaces should be provided, to attenuate the surface runoff to greenfield rates and provide storage, and then discharge via an attenuation pond into the Langford brook.

This dictates the depth of excavation required in order to construct the highway and therefore affects the amount of material generated in cut. It should be noted that the assumptions made within this report on pavement thicknesses and levels are subject to detailed design.

2.2. Background Information

Site topography has been mapped using both traditional and GPS surveying techniques to provide accurate site location and level data.
Topography to the west of Langford Brook is characterised by moderate gradients as levels fall from a high point of circa 69.4m AOD on the western boundary, down to the watercourse to the east at a low point of 66.5m AOD at the bank. All levels presented within this report

2.3. Ground Conditions

Geology across the site has been proven by way of a desk study and intrusive investigations completed by Wardell Armstrong between November 2006 and January 2007. The ground conditions may be summarised as follows:

Material	Description
Orange brown sandy clay (Reworked materials)	Maximum depth 1.28m. Mean thickness: 0.5m
Brown sand and clays (Superficial deposits)	Depth to base being a maximum of 3.15m BGL
Firm to stiff grey and brown silty clays (solid formation)	Encountered at 0.45 - 3.15m BGL

Figure 2 – Ground Conditions

Interpretations completed by Wardell Armstrong suggest the soil permeability to be in the order of $1x10^{-7}$ m/s. The strata may therefore be described as ranging from having very poor drainage characteristics to being practically impervious.

2.4. Earthworks

It is expected that significant earthworks will be required in order to allow for the proposed drainage strategy as outlined in JBA Flood Risk Assessment.

Two options are being presented within this report:

- Option 1 utilises a gully system with an asphalt concrete pavement. In order for this option to be viable, the proposed vertical road alignment would need to have a minimum grade of 0.8% (1 in 125) to ensure that the gully system would efficiently collect surface water runoff. Refer to drawing 14-033/006 for typical cross section.
- Option 2 utilises a porous asphalt system whereby runoff drains directly through the pavement construction into the storage below. This would mean that vertical grades could be limited to a much slaked 0.2% (1 in 500). Refer to drawing 14-033/006 for typical cross section.

This is a key factor, as on this site, it is the grades that will dictate the earthworks cut and fill volumes and therefore the quantity of import required for the construction. It is also important to note at this stage that

a secondary factor, the tie in to the Langford brook, has an effect on the proposed levels. However this is a constant between the two options and as such is not so relevant when choosing the most appropriate solution. Earthworks quantities have been prepared for both options for comparison.

2.5. Quantities

The required cut and fill quantities for both options are summarised in the table below:

	Option 1 - Asphalt Concrete With Gullys	Option 2 - Permeable Paving
Total Cut	3258m^3	3923m^3
Total Fill	25951m^3	23542m^3
Net Earthworks Volume	22692m^3 Fill	19619m^3 Fill

Figure 3 – Cut/Fill Quantities

It is should be noted that no bulking factor has been applied to the data presented and it has been assumed that any top soil obtained from excavation is used within the works as either topsoil or if that is not possible, general fill.

Both options present a significant amount of material import, with option 1 requiring an additional 3073m^3 (15.6%) over option 2. Therefore the earthworks savings would need to be compared to the additional cost of implementing a permeable paving solution to determine the most cost effective solution.

Quantities discussed within this report are subject to detailed design. Refer to drawings 14-033/002 to 14-033/005 for earthworks cut/fill plans and proposed contours for options 1 and 2.

3. HIGHWAYS DESIGN

3.1. Existing Information

Prior to commencement of the highways design, preliminary ground levels were prepared by JBA Consulting as part of a Flood Risk Assessment Report stone blanket design in the form of a drawing titled Surface Water Drainage Strategy Indicative Ground Levels And Layout (2013s7196-001, Provided in Appendix A).

Being subject to the Oxfordhsire County Council Design, the JBA proposals need refinement with regards to the highways requirements

3.2. Oxfordshire County Council Design standards

Section 5 of the Oxfordshire County Council design guide titled “Road Types” describes various categories of road for design purposes. This report assumes that the roads within the proposed development are classified as Type 3 – Major Access Roads. Therefore the design speed for the development roads shall be 20mph (30kph). This is stated in section 5.19.

Section 6 of the Oxfordshire County Council design guide titled “Technical Support Data” provides numeric values to design the local highways to.

3.3. Carriageway Width

Type 3 category roads require a carriageway width of 6.0m unless they are to serve fewer than 200 dwellings for a loop. As this is the case for the proposed site, the carriageway width can be reduced to 5.5m.

3.4. Footway Provision

There is a requirement for a minimum footway width of 1.8m to be provided on both sides of category 3 roads within the design guide.

3.5. Vertical Alignment

Section 6.30 of the Oxfordshire County Council states that vertical curvature shall include both crest and sag curves for driving comfort and these are to be design to allow for drivers forward visibility. The visibility splays are to be determined from a driver's eye height of 1.05m above carriageway level and to an object 600mm above carriageway level.
The distance to which the object must be visible is 33m for a 20mph (30kph) zone and 60m for a 30mph (50kph) zone.

The maximum carriageway gradient shall be 5%, however special measures may be sought from the Highways Authority if higher gradients are unavoidable. No minimum gradient is specified within the design guide, however for drainage purposes it is normal to limit the minimum gradient to approximately 0.8% (1 in 125). This can however be reduced significantly if a permeable paving drainage option is to be utilised, as has been discussed in section 2 of this report.

3.6. Pavement Construction

Due to the requirement for a Sustainable Drainage System to be implemented, it is anticipated that a drainage blanket will be used in the development under all highways and driveways, with depths as indicated on JBA Consulting drawing 2013s7196-001, provided in Appendix A.

Runoff from the carriageways will discharge into the drainage blanket via either one of two methods:

- The first of which is via the use of permeable paving which can consist of either porous asphalt or block paving, however due to the expected presence of clays within the underlying geology, porous

asphalt will be the preferred choice to reduce the risk of any effects from heave or shrinkage from the strata.

- The second option is to use a series of gullys located within the carriageway, to collect surface water runoff, with short pipe networks into the drainage blanket itself, to create enough surface area to allow for a sufficient infiltration rate.

Please refer to section 4. Drainage Design for information on the pavement drainage blanket.

3.7. Kerbs

Kerbs shall be of the half battered type and up stands shall be 100mm in accordance with the diagrams in clause 6.35 of the Oxfordshire County Council design guide.

3.8. Drawings

Refer to drawing no. 14-033/006 for typical cross sections.

4. DRAINAGE DESIGN

4.1. Existing Land Drainage

There is currently no formal drainage system in place on the site of the proposed development. Existing surface water either percolates into the ground, or makes its way to the Langford brook via overland flows where the ground is impermeable.

It should be noted that there are a number of boundary field drains around the site perimeter which are to be removed as part of the development.

4.2. Proposed Drainage Strategy

JBA Consulting has prepared a Flood risk Assessment report which outlines a proposed drainage strategy, summarised below.

The proposed Surface Water Drainage Strategy will attenuate surface water runoff to a 1 in 2-year Greenfield rate for all storm events up to the 1 in 100-year with climate change event. Due to the low soil permeability rate, infiltration will not be possible and as such, surface water runoff will be discharged into the Langford Brook. Surface water from roof areas will discharge via downpipes to water butts which will then overflow into the on-site drainage system. Crushed stone blankets located beneath highways and a storage basin on the site's eastern boundary will provide the storage required. Runoff from the site will be discharged to the Langford Brook via a pipe from the storage basin. A vortex flow control (Hydrobrake or similar) will be required to limit flow to the 1 in 2-year greenfield rate and a non-return valve will be used to prevent fluvial flooding from the Langford Brook entering the storage basin. The level of the discharge point has been set to the 1 in 20-year fluvial flood level of the Langford Brook. This will allow water to be discharged from the site during moderate fluvial flood events The probability of an extreme

rainfall event at the site coinciding with an extreme fluvial flood event on the Langford Brook is considered to be extremely low.

The crushed stone blankets and the storage basin will both provide treatment to runoff. Additional treatment could be provided by source control features such as water butts or permeable paving on driveways. Overall, the proposed surface water drainage system is expected to provide 2 to 3 treatment trains for runoff pollution.

Please refer to section 9 (Surface Water Drainage Strategy) of the Flood Risk Assessment document produced by JBA Consulting for further details of the proposed drainage solution.

4.3. Drainage Blanket

Section 321 of the Oxfordshire County Councils highways specification details the requirements for the material for the sub base and treatment of the subgrade, when a permeable paving solution is to be adopted.
The sub base is to consist of crushed gravel, rock or concrete which is to be sound, clean, non friable and free from clay or other deleterious material. It should must also not be plastic when tested in accordance with BS 1377 Test No. 4.

Where infiltration is not to be used, as is the case with the site at Gavray Drive, an SC polytherne membrane is to be provided to encase the whole system to prevent fines from being washed into the porous sub base layer. If, after excavation, the existing subgrade is uneven, a 50mm sand capping layer is to be provided to ensure that the membrane does not fracture.

4.4. Potential Sub Base Material Sources

Hills Quarry Products Ltd,
Upwood Quarry,
Besselsleigh,
Abingdon,

Oxfordshire
OX13 5DW

Tel: 01865 390838

Located on the A420 a few miles west of Oxford, Upwood Quarry has a range of operations and products. It produces a high quality mortar sand (BS EN 13139), and various grades of crushed rock. It is also a source of secondary aggregates through resource recovery from a tipping operation for inert materials.

Hills Quarry Products Ltd,
Tubney Wood Quarry,
Oaksmere Road,
Appleton,
Oxfordshire,
OX13 5UQ

Tel: 01865 390595

Tubney Wood Quarry is also located on the A420, near Upwood Quarry. It is an exhausted sand quarry, currently being restored using imported inert material to achieve the required profiles. In addition, the quarry has a licensed facility for processing secondary aggregates from imported construction and demolition waste.

Stobart Haulage
Unit E, Elmsfield Industrial Estate
Worcester Road,
Chipping Norton,
Oxfordshire,
OX7 5XL

Tel: 01608 670050

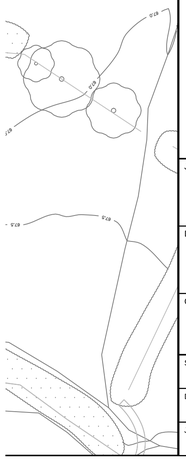
Stobart Haulage pick up all types of demolition waste from homes, businesses or sites. They also deliver aggregates and sands direct to your job.

West Oxfordshire District Council,
Concrete Recycling Site Hardwick Quarry,
Downs Road,
Standlake,
Oxfordshire,
OX29 7QF

Smith & Sons (Blechington) Limited
Enslow,
Kidlington,
Oxfordshire,
OX5 3AY

Tel: 01869 331281

DRAWINGS



Rev	Amendments	Drn	Chk	App	Date

Odyssey Markides

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Job Title

GAVRAY DRIVE, WEST SITE
BICESTER

Drawing Title

ROAD
LAYOUT

Client

GALLAGHER
ESTATES

Scale	Date	Designed
AS SHOWN	18.12.14	MM
Drawn	**Checked**	**Approved**
JPG	JM	BAC

Job No	Drawing No	Rev
14-033	14-033/001	-

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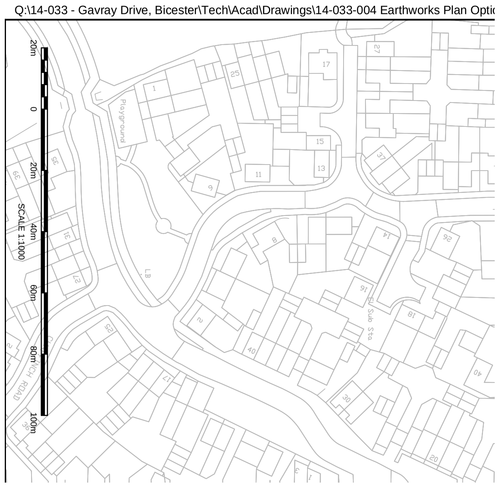

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BICESTER

Drawing Title

TYPICAL CROSS SECTIONS

Client

GALLAGHER
ESTATES

Scale	Date	Designed
AS SHOWN	18.12.14	JPG
Drawn	**Checked**	**Approved**
JPG	JM	BAC

Job No	Drawing No	Rev
14-033	14-033/006	-