

8.7_Landscape a_text format_RE Gavray Drive Bicester - Agreement of Viewpoints for LVIA

James Bullock
Principal Landscape Architect

The Environmental Dimension Partnership
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LANDSCAPE: ECOLOGY: HERITAGE: MASTERPLANNING: ARBORICULTURE: EXPERT WITNESS

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From: James Bullock
Sent: 21 October 2014 16:15
To: 'Tim Screen'
Cc: 'Rebecca.Horley@cherwellandsouthnorthants.gov.uk'
Subject: RE: Gavray Drive, Bicester - Agreement of Viewpoints for LVIA

Hi Tim,

Thanks for your expedient response. As per instruction from our client we are
concentrating on the
eastern site area of Gavray Drive – please see the attached PDF.

As per your below Email please find attached PDF regarding proposed LVIA
viewpoints. The OSGR and
context of each viewpoint / receptor is also noted.

The attached ZTV has been prepared to 5km radius from the site, and following
our initial feasibility
study of the area, we would anticipate that the most significant impact to be
experienced within 2-3km
radius of the site. We would appreciate your perusal of our suggested
viewpoints for the LVIA and any
agreement / feedback which you can afford.

Additionally, at this early stage, we would appreciate agreeing the extent of
any cumulative schemes to
be included in this assessment.

Might you wish to discuss this request further, then please do Email or call me.

Given the favourable weather currently (today's storm being the exception) we
are keen to progress this
assessment expediently.

Thanking you in anticipation.

Kind regards
James Bullock
Principal Landscape Architect

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From: Tim Screen [mailto:Tim.Screen@cherwellandsouthnorthants.gov.uk]
Sent: 21 October 2014 14:58
To: James Bullock
Subject: RE: Gavray Drive, Bicester - Agreement of Viewpoints for LVIA

Dear James

I will be dealing with this matter. Please therefore forward your details to me, and copy in Rebecca Horley, the planning case officer.

Many thanks.

Kind regards.

Tim

Tim Screen CML
Landscape Architect

Environmental Services
Cherwell District and South Northants District Councils
Ext. 1862
Direct Dial 01295 221862
Fax 01295 263155
mailto:tim.screen@cherwellandsouthnorthants.gov.uk
www.cherwell.gov.uk www.southnorthants.gov.uk

From: James Bullock [mailto:jamesbu@edp-uk.co.uk]
Sent: 21 October 2014 11:47
To: Judith Ward; Tim Screen
Subject: Gavray Drive, Bicester - Agreement of Viewpoints for LVIA
Importance: High
Hi Judith and Tim,

I have been given your names as the Landscape Officers for Bicester.

The reason for contacting you is that I wish to agree viewpoints with you for the undertaking of two LVIA's. One of our clients is proposing to develop 2 No. residential schemes on land situated off Gavray Drive, Bicester. The location for each of the two developments are both within the OX26 postcode, the eastern parcel of land has a OS GR: SP 59817 22273 (to the centre of the site) and the western parcel of land OS GR: SP 59421 22474 (to the centre of the site).

As I have been given both of your names, might be able to confirm who would be the main contact for this request so that we may issue a ZTV with proposed viewpoint locations ASAP. The viewpoint location drawing is being prepared as we speak and we are keen to move expediently on this matter.

If you could kind return an email or call me confirming the above that would be most kind.

Thanking you in anticipation.

James Bullock
Principal Landscape Architect

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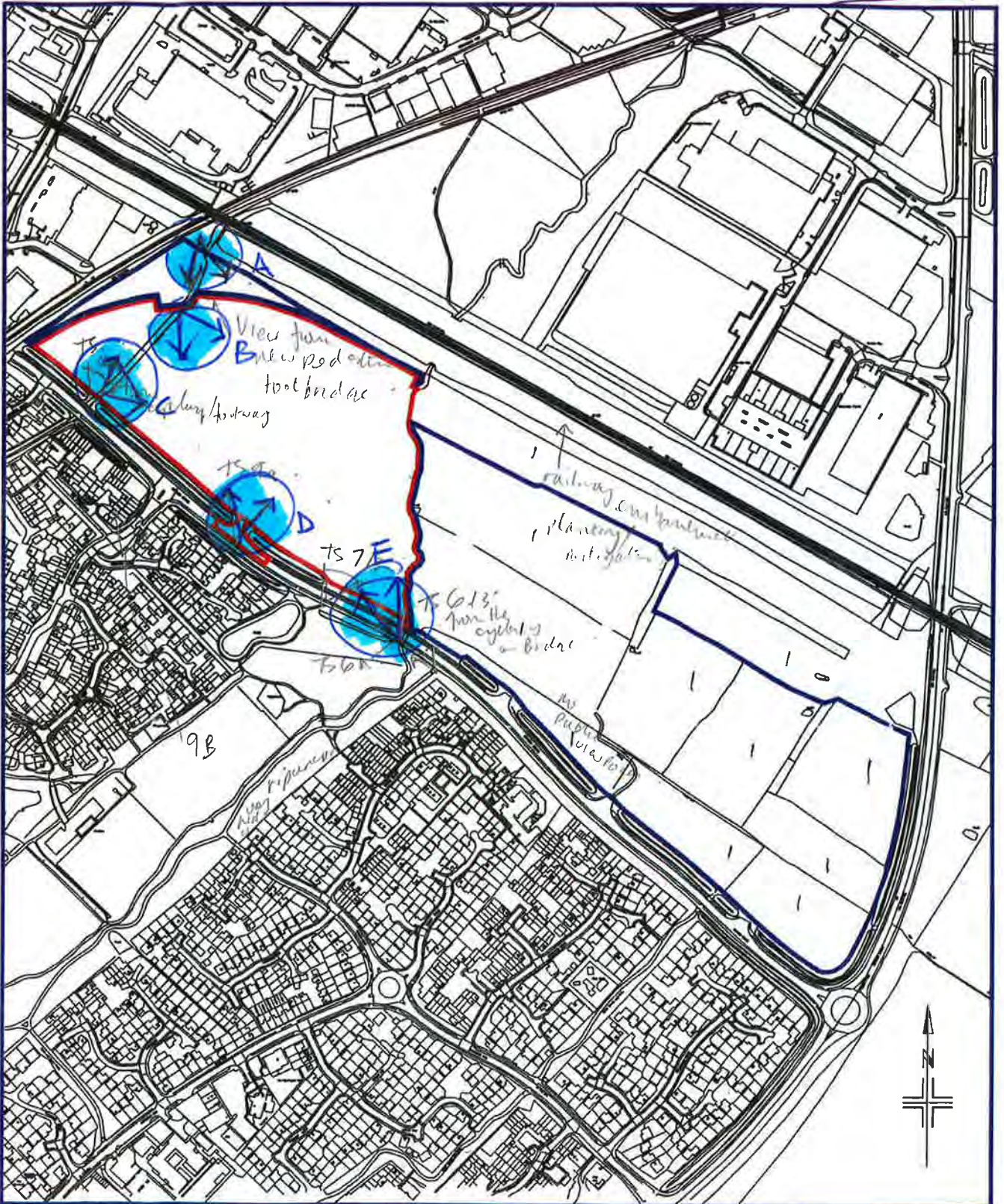
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		<p>Ts 6A - front entrance of park towards NW. V3 completely blocked by DMR warehouse</p>		<p>TITLE Land at Gavray Drive, Bicester. Location Plan Land West of Langford Brook</p>		<p>GALLAGHER ESTATES</p> <p>Gallagher House, Gallagher Way, Gallagher Business Park, Warwick, CV34 6AF. Tel 01926 339339, Fax 01926 339222. E-Mail: mail@gallagheruk.com</p>	
A	05.09.2014	amended lines		SCALE - 1:5000@A4	DATE - 14-08-2014	DRAWN - KB	
REV	DATE	DESCRIPTION		DRAWING No - 8530-127	REVISION - A	<p><small>Only signed drawings are to be taken from of any. Do not scale. All dimensions shown must be as indicated on the drawing unless otherwise stated. The number of sheets and sheets shown on the drawing must be marked by the Contractor with a pencil. The drawing is a contract and shall not be taken from the drawing. The drawing is a contract and shall not be taken from the drawing. The drawing is a contract and shall not be taken from the drawing.</small></p>	

Ts 9B By rd Ash tree POB. towards side
near the Roundabout.
Other ok

Public Protection & Development Management

Andy Preston – Head of Public Protection & Development Management



DISTRICT COUNCIL
NORTH OXFORDSHIRE

David Lock Associates
Mr David Keene
50 North Thirteenth Street
Central Milton Keynes
MK9 3BP

*Bodicote House
Bodicote
Banbury
Oxfordshire
OX15 4AA*

www.cherwell.gov.uk

Please ask for: Rebecca Horley
Email: rebecca.horley@cherwell-dc.gov.uk

Direct Dial: 01295 221837
Our Ref: RH/14/00009/SCOP

6 November 2014

Dear Sir

TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) (ENGLAND AND WALES) REGULATIONS 2011

Request for a Scoping Opinion

Application Number: 14/00009/SCOP

Applicant's Name: David Lock Associates

Proposal: Residential development (including affordable housing) public open space, localised land remodelling, structure planting

Location: Land on the North East Side of Gavray Drive, Bicester

Parish(es): Bicester

1. Introduction

Further to your submission, including the Environmental Impact Assessment Scoping Report dated September 2014 titled 'Gavray Drive West', received by this department on 24th September 2014, I write to advise that I have consulted relevant colleagues both in Cherwell District Council and Oxfordshire County Council, together with other statutory authorities and consultation bodies. Their responses are set out below but can be found in full detail on public access available through the Council's website. If at any point following the issue of this letter that some late representations are received, the Council will endeavour to send them onto you with our opinion but you may wish to continue to monitor the public access information in any event. These responses below constitute the Council's opinion unless otherwise indicated.

The main change since the Gavray Drive site was last considered is that the site is to be separated into two sites – east and west. Each site will have its own EIA so are being scoped separately. This application has been submitted alongside a scoping opinion for the adjacent site 'Gavray Drive East' (14/00008/SCOP refers).

The request for a scoping opinion relates to a proposed planning application for residential development on approximately 6.91 hectares of undeveloped land between Birmingham London Rail Line and Gavray Drive situated to the east of Bicester town centre within the urban area ring road from where access is obtained. Outline planning permission was granted for, inter alia, residential development under application reference 04/02797/OUT. The extension of time application 10/01667/OUT decision was quashed by the High Court and remains with this Council for redetermination. To achieve this, further information has already been requested under Regulation 22 and the scoping opinion (13/00001/SCOP) which was issued on 26th April 2013, sought to ensure that all issues significant to that case were addressed in the revised Environmental Impact Assessment (EIA). Following that scoping opinion, a further scoping opinion was issued on 4th April (14/00001/SCOP refers) again addressing issues relating to the whole site (west and east). As a point of interest, this Council would wish to know whether or not this application (10/01667/OUT) is to be withdrawn now that you have stated in your para 1.6 that you have come to the view that two new outline planning applications should be submitted for the site.

This new scoping opinion is the result of further work undertaken with a view to your submitting an entirely separate outline application for the west of the site alongside a new ES. Although no formal application for a screening opinion has been made, it is agreed that as the proposal is a Schedule 2 development which exceeds the thresholds, as defined by the Regulations, it will be subject to an EIA as the development is likely to have significant effects on the environment by virtue of factors such as its nature, size or location.

2. Consultations

Bicester Town Council : Strongly objects to the residential development on this site.

Taking both applications 14/00008/SCOP and 14/00009/SCOP together. The area concerned is unique to Bicester, having many species of flora and fauna that are endangered by the proposals put forward. This area must be protected against the encroachment of housing. Bicester Town Council is sympathetic to and strongly supports the views of local people that it is imperative that the area remains a site for wildlife and is protected as such. Bicester is an Eco Town, and must therefore have the conservation of areas such as this as a core principal with the protection of biodiversity as key. It is imperative that the provision of large numbers of new housing is balanced with the provision of green space.

There are wider issues that also affect the Town Council's views. On the Local Plan, this area is designated for 300 houses. This proposal suggests that 340 houses could be built across both sites (East and West of Langford Brook), 40 more than in the Local Plan. There are proposals in the Local Plan for B8 development on the Bicester 2 site which is close to the Gavray Drive wildlife site. This will affect the viability of species on the already threatened wildlife site.

Launton Parish Council: No comment received but in referring to the previous correspondence no objections were raised.

Aylesbury Vale District Council: Again no comment was received but the previous consultation response was that AVDC supported the proposal in making provision for the rail chord to enable provision of the Evergreen 3 rail link Oxford-London and the operation of the East-West Rail through Bicester. The Council does not anticipate in terms of EIA that other than possible increases in traffic on the A41 there would be wider environmental impacts from the proposed development. The Council may have further comments at the planning application stage.

Ward Members: no comments received

2.1 Internal Consultations

Policy:

Unfortunately no formal response has been received at the time of writing so I draw the following conclusions based on the documentation currently available. The adopted Cherwell Local Plan position remains unchanged but the Proposed Submission Local Plan (October 2014) is still evolving. The site is known as Bicester 13 and the latest position is attached as an enclosure to this letter from the Modifications document produced in October 2014. Also of significance is the proposed Conservation Target Area (Policy ESD11) which has not changed since the original submission version.

Anti-social Behaviour Manager:

With regard 14/00009/SCOP I can confirm that the proposals contained within paragraphs 5.44 – 5.54 adequately address the noise issues associated with the application and will allow not only the assessment of noise from the proposed development but also the suitability of the site for development in noise terms. I note that the applicants consultants suggest that vibration from the railway line can be 'scoped out' due to the distance between the line and the nearest proposed dwelling. This position will need to be explained and justified in objective terms in the EIA report.

Environmental Protection Officer:

I can confirm the outline air quality assessment proposals in paragraphs 5.7 to 5.12 of the David Lock Scoping Report (dated September 2014) are acceptable.

There is no reference in the scoping report of assessing how this development proposal may be affected by contamination in the scoping report. This **must** be addressed in any environmental statement submitted as part of a future planning application.

Ecology Officer:

I have no objections to the proposed extent of the EIA on this part of the site.

Landscape Architect:

The LVIA and arboricultural requirements in the Scoping report are appropriate. I think the western site is deemed to be less sensitive than the eastern site

Oxfordshire County Council

The consultation response from the County Council received on 25th March includes the key service areas. Some of the responses received go beyond what would be required at this stage with regard to informing the ES because the role of the ES is to simply identify the significant impacts of the proposed development but nevertheless I report these officer comments as follows:

Highways:

The key issues are highway safety, traffic impact and drainage:

Any application for planning permission must be accompanied by an appropriate Transport Assessment, as detailed but not necessarily limited to that outlined within the submission. The development will be required to incorporate Suds. Infiltration drainage methods are the preferred method of dealing with surface water on the site. Where infiltration methods are not viable, any run-off from the development would need to be restricted to green-field run-off rates.

Archaeology:

The Scoping Report states that the cultural heritage chapter of the EIA prepared for the previous application will be updated to include any recent historic environment information. The EIA should therefore contain this updated chapter.

2.2 External

Environment Agency:

With regard to flood risk, we are pleased to see that there is a section of the Scoping Report which specifically focuses on the Hydrology and Drainage. This mentions that a Flood Risk Assessment (FRA) will be carried out using the most up to date Environment Agency data for both Fluvial and Pluvial sources of flooding.

We are pleased that the above measures are being taken into consideration for the FRA but we will however like to highlight the following:

1. The FRA should be clear about the attenuation structures proposed for this development.
2. The SuDS hierarchy should be followed and attenuation structures should be sized to cater for events up to and including the 1 in 100 plus 30% allowance for climate change.
3. Accompanying calculations should be submitted demonstrating that there will be no flooding of pipes within the development and runoff from the development is not going to increase flood risk on or off site.
4. We would not want to see any built development in flood zones 2 and 3.
5. Discharge rates should be controlled at current greenfield rates or better still lower, to provide a betterment.

We look forward to receiving and commenting on the completed FRA.

With regard to nature conservation, we are pleased to see that there is a section of the Scoping Report which specifically focuses on the ecology. We would expect the following to be carried out in support of the chapter in the EIA.

1. We would expect a ten meter buffer zone along, both sides the Langford Brook and a management plan for the riparian habitat.
2. We would also require a full ecological survey of the Langford Brook and associated riparian habitat. Water voles have been recorded from the site, in the past.
3. We would expect that the EIA is used as an opportunity to enhance the ecology of Langford Brook, which could be focuses on providing water vole habitat and possible some in channel works, such as gravel/riffles.

Thames Water:

The provision of water and waste water infrastructure is essential to any development.

It is unclear at this stage what the net increase in demand on our infrastructure will be as a result of the proposed development. Thames Water is concerned that the network in this area may be unable to support the demand anticipated from this development and the neighbouring development located on the North East Side of Gavray Side.

The developers need to consider the total net increase in water and waste water demand to serve both these developments and also any impact the developments may have off site further down the network, if no/low water pressure and internal/external sewage flooding of property is to be avoided

We would therefore recommend that any EIA report should be expanded to consider the impact of both development sites and should include the following.

- The developments demand for water supply and network infrastructure both on and off site and can it be met
- The developments demand for Sewage Treatment and network infrastructure both on and off site and can it be met
- The surface water drainage requirements and flood risk of the development both on and off site and can it be met
- There are sewers and water mains located within the development site area. The proposed EIA should include information on how these assets will be protected during construction.

Should the developer wish to obtain information on the above issues they should contact our Developer Services department on 0845 850 2777.

Natural England:

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

The scoping request is for a proposal that does not appear, from the information provided, to affect any nationally designated geological or ecological sites (Ramsar, SPA, SAC, SSSI, NNR) or landscapes (National Parks, AONBs, Heritage Coasts, National Trails), or have significant impacts on the protection of soils (particularly of sites over 20ha of best or most versatile land), nor is the development for a mineral or waste site of over 5ha.

At present therefore it is not a priority for Natural England to advise on the detail of this EIA. We would, however, like to draw your attention to some key points of advice, presented in annex to this letter, and we would expect the final Environmental Statement (ES) to include all necessary information as outlined in Schedule 4 of the Town & Country Planning (Environmental Impact Assessment) Regulations 2011. If you believe that the development does affect one of the features listed in para. 3 above, please contact Natural England at consultations@naturalengland.org.uk, and we may be able to provide further information.

Berkshire Buckinghamshire Oxfordshire Wildlife Trust (BBOWT):

As you are aware, we have been involved as consultees for this site for many years and would hope that this opportunity is taken to overcome some of the long running concerns that we and others have had in terms of the approach to ecology on this sensitive site. Please note that this response is to both 14/00008/SCOP and 14/00009/SCOP.

We welcome the additional surveys which have been carried out in 2013.

The EIA should be prepared following the CIEEM 'Guidelines for Ecological Impact Assessment in the United Kingdom' (2006). A data search should be requested from the Thames Valley Environmental Records Centre (TVERC) – we suggest that this is included as part of the desktop study to inform the scope of the EIA.

Net gain in biodiversity

The EIA should demonstrate how the development will result in a net gain in biodiversity (in line with paragraph 109 of the NPPF). This is particularly relevant given the location of part of the proposed sites within the Ray Conservation Target Area, and Policy ESD 11 in the Submission Cherwell Local Plan. Proposed mitigation and enhancement measures for all identified receptors need to be included within the EIA.

Assessment of receptors

We welcome the decision to scope in "the overall invertebrate assemblage" following our response to the previous application. However we remain concerned about the proposal to "scope out" the following by not considering them as "Valued Ecological Receptors":
"the overall bird assemblage" (see paragraph 5.32)
"harvest mouse"

In addition there are several other matters which will need addressing in the EIA as described below.

Overall bird assemblage

Paragraph 5.32 includes "the overall bird assemblage" as "not currently considered to be a VER (Valued Ecological Receptor)". However the evaluation of the bird surveys considered the site to be of "*no more than district level*" value for breeding birds and of "*local to district to value for wintering birds*". As this is stating that the site is therefore a significant site for birds in the entire District then this value should be assessed in the EIA. There will clearly be impact on a number of priority species, and birds of conservation concern. Indeed the LWS citation quoted in the Ecology Scoping Report specifically mentions that the site is notable for both priority bird

species and Birds of Conservation Concern (see paragraph 3.6). In conclusion the overall bird assemblage should be assessed as a Valued Ecological Receptor in the EIA.

Since the original surveys were carried out across the whole site then it is not clear whether the above mentioned reference to the site being of “no more than district level” value for breeding birds and of “local to district to value for wintering birds” is referring more to the east or west site. The bird assemblage should be definitely assessed for 00008 (East) and the ecologists will need to assess whether should be included for 00009 (West).

Harvest Mouse

We welcome the submission of a survey for harvest mouse. There is clear evidence of a population being present on site. Harvest mouse is a priority species and of limited distribution in Oxfordshire. Therefore the impact on this population should be evaluated in the EIA by including harvest mouse as a Valued Ecological Receptor. Since the original surveys were carried out across the whole site then it is not clear whether it should be considered as a VER for both east and west or just east. Harvest mouse should be definitely assessed for 00008 (East) and the ecologists will need to assess whether should be included for 00009 (West).

Botanical survey

We welcome the submission of a detailed botanical survey with the Scoping Report. This notes that for a variety of reasons Field 2 was not able to be assessed in sufficient detail to be able to attribute a NVC community. Nevertheless, as this field still has unimproved grassland then its quality and the impact of development must be evaluated in the context of the EIA for 00008 (East)

Hydrological assessment

We welcome the note in paragraph 5.27 that the effects of localised raising of ground levels will be considered; any effect on the hydrology of the retained LWS needs to be taken into account in this assessment.

Development proposals should avoid impacts on the Local Wildlife Site, as per the NPPF, and the following extract from the Cherwell Submission Local Plan 2006-2031 Policy ESD10: *“Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance including habitats of species of principal importance for biodiversity will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity / geodiversity.”*

Net Gain in Biodiversity and Ecological Networks

The EIA should also identify opportunities to enhance biodiversity, to achieve a net-gain in biodiversity, in line with the NPPF and the following extract from the Cherwell Submission Local Plan 2006-2031 Policy ESD10: *“In considering proposals for development, a net gain in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources.”* and *“Development proposals will be expected to incorporate features to encourage biodiversity, and retain and where possible enhance existing features of nature conservation value within the site. Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity.”*

The application site partly lies within the Ray Conservation Target Area. Conservation Target Areas (CTAs) identify the most important areas for wildlife conservation in Oxfordshire, where targeted conservation action will have the greatest benefit. Opportunities should be taken to secure biodiversity enhancements that will help achieve the aims of the Ray CTA, which include lowland meadow management, restoration and creation and wet grassland restoration to improve the area for waders and wildfowl, as indicated by Paragraph B240 of the Cherwell Submission Local Plan 2006-2031 Policy ESD11 states: *“Biodiversity enhancements sought in association with development could include the restoration or maintenance of habitats through appropriate management, new habitat creation to link fragmented habitats, or a financial*

contribution towards biodiversity initiatives in the Conservation Target Area.” Further details of the aims and biodiversity targets for this CTA are available from:

<http://www.wildoxfordshire.org.uk/wp-content/uploads/2014/02/Ray-CTA.pdf>

A Biodiversity Mitigation and Enhancement Strategy would be needed as a supporting document for any planning application. This should be incorporated into the final scheme design and describe how biodiversity net gain will be achieved and maintained.

Avoidance of built development in the CTA

We have been consulted on the Draft Modifications to the Cherwell Local Plan and note the reference made to avoiding development in the CTA as follows:

“That part of the site within the Conservation Target Area should be kept free from built development. Development must avoid adversely impacting on the Conservation Target Area and comply with the requirements of Policy ESD11 to secure a net biodiversity gain.”

We have supported the inclusion of this text. We would point out that the entire area for the development proposed in 14/00008/SCOP (e.g. the eastern side of Langford Brook) lies within the Ray Conservation Target Area and that the development proposed in 14/00008/SCOP is therefore incompatible with the Draft Cherwell Local Plan.

Biodiversity in Green Infrastructure and the Built Environment

The plans should include green infrastructure within the built environment to retain and create a mosaic of habitats and linear features to ensure that structural diversity and habitat connectivity throughout the site is provided. This should include significant amounts of open space within residential areas, some of which should be earmarked specifically for biodiversity, and some for biodiversity combined with public access. The biodiversity value of recreational areas should also be maximised, for example by the provision of species-rich grassland with an appropriate infrequent mowing regime on the borders of sports pitches. A sensitive directional lighting scheme should be implemented to ensure that additional lighting does not impact on the green spaces across the site.

Biodiversity enhancements such as the creation of ponds, green roofs, creation of habitat for bats in buildings and bird boxes, creation of hibernacula for reptiles and amphibians and creation of wildflower grasslands should be included in the development design in line with planning policy (NPPF) and the NERC Act, which places a duty on local authorities to enhance biodiversity. Provision should be made for the long term management of these areas.

Further details on some of the above are contained in:

“Biodiversity Positive: Eco-Towns Biodiversity Worksheet, produced by the Town and Country Planning Association, Communities and Local Government, and Natural England.” This is downloadable from: <http://www.tcpa.org.uk/data/files/biodiversity.pdf>

Biodiversity benefits from SUDS

As well as providing flood control SUDS can provide significant biodiversity value if biodiversity is taken into account in the design, construction and management of SUDS features. This should be required of any development. Examples include:

- Green and brown roofs;
- Detention basins and swales that can be planted with wildflower rich grassland;
- Reinforced permeable surface for car parks and drives that can also provide wildflower habitat.

Network Rail:

Over the past few years there have been a couple of planning applications for the site which has NAJ3 to the north and OXD to the west. It appears that those proposals have fallen through, so now it he council are seeking views on a new proposal for 160 dwellings on the east section of the site and 180 dwellings on the west section of the site (total 340).

The site is approx a mile from Bicester North and Bicester Town stations so it would appear that there are no station related issues.

Network Rail understands from the previous consultation that there is also a pedestrian access point at (Neasden South Jc - Aynho Junction via Bicester North) NAJ3 8.0450 on the line right inside the boundary. Whilst rights of access fall outside material planning considerations we would flag this up to the developer as Network Rail will require unblocked access to the operational railway around the clock (24/7, 365) – any access point must remain open and unblocked to not only Network Rail vehicles but also emergency vehicles too. In light of this the developer is requested to contact the Network Rail Operational Property Services to discuss the issue of our right of access (OperationalPropertyLNW@networkrail.co.uk)

There are also two level crossings in the area which Network Rail would be concerned about. We would be concerned that the proposals could result in an increase in the type and volume of user over the crossings. In light of this we would recommend that the developer contacts the Network Rail Level Crossings Manager for the area to discuss in more detail. Any traffic impact assessment should take into account any level crossings in the area.

The developer, before submitting a planning application should make contact with the Network Rail Asset Protection Team.

AssetProtectionLNWSouth@networkrail.co.uk

A BAPA may be required to facilitate works on site.

We would draw the councils attention to the following Rail Accident Investigation Branch report into 'Penetration and obstruction of a tunnel between Old Street and Essex Road stations, London 8 March 2013', which concluded:

5 The intent of this recommendation is to ensure that the planning approval process reduces the risk to railway infrastructure due to adjacent developments.

The Department for Communities and Local Government should introduce a process to ensure that Railway Infrastructure Managers are made aware of all planning applications in the vicinity of railway infrastructure. This process should at least meet the intent of the statutory consultation process (paragraphs 97f and 101).

Network Rail has a statutory obligation to ensure the availability of safe train paths and as such we are required to take an active interest in any development adjacent to our infrastructure that potentially could affect the safe operation of the railway.

As these proposals are adjacent to the operational railway the works on site and as a permanent arrangement should not impact upon the safety, operation, integrity or performance of the railway.

2.3 Other

Bioscan (Dominic Woodfield):

It is noted that little has changed from the single report submitted in support of scoping application 14/00001/SCOP in Spring 2014. The main change appears to be that Gallagher Estates have now decided, apparently in response to advice from CDC, to submit separate applications for the areas of the site west and east of the Langford Brook. The applicant also cites emerging policy support for the applications, despite the fact that the quantum of housing they propose exceeds the limit envisaged by the Council in the draft policy and the fact that the draft policy is itself the subject of formal examination, which may see it modified in line with the multiple objections it has elicited.

On the basis that relatively little else has changed other than the fission of one application into two, I need not repeat all of the comments I made in March 2014 in response to 14/00001/SCOP. It should be noted however that the following issues remain:

□ While the botanical survey information now presented remains a vast improvement on previous assessments, it remains disappointing that it still omits consideration of the remaining pockets of grassland within Field 2, as mapped on plan EDP1 submitted with the supporting EDP report, and which clearly have the same 'unimproved' origins as much of the grassland within the LWS, albeit badly affected by scrub invasion in recent years. This is an important point in assessing the merits of the latest masterplan.

□ On butterflies, as previously, I will defer to the national and local experts from Butterfly Conservation, but I would make the observation that a further section 41 species, grizzled

skipper, is inexplicably omitted from the baseline despite having been recorded by a local party last year and I believe despite photographic confirmation having been sent to EDP by that individual.

I note that the previous failure to conduct overnight moth-trapping surveys, despite these being specifically advised in many previous consultations dating back many years, is now stated as to be remedied in 2014. This is an important step forward as moths remain a significantly under-studied species on this site, and the recent discovery of the day-flying forester moth, also a priority species under section 41 of the NERC Act, clearly signposts that there could be substantial as yet undocumented interest associated with this group. This is an important point in assessing the merits of the proposed scope of the EIA and the latest masterplan. However if additional and remedial survey work on moths has now been completed, as it presumably must have been by this point in the year, it is unclear why this has not been included along with all the other surveys within the application documentation. Assuming the work has been carried out to an adequate standard, this will assist with correcting the flawed and inconsistent approach to evaluation of invertebrates as a collective group that was raised as a concern in the previous scoping report. Indeed I note that the applicant has responded to such criticism by raising the status of the overall invertebrate assemblage to a 'valued ecological receptor' in recognition of the previous oversight.

However the approach of 'scoping out' elements "not currently considered to be VER's" remains. I previously indicated that this is a non-standard approach that is inherently challengeable in EIA terms as it risks failing to alert decision makers to 'likely significant effects'. Despite the elevation of the 'District' level of importance receptor of invertebrates to a 'VER' in response to this criticism, the intention still appears to be to scope out other receptors valued at District level (e.g. the overall breeding bird assemblage). As previously stated, this could mean that District level impacts falling within the ambit of 'likely significant effects' in EIA terms, and which will be integral to the process of assessing local plan policy compliance in any event, will fail to be identified in the ES, and cannot then be taken into account by decision makers. This could undermine the validity and legal robustness of the EIA. As stated previously, I would strongly recommend that the approach advocated by the Chartered Institute of Ecology and Environmental Management (CIEEM) and as set out in their Guidelines for Ecological Impact Assessment is more fully and properly followed, as indeed it is stated will be the case elsewhere in the scoping report. This absolutely does not mean that every last receptor needs to be included in the assessment, but it does mean that receptors clearly identified as of conservation importance (e.g. species of Principal Importance further to sections 40 and 41 of the NERC Act, including several bird species and harvest mouse) should not be artificially set aside in the manner being proposed.

As previously stated, while the surveys for amphibians, breeding and wintering birds and bats presented in the 2013 report are subject to various omissions and/or limitations, on the whole these are minor and I am content that overall the work provides a reasonably representative baseline for these groups.

I therefore consider that, subject to the above comments, and seeing the methodology and results of the 2014 moth surveys in particular, the ecological baseline is broadly sufficient for EIA purposes. The approach to assessment, using this information, does however still need to be amended to be in line with minimum industry standards and I advise that the Council seeks confirmation on this point in order to avoid a flawed and legally challengeable EIA.

Turning aside from ecology, you will recall that in my responses to both 13/00001/SCOP and 14/00001/SCOP, I also offered comments on other EIA disciplines. The result of any further work on these disciplines is not included in the applicant's scoping report, although comments are provided on the approach that they intend to take to each. I repeat the comments on each of these as follows:

Air Quality – no comments to make

Arboriculture – I welcome the intention to map root protection zones for trees. I note that the stated intention is for RPZs for both trees and hedgerows to be respected in designing the development interface with retained hedgerow and tree features (see para 3.4 of the scoping

report). In this context I would observe that the arboricultural survey needs also to map RPZs for hedgerows as well as trees.

Archaeology and Heritage – I previously commented that the Environmental Statement submitted in support of a previous industrial proposal classed the relict Mediaeval hedge and green lane pattern in the eastern part of the site (including one hedgerow assessed to be of Saxon age), together with the extent of intact ridge and furrow, to be a 'regionally significant' historic landscape. In this context I welcome the statements at 5.20 and 5.25 which appear to recognise the presence of historic landscape receptors and commit to their inclusion in the assessment process.

Hydrology and Drainage – I am concerned that the statement at paragraph 5.38 suggests that all surface water drainage will be directed to the public sewer network, after appropriate attenuation. Although mention is now made of SUDS, there still does not appear to be any intention to make provision for upholding existing groundwater infiltration rates, which raises the possibility that the hydrological regime underpinning the grassland habitats of conservation importance on the site could be subject to derogation. The applicant previously commissioned a study from the Wetlands Advisory Service that established a good baseline understanding of the existing hydrological regime. It is crucially important to the future of the retained habitats that this existing regime is protected. My previous (2013) comments on this aspect of the EIA therefore still stand, so I repeat them here:

"FRA should be carried out in accordance with the latest flood risk models adjusted for climate change and should include details of any compensation excavations proposed, including assessment of alternatives (e.g. to developing in the flood zone).

Details will need to be provided as to how on-site attenuation of surface water will be designed and managed in accordance with best practice SUDS principles to replicate existing Greenfield rates of run-off from the site to avoid increasing downstream flood risk (including within Langford Village, but also in respect of downstream SSSIs identified as a concern by Natural England).

Details will need to be provided as to how surface water quality will be upheld, including through use of interception and filtration systems and through biological treatment in 'open' SUDS systems.

The existing hydrological regimes supporting lowland flood meadow, retained hedgerows and ponds should be understood through appropriate survey information and details set out as to how these would be replicated, including compensatory provision for loss of inputs from hard development and/or from re-direction of established flows."

Landscape and Visual Amenity – no comments to make

Noise – no comments to make

Services and Utilities – no comments to make

Socio-economics – no comments to make

Transportation and Access – I welcome the commitment to assess construction traffic movements to rectify the omission of this important potential impact source from the previous ES.

There are two other areas that I believe the EIA needs to cover, as set out in my response to 13/00001/SCOP, but for which there is no specific mention in the latest scoping report. I therefore repeat the comments here:

Sustainability

As well as 'locational' sustainability (including proximity to facilities and likely transport modes of residents), this section of the ES needs to cover matters such as the source of building materials – in particular the type and source of primary aggregate required for any land raising.

Details of the cut and fill balance, including in particular the likely requirements for export of surplus material from the site, also need to be provided (amongst other things to inform construction traffic assessments).

Cumulative Impacts and consideration of alternatives

The EIA process needs to include proper consideration of alternatives, including reduced scale or altered configuration of development within the site, over and above alternative sites and in the context of need. It is also crucial, in the context of the current rapid expansion of Bicester and pressure on the existing transport, drainage and sewerage infrastructure, that cumulative effects are considered – not only of recently completed developments but of those ‘in planning’ or envisaged as part of CDCs’ Bicester masterplan.

Achieving ‘not net loss’ and compliance with national policy

I hope the above comments are helpful in terms of setting the scope for the forthcoming EIAs of the applicant’s revised development proposals. I note that in terms of the progression of those proposals beyond the indicative masterplan stage, the ‘split’ masterplans provided do not take us further forward from the position in March this year. Indeed, the applicant’s intended site yield appears to have gone up, despite the apparent acceptance that this is a site with particular and weighty constraints. Because the information base on ecology is now much better known, it is surprising that the applicants consider that 160 dwellings could be delivered on the land east of Langford Brook. The source of this conflict between the ambitions of the applicant and the need to achieve a form of development that is sustainable in the context of the NPPF, may well be continuing unaddressed flaws in the evaluation of the baseline survey information. Despite concerns having been raised about this issue previously in respect of 14/00001/SCOP, I note that the same problems remain.

To ensure national and local policy compliance the objective of the masterplan has to be to achieve ‘no net loss’ of biodiversity and ‘net gain’ where possible. On this sensitive site, this will only be achieved by a combination of retention of critical habitat resources, managing the tension between development proximity and optimal management, and putting the mechanisms in place as part of the development package to deliver and sustain the optimum management of the site into the long term.

There are no defined systems for ‘measuring’ net loss or net gain, but using the emerging Defra metrics that inform the pilot ‘biodiversity offsetting’ system, and assuming optimum management is delivered and sustained for retained habitats, the current indicative masterplan still indicates a small shortfall in equity of loss versus gain. Sensitivity testing suggests that this shortfall would be remedied by an element of further ‘pull back’ from the boundaries of the Local Wildlife Site in the eastern part of the site, in particular in terms of Fields 3 and 2, which have intrinsic interests complementing the LWS and which assist its connectivity eastwards to the wider River Ray Conservation Target Area. I note that these fields fall within the area subject to the CTA policy in any event. If optimum (grazing and hay-cutting) management of the retained LWS is to be achieved, there is also a need to ensure that such management is a viable proposition. In this context, there is a need for on-site areas of semi-improved grassland, such as that within Fields 8, 9 and 3, to be available as a place to rotate grazing animals. It is in no-one’s interests to preclude public access and use of the retained habitats – at the end of the day this site is, and should remain, a fantastic asset for the people of Bicester. But in order for it to remain so, formal open space uses, or uses that are likely to generate pressure from future residents to manage the site in a certain way (e.g. informal kick-about areas) will not be compatible uses for the retained habitats. Conversely, the larger retained area relative to neighbouring development will, assuming the delivery of optimum management, improve the resilience of the retained LWS to informal uses, rendering jogging, dog-walking and passive recreation (e.g. around field edges on mown paths) able to be accommodated without significant detriment. Indeed the presence of this asset on the doorstep is likely to have a highly positive effect on values and by extension the sense of local ownership and stewardship and the motivation to sustain it.

One letter has been received from a Town Councillor who is a local resident:

I strongly object to any development of the land either for residential, employment or commercial purposes. This area is an almost unique landscape. Over the last few decades the amount of natural wetland in the UK has declined very significantly to beyond the verge of collapse. This is almost entirely due to drainage for building. Gavray Drive is one of the few remaining wetland habitats in the country. Wetlands are very important to flora, fauna and ecology and it is important that they are conserved and sustained.

I am sceptical because the emerging Local Plan set an allocation of 300 houses for Gavray Drive while the two applicants are already offering a Local Plan busting 340 houses. And allowing 2 applications to go forward could well obscure and distort the combined impact of the proposed development on the immediate and wider green environment.

Gavray Drive is already subject to environmental designations and part is designated Common Land that taken together should be sufficient to protect this important wetland from not only inappropriate but any development – such is its importance, especially to the well being of the rapidly expanding Bicester population. It is a green lung in what is rapidly becoming a very large town. None the less I am sceptical that these designations will not be given the weight that they warrant.

Bicester is designated as an Eco Town. It is supposed to be a pathfinder in setting standards for environmental living. Any development of Gavray Drive would link to the proposed strategic housing site at Wretchwich Way so blocking the important natural habitat corridor that links Gavray Wetland Meadows with the River Ray Conservation Target area. Both these areas have national biodiversity designations. In addition, in the now aged Cherwell Local Plan there is a reference to a linear park/nature reserve along Skimmingdish Lane to create biodiversity and habitat corridors protecting local wildlife. This is also under threat of residential development. The cumulative effect of this loss of green space is to seriously degrade the green environment of the established town of Bicester so undermining the principle and aspiration that “Bicester is the place to live, work and bring up your family”.

With the galloping demand for throwing up housing units on any green space in Bicester, it is essential that green space and biodiversity as well as the social and cultural welfare of Bicester is given priority to ensure that homes are delivered and communities developed without unwanted and unnecessary corrosion and erosion of our rapidly disappearing historic, sensitive and vitally important natural environment. Gavray Drive is of such importance to individual and community well being that it should undeveloped.

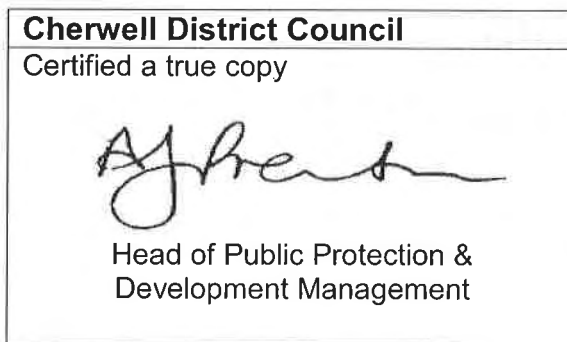
This marks the end of the public consultation responses.

3. Conclusion

As envisaged, ongoing studies of this site continue to reveal sensitive environmental constraints with regard to legally protected species. The submission local plan designates this site as a housing site for 300 units and a Conservation Target Area is identified on the majority of this east site. I would recommend that you have in mind the letters sent to you on recent previous scoping opinions but in the meantime I trust that this letter is of assistance in properly informing this scoping decision and is sufficiently clear to enable you to progress the EIA.

Yours faithfully

Cherwell District Council
Bodicote House
Bodicote
Banbury
Oxon
OX15 4AA



Enc. Extract of CDC Proposed Main Mods to the Submission Local Plan

Cherwell District Council

**Proposed Main Modifications
to the (Submission) Local Plan (Part 1)**

**Schedule of Issues and Further Proposed Modifications
October 2014**

Further Proposed Modifications (October 2014):

Modified text - Deleted text shown as struck-through

Additional text shown underlined

Mod No.	Page No.	Policy Paragraph	Summary of Issues Raised in Representations	Further Proposed Modifications (STRIKETHROUGHS AND UNDERLINED TEXT)	Reason for Further Proposed Modification
89	130	<p>Bicester: New Policy Bicester 13 – Gavray Drive New para C.101a</p>	<p>Petition containing some 1,480 signatures received. Objection raised to the proposed allocation. The land at Gavray Drive has been recognised for many years to be of historical and ecological value and is part of the Ray Conservation Target Area as well as containing a Local Wildlife Site. The allocation of the site is as a result of the increased in housing figures from the SHMA. Most of the site is designated as a Conservation Target Area therefore the site cannot be both for housing and for conservation. It is now important that the land is correctly identified as</p>	<ul style="list-style-type: none"> The incorporation of SUDS (see Policy ESD 7: Sustainable Drainage Systems (SuDS)), taking account of the recommendations of the Council's Strategic Flood Risk Assessment. Detailed site specific analysis and ground investigation to determine whether infiltration SuDS techniques are acceptable; due to underlying geology and groundwater vulnerability attenuation techniques are likely to be required. Development that considers and addresses any potential amenity issues which may arise – including noise impact from the rail line to the far north. The introduction of buffers/barriers/screening and the location of uses should be carefully considered to mitigate potential nuisances The provision of a scheme, to be agreed with the Council, for the appropriate retention and re-use of existing farm buildings An assessment of whether the site contains best and most versatile agricultural land, including a detailed survey where necessary. A soil management plan may be required to be submitted with planning applications. An archaeological field evaluation to assess the impact of the development on archaeological features 	
				<p>No further modification recommended.</p>	

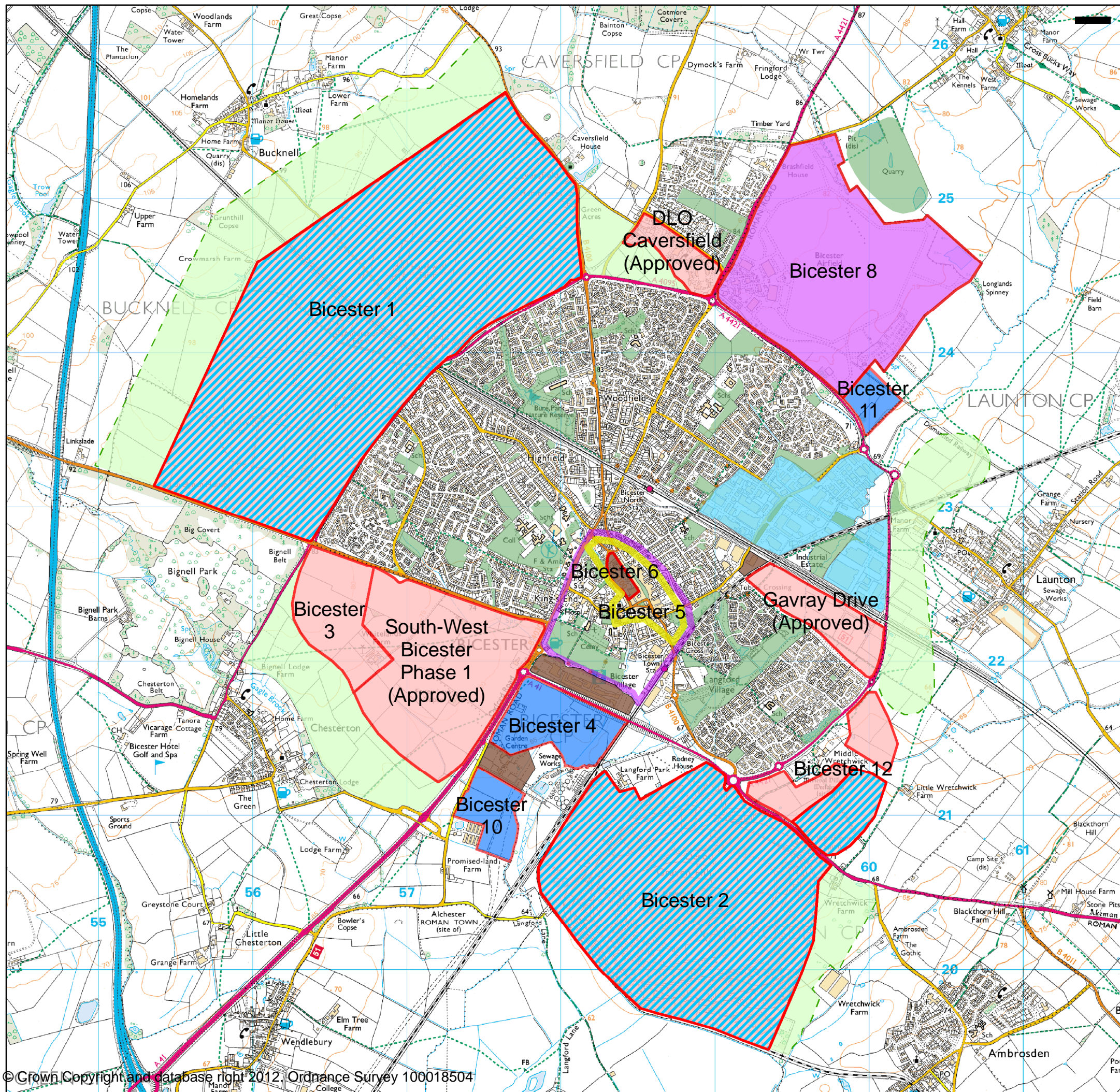
Mod No.	Page No.	Policy Paragraph	Summary of Issues Raised in Representations	Further Proposed Modifications (STRIKETHROUGHS AND UNDERLINED TEXT)	Reason for Further Proposed Modification
90	130	New para C.101b	<p>a Local Wildlife Site, Gavray Meadows Local Wildlife Site is noted for its biodiversity. The site has been allocated without consulting with the local community.</p> <p>Land at Gavray Drive should be preserved and designated a Local Green Space.</p> <p>Concern over impact ecological, environmental and historical impact of development at Gavray Drive.</p> <p>The amount of land allocated at Gavray Drive should be reduced.</p> <p>Revised wording proposed.</p> <p>Lack of Infrastructure.</p> <p>Support for allocation from site promoter.</p>	<p>The western part of the site may include improved grassland (a BAP priority habitat). The central and eastern section of the site contains lowland meadow, a There is an additional BAP priority habitat which is a lowland meadow in the centre of the site. There are a number of protected species located towards the eastern part of the site. There are several ponds and a small stream, known as the Langford Brook, which runs from north to south through the middle of the site. A range of wildlife has been recorded including butterflies, great crested newts and other amphibians, reptiles, bats and birds.</p> <p>There are risks of flooding on some parts of the site therefore mitigation measures must be considered. There is also a risk of harming the large number of recorded protected species towards the eastern part of the site. Impacts need to be minimised by any proposal. Approximately a quarter of</p>	<p>Clarification in response to representations</p>

Mod No.	Page No.	Policy Paragraph	Summary of Issues Raised in Representations	Further Proposed Modifications (STRIKETHROUGHS AND UNDERLINED TEXT)	Reason for Further Proposed Modification
			<p>Wildlife Site is noted for its biodiversity. The site has been allocated without consulting with the local community.</p> <p>Concern over impact ecological, environmental and historical impact of development at Gavray Drive.</p> <p>The site could not be developed without a net impact on biodiversity. The development should be deleted.</p> <p>Land at Gavray Drive should be preserved and designated a Local Green Space.</p> <p>Lack of Infrastructure</p>	<p>the site is within Flood Zones 2 and 3 therefore any development would need to be directed away from this area.</p>	
91	130	Bicester: Policy Bicester 13 Gavray Drive	<p>Petition containing some 1,480 signatures received. Objection raised to the proposed allocation. The land at Gavray Drive has been recognised for many years to be of historical and ecological value and is part of the Ray Conservation Target Area as well as containing a Local Wildlife Site. The allocation of the site is as a result of the increased in housing figures from the SHMA. Most of the site is designated as a Conservation Target Area therefore the site cannot be both for housing and for conservation. It is now important that the land is correctly identified as a Local Wildlife Site. Gavray Meadows Local Wildlife Site is noted for its biodiversity. The site has been allocated without consulting with the local community.</p>	<p>Policy Bicester 13 – Gavray Drive</p> <p>Development Area: 23 hectares</p> <p><u>Development Description</u> - a housing site to the east of Bicester town centre. It is bounded by railway lines to the north and west and the A4421 to the east</p> <p>Housing</p> <ul style="list-style-type: none"> • Number of homes - 300 dwellings • Affordable Housing - 30% <p>Infrastructure Needs</p> <ul style="list-style-type: none"> • Education – Contributions sought towards provision of primary and secondary school places; • Open Space – to include general greenspace; play space, allotments and sports provision as outlined in Policy BSC11: Local Standards of 	In response to representations

Mod No.	Page No.	Policy Paragraph	Summary of Issues Raised in Representations	Further Proposed Modifications (STRIKETHROUGHS AND UNDERLINED TEXT)	Reason for Further Proposed Modification
			<p>Concern over impact ecological, environmental and historical impact of development at Gavray Drive.</p> <p>Wording changes required to protect site.</p> <p>Land at Gavray Drive should be preserved and designated a Local Green Space.</p> <p>Number of houses should be reduced to 250.</p> <p>Wording changes including deleting reference to no development within the Conservation Target Area.</p> <p>Additional drainage infrastructure is likely to be required</p>	<p>Provision – Outdoor Recreation. A contribution to off-site formal sports provision will be required.</p> <ul style="list-style-type: none"> • Community – contributions towards community facilities • Access and movement – from Gavray Drive. <p>Key Site Specific Design and Place Shaping Principles</p> <ul style="list-style-type: none"> • Proposals should comply with Policy ESD16 • A high quality development that is locally distinctive in its form, materials and architecture. A well designed approach to the urban edge which relates to the road and rail corridors. • That part of the site within the Conservation Target Area should be kept free from built development. Development must avoid adversely impacting on the Conservation Target Area and comply with the requirements of Policy ESD11 to secure a net biodiversity gain. • Protection of the Local Wildlife Site and consideration of its relationship and interface with residential and other built development • Detailed consideration of ecological impacts, wildlife mitigation and the creation, restoration and enhancement of wildlife corridors to protect and enhance biodiversity. The preparation and implementation of an Ecological Management Plan to ensure the long- term conservation of habitats and species within the site to be agreed with the Council in-consultation with local biodiversity interest groups. • Development proposals to be accompanied by a landscape and visual impact assessment together with a heritage assessment Development proposals to be accompanied and influenced by a landscape and visual impact assessment and a heritage impact assessment. • The preparation of a structural landscaping scheme, which incorporates and enhances existing natural features and vegetation. The structural landscaping scheme should inform the design 	

Mod No.	Page No.	Policy Paragraph	Summary of Issues Raised in Representations	Further Proposed Modifications (STRIKETHROUGHS AND UNDERLINED TEXT)	Reason for Further Proposed Modification
				<p>principles for the site. Development should retain and enhance significant landscape features (e.g. hedgerows) which are or have the potential to be of ecological value. A central area of open space either side of Langford Brook, incorporating part of the Local Wildlife Site and with access appropriately managed to protect ecological value. No formal recreation within the Local Wildlife Site.</p> <ul style="list-style-type: none"> • Provision of public open space to form a well connected network of green areas within the site, suitable for formal and informal recreation • Provision of Green Infrastructure links beyond the development site to the wider town and open countryside • Retention of Public Rights of Way and a layout that affords good access to the countryside • New footpaths and cycleways should be provided that link with existing networks, the wider urban area and schools and community facilities. Access should be provided over the railway to the town centre. • A linked network of footways which cross the central open space, and connect Langford Village, Stream Walk and Bicester Distribution Park. • <u>Ensure that there are no detrimental impacts on downstream Sites of Special Scientific Interest through hydrological, hydro chemical or sedimentation impacts</u> • A layout that maximises the potential for walkable neighbourhoods and enables a high degree of integration and connectivity between new and existing communities • A legible hierarchy of routes to encourage sustainable modes of travel. Good accessibility to public transport services with local bus stops provided. Provision of a transport assessment and Travel Plan <u>Additional bus stops on the A4421 Charbridge Lane will be provided, with connecting footpaths from the development. The developers will contribute towards the cost of improving bus services in the wider South East Bicester area.</u> • Provision of appropriate lighting and the minimisation of light pollution based on appropriate technical assessment 	

Mod No.	Page No.	Policy Paragraph	Summary of Issues Raised in Representations	Further Proposed Modifications (STRIKETHROUGHS AND UNDERLINED TEXT)	Reason for Further Proposed Modification
92	132	Banbury C.109	Support for the allocation of employment land at junction 11 of the M40 from the site promoters. Concern from the Town Council about large scale class B8 development Concern from South Northamptonshire District Council about the landscape and transport	<p>Further Proposed Modifications (STRIKETHROUGHS AND UNDERLINED TEXT)</p> <ul style="list-style-type: none"> • Provision of public art to enhance the quality of the place, legibility and identity. • Demonstration of climate change mitigation and adaptation measures including exemplary demonstration of compliance with the requirements of policies ESD 1 – 5 • Take account of the Council's Strategic Flood Risk Assessment for the site • Consideration of flood risk from Langford Brook in a Flood Risk Assessment and provision of an appropriate buffer. Use of attenuation SuDS techniques (and infiltration techniques in the south eastern area of the site) in accordance with Policy ESD 7: Sustainable Drainage Systems (SuDS) and taking account of the Council's Strategic Flood Risk Assessment • <u>Housing must be located outside Flood Zone 3 and the principles set out in Policy ESD 6: Sustainable Flood Risk Management will be followed.</u> • The provision of extra-care housing and the opportunity for community self-build affordable housing • An archaeological investigation to inform an archaeological mitigation scheme as required • <u>An archaeological field evaluation to assess the impact of the development on archaeological features</u> • A detailed survey of the agricultural land quality identifying the best and most versatile agricultural land and a soil management plan. 	
				No further modification recommended.	

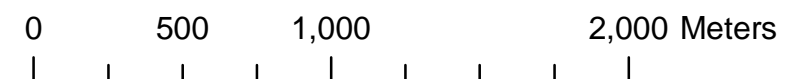


Key

- Existing employment
- New employment
- Mixed use (housing and employment)
- Existing retail
- Strategic housing sites
- Existing green space
- Green buffers
- Town centre
- Extended town centre
- Tourism development

Strategic developments

- 1 North-West Bicester: Eco-Town.
- 2 Graven Hill
- 3 South-west Bicester Phase 2
- 4 Bicester Business Park
- 5 Strengthening Bicester Town Centre
- 6 Land at Bure Place Car Park
- 8 RAF Bicester
- 10 Bicester Gateway
- 11 North-East Bicester Business Park
- 12 East Bicester



**Land North of
Gavray Drive,
Bicester,
Oxfordshire**

**Appendix 9.1:
Ecology Baseline
Report (2014)**

Prepared by:
**The Environmental
Dimension
Partnership Ltd
(EDP)**

On behalf of:
**Gallagher Estates
Ltd**

March 2015
Report Reference
EDP124_29b



THE
ENVIRONMENTAL
DIMENSION
PARTNERSHIP

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Annex EDP 3	Weather Conditions Recorded During 2013 Reptile Surveys
Annex EDP 4	Terrestrial Invertebrate Survey Colin Plant Associates (UK) BS/2789/13 November 2013)
Annex EDP 5	Survey and Evaluation of the Night-Flying Macro and Micro-Moth Fauna of Land at Gavray Drive, Bicester Jon Mellings and Peter Cranswick JMed10112014_Final
Annex EDP 6	Ray Conservation Target Area
Annex EDP 7	Gavray Drive Meadows LWS Citation
Annex EDP 8	Gavray Drive Designated Sites Map
Annex EDP 9	Tree Bat Roosting Assessment 2013
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Annex EDP 14	Brown and Black Hairstreak Records Received From Butterfly Conservation

Plans

Plan EDP 1	Extended Phase 1 Survey (EDP124/56d 16 March 2015 JTF/JB)
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Plan EDP 10	Reptile Survey Results 2013 (EDP124/95b 16 March 2015 JTF/JB)
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Plan EDP 12	Butterfly Conservation Brown and Black Hairstreak Records (EDP124/59c 16 March 2015 JTF/TW)
Plan EDP 13	White-Letter Hairstreak Survey 2011 (EDP124/96a 16 March 2015 JTF/TW)

Plan EDP 14

White-Letter Hairstreak Survey 2013
(EDP124/97a 16 March 2015 JTF/TW)

This version is for electronic viewing only

For EDP use

Report no.	C_EDP124_29b
Author	James Bird
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Proof Date	16 March 2015

Section 1 Introduction

- 1.1 The Environmental Dimension Partnership Ltd (EDP) was commissioned by Gallagher Estates Ltd to update the ecology baseline for land north of Gavray Drive, Bicester, Oxfordshire. This report sets out the factual information collated during 2013, including the methodology of surveys and the findings of those surveys. It is proposed that this information, supplemented by ecological data collated for the study area since 2002, will inform the application and ecological impact assessment for a new outline planning application which will be prepared and submitted for consideration to Cherwell District Council during 2014.

Extent of Study Area

- 1.2 For the purposes of this report the Study Area corresponds to the 'Study Area' boundary as shown on **Plan EDP 1**. The study area lies immediately to the east of Bicester, Cherwell district, north-east Oxfordshire. The study area is bounded by Chiltern Railway Lines to the north and west, with high density residential immediately beyond Gavray Drive along the southern boundary of the study area. The eastern boundary of the study area corresponds to Charbridge Lane, with a predominantly intensive arable landscape further to the east.

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Section 2

Scope of Work

- 2.1 The ecology baseline of the 2004 Ecology Environmental Statement Chapter has been updated in line with the Scope of Works outlined within EDP's Scoping report and those matters arising from consultee responses including those received from Cherwell District Council, Natural England and Berkshire, Buckingham and Berkshire Wildlife Trust (BBOWT).
- 2.2 The Scope of Work broadly includes the following:
- i. Update Desk Study;
 - ii. Update Extended Phase 1 Survey; and
 - iii. Updated Detailed Habitat/Species Surveys.
- 2.3 The detailed methodologies employed to collate the updated ecology baseline are discussed in turn below.

Update Desk Study

- 2.4 The desk study is an important element of undertaking an initial ecological appraisal of a site proposed for development, since it enables the collation and review of contextual information such as designated sites together with known records of protected and priority species.
- 2.5 A desk study was originally completed in 2010. Thames Valley Environmental Records Centre (TVERC) was contacted for up-to-date ecological records for the study area and its vicinity. Biodiversity information was requested on 12 June 2013. Records for international designations were sought for an area of 5km radius surrounding the study area together with national/local designations and species records (excluding bats) within a 2km radius of the study area. Bat records were sought within a 4km radius of the study area.
- 2.6 In addition, given the butterfly interest of the study area, butterfly records were requested from Butterfly Conservation (accessing both national and local (Thames Valley Branch) databases) for an area within 2km of the study area; records of Marsh Fritillary butterfly were requested within a 15km radius of the study area. Butterfly records were requested on 17 June 2013.

- 2.7 A search of the Multi-Agency Government Information Centre (MAGIC) website was also undertaken on 12 June 2013 to identify statutory designations within 2km for UK sites and 5km for European sites.
- 2.8 These search areas are considered sufficient to cover the potential zone of influence of potential development in relation to nationally important sites (or less), habitats and species.
- 2.9 In addition to the above a number of species records were supplied to EDP via email from a local resident during the course of updating the ecology baseline.
- 2.10 Any pertinent information received as a result of the desk study, included those local resident's records, has been included as **Annex EDP 1** and specifically referenced within **Section 3**.

Updated Extended Phase 1 Survey

- 2.11 The survey technique adopted for the updated habitat assessment was at a level intermediate between a standard Phase 1 survey technique, based on habitat mapping and description, and a Phase 2 survey, based on detailed habitat and species surveys. The survey technique is commonly known as an Extended Phase 1 Survey.
- 2.12 This level of survey does not aim to compile a complete floral and faunal inventory. The level of survey involves identifying and mapping the principal habitat types and identifying the dominant plant species present in each principal habitat type.
- 2.13 The aim of the updated survey was to broadly map and describe the current habitat distribution within the study area and identify any significant material changes since the original ecology ES chapter prepared during 2004. Normally, the Extended Phase 1 survey would also be used to scope actual or potential habitat and species constraints to inform further detailed surveys. However, mindful of the extent of existing information, and the scoping and consultation exercise already completed, the actual and potential constraints related to this study area are considered to have been fully scoped; this scope is reflected in the following methodologies.
- 2.14 The Extended Phase 1 survey of the study area was undertaken on 11 June 2013 during suitably warm and dry conditions. The distribution of habitats within the study area is illustrated in **Plan EDP 1**. In addition, any actual or potential protected species or species of principal importance are identified and scoped.

Updated Detailed Habitat/Species Surveys

- 2.15 With respect to the Scope of Works outlined within EDP's Scoping report and those agreed following consultee responses, a number of actual or potential ecological

constraints were confirmed as requiring further investigation to inform the layout of a future development and support a planning application.

2.16 The following detailed Phase 2 surveys were therefore undertaken:

- i. Updated Grassland Survey;
- ii. Updated Bat Survey;
- iii. Breeding Bird Surveys;
- iv. Winter Bird Surveys;
- v. Updated Great Crested Newt Survey;
- vi. Updated Reptile Survey;
- vii. Updated Badger Survey;
- viii. Water Vole and Otter Survey;
- ix. Harvest Mouse Survey;
- x. Detailed Invertebrate Assessment;
- xi. Updated Butterfly Surveys (Marsh Fritillary/Brown Hairstreak/Black Hairstreak/White-letter Hairstreak/Small Heath); and
- xii. Night-flying Macro and Micro Moth Survey.

Updated Grassland Survey

2.17 The grassland survey completed during 2002 was updated with reference to published National Vegetation Classification (NVC) methodology. The aims of the survey were to establish if the grassland within the Local Wildlife Site (LWS) was still representative of designation as Local Biodiversity Action Plan (LBAP) Lowland Grassland, and to assess the value of the grassland within the wider study area in respect of UK and Local Biodiversity Action Plan (BAP) habitats.

2.18 The grassland survey was completed over four survey visits between mid-June to the end of August 2013 which allowed for the identification for late flowering species such as *Carex spp.* The survey was restricted to fields to the east of Langford Brook. Full species lists were created for each of the fields and abundance was noted using the DAFOR scale (D=dominant, A=abundant, F=frequent, O=occasional, R=rare). Each field was subject to a walked 'W' transect to record wider plant species within the sward together with an evaluation of each plant species' abundance in reference to DAFOR.

2.19 In addition, thirty-nine 2m x 2m quadrats were taken throughout the study area for comparison with the NVC. Quadrats were located within homogenous vegetation stands (Rodwell, British Plant Communities Volume 3, 1998). If the area was large enough, >10m², then at least three quadrats were taken in each community type recognised, for comparison with NVC. The quadrat data were then analysed using the ordination techniques TWINSpan (Two-Way Indicator Species Analysis) and Decorana (Detrended Correspondence Analysis). Modular Analysis of Vegetation Information System (MAVIS) software was then used to determine the 'fit' of the vegetation surveyed to NVC sub-community types. Further details of the methodologies employed are detailed within the appended Botanical Survey Report (**Annex EDP 2**).

Updated Bat Survey

2.20 The study area supports a range of habitats with potential to support foraging and commuting bats including areas of broadleaved woodland, mature trees, hedgerows, scrub, grassland and ponds. In addition, a number of mature trees present within the study area were considered to have potential to support tree roosting bats. The updated bat survey for the study area was completed with reference to national best practice guidelines¹, and included the following investigations of:

- i. Bat roosting in trees: Daytime visual assessment of mature trees with respect to their potential to support roosting bats; and
- ii. Bat foraging/Commuting activity: Manual transect surveys of suitable habitats in the study area to update levels of bat activity.

Investigations of Bat Roosting in Trees

2.21 An assessment of all suitable trees within the study area to determine their potential to support roosting bats was undertaken by a Natural England bat licensed ecologist with assistance from an experienced bat surveyor, with reference to best practice guidelines. The survey was undertaken on 10 June 2013. Trees of sufficient maturity were individually examined from ground level, on all sides (where possible), using binoculars where appropriate, for the presence of potential bat roosting features, including:

- Natural holes;
- Woodpecker holes;
- Cracks/splits in major limbs;
- Loss/peeling/fissured bark;
- Thick-stemmed ivy (>5cm diameter); and

¹ Hundt L (2012). *Bat Surveys: Good Practice Guidelines, 2nd Edition*, Bat Conservation Trust

- Hollows/cavities/decay pockets.

2.22 The following categories for trees were used during the assessment:

i. Negligible potential (Category 3)

Trees that:

- Were not sufficiently mature to have developed potential bat roost features, or
- Could be comprehensively surveyed and lacked any such suitable features.

ii. Low potential (Category 2)

Trees where:

- No potential roost features were identified but which could not be examined completely and were of sufficient maturity to support such features in locations not visible from the ground;
- No suitable features were identified but a large proportion of the tree was covered by ivy (not in itself acting as a potential feature) which could obscure any suitable features; or
- Such features appeared to be extremely limited, offering minimal roosting potential.

iii. Medium potential (Category 1)

Trees exhibiting:

- Only a small number of potential roost features; or
- Features in a very limited range of locations or orientations.

iv. High potential (Category 1*)

Trees supporting:

- At least one roost feature that showed probable evidence of past use by bats;

- One type of well-developed potential roost feature in a wide range of locations or orientations;
 - Several types of well-developed potential roost features; or
 - Some combination of the above.
- v. Confirmed bat roost

Trees with:

- Direct evidence of bat use (including oily stains around entrance holes, droppings or urine stains on bark below entrance holes, audible squeaking from within a suitable feature; or
- Historical evidence of bat use (i.e. desk study records, results of previous surveys).

Limitations

- 2.23 This type of assessment is based on features visible from ground level and is not considered a definitive survey for roosting bats. Due to the limitations of this type of survey the age, structure and overall condition of the tree are also used to guide this assessment and a precautionary approach adopted to ensure a comprehensive survey is undertaken. Additional survey work would be required to establish if any bats are roosting within the trees and if present, species, type of roost and how many bats are present should any trees of sufficient potential be subject to felling/tree surgery.
- 2.24 Given that the assessment was undertaken when the trees were in leaf, trees that were of a suitable size or age to support roosting bats, and that were not wholly visible from the ground owing to leaf cover, were classified as having low potential to support roosting bats, even where no specific features were visible. It is considered that this precaution ensures that the surveys undertaken were sufficiently robust to achieve the aims identified and correctly ascertain the likelihood of a tree supporting bat roosts.

Investigations of Bat Foraging and Commuting activity

Manual Transect Surveys

- 2.25 One survey visit was completed per transect during June, July and August 2013. An additional dawn activity survey was completed in July 2013, resulting in two transect visits during this month. Dusk activity surveys were initiated 15 minutes before sunset and extended for 2 hours; dawn activity surveys were undertaken the morning after the previous night's dusk survey, commencing 2 hours prior to sunrise and finishing at

sunrise. Sunrise and sunset times were taken as those times given on the BBC Weather website².

- 2.26 Weather conditions on each visit were optimum for bat surveys, being warm (with temperatures recorded ranging between 9.2°C and 25.2°C), little to no wind and no rain. The surveys are therefore not considered to be seasonally or climatically constrained. The exact timing and weather conditions during each survey is provided in **Table EDP 2.1**.

Table EDP 2.1: Date, Timing and Weather Conditions of Bat Activity Surveys

Date	Timing	Sunset/ Sunrise	Weather Conditions			
			Temp (°C)	Cloud Cover (%)	Precipitation	Wind (Beaufort scale)
20/06/13	21:14 – 23:30	21:27	20.8 - 21.0	5-20	Nil	0
11/07/13	21:13 – 23:22	21:22	13.2 - 25.2	0-5	Nil	0
12/07/13	03:21 – 04:59	04:59	9.2 – 10.2	5-15	Nil	0
07/08/13	20:37 – 22:44	20:44	14.5 – 20.7	5-40	Nil	0

- 2.27 Manual transect surveys were completed by experienced bat surveyors across four transect survey routes ranging from 1.9 to 2.1km in length. Transect routes were designed to cover all woodland, trees, hedgerows and other potential foraging or commuting habitat within the study area, as illustrated on **Plan EDP 2**. All transects were led by a Natural England licenced bat worker with assistance by an experienced bat surveyor. Transect routes were walked at a slow and steady pace with between ten and twelve ‘listening stops’, lasting approximately five to six minutes each. All bats were recorded and their behaviour marked on survey maps in order characterise the value of the study area and its component habitats to foraging and commuting bats.
- 2.28 Activity surveys were conducted using BatBox Duet or Pettersson D240x bat detectors connected to Edirol Digital recorders, or Wildlife Acoustics EM3 detectors. Observations of the time, location, and activity of all bats seen or heard were noted. Bats were identified on the basis of their characteristic echolocation calls, which were recorded and analysed using computer sonogram analysis (Batsound 4.03 and Analook 3.8v) to confirm species identification. Species of myotis bat and long-eared bat are difficult to tell apart solely from their echolocation calls and were therefore grouped as such.

Breeding Bird Surveys

- 2.29 The study area supports a range of habitats suitable for breeding birds. In order to determine whether a valuable species assemblage is present or whether the study area

² <http://www.bbc.co.uk/weather/>

supports any scarce or protected species of birds, a breeding bird survey was undertaken.

- 2.30 The surveys were completed with reference to a standard methodology, entailing a modified Common Bird Census (CBC) ‘territory mapping’ approach, which involves the completion of three visits to the study area, undertaken between approximately mid April and late July; i.e. at the height of the bird breeding bird season for lowland Britain.
- 2.31 Following best practice, the three survey visits were timed to start at, or just before, first light, to coincide with the period of peak activity for birds, most particularly passerine songbird species. They were also undertaken during suitable weather conditions; i.e. days/periods with strong winds and heavy or persistent rain were generally avoided. Survey visits were spaced approximately four weeks apart between early May and late June 2013.
- 2.32 In common with the CBC, the survey methodology involved walking to within 50m of all parts of the study area and recording all bird species present and their activity status, with a particular emphasis placed upon those elements considered to relate to, or be indicative of, breeding. This ensured that the survey identified all birds using the margins of the study area, as well as those in the interior.
- 2.33 The surveys were carried out at an appropriate time of year for the locality, and in suitable weather conditions. It is therefore considered that the results provide a representative overview of the breeding bird interest at the study area. The dates of the three survey visits, and the weather conditions encountered, are summarised in **Table EDP 2.2**.

Table EDP 2.2: Date, Timing and Weather Conditions During the Breeding Bird Survey Visits

Visit	Dates	Times	Cloud (%)	Rain	Wind	Temp	Visibility
1	09.05.13	0620-09.00	10-95	Nil	Still to start then strong breeze developed	Mild	Good
2	30.05.13	0530-0845	100	Some light rain at times	Gentle-moderate breeze	Mild	Moderate
3	19.06.13	0500-0845	85	Nil	Still	Mild becoming warm	Moderate -Good

- 2.34 Following the completion of the surveys, the breeding status of each bird species identified was determined according to the nature and frequency of the elements recorded, as set out in **Table EDP 2.3**.

Table EDP 2.3: Summary of Field Evidence used to Determine Breeding Bird Status

Status	Definition	Examples
Breeding	Definitive evidence of breeding recorded on at least one visit, or territorial behaviour suggestive of breeding recorded in the same location on two or more visits.	<ul style="list-style-type: none"> • Distraction display; • Nest building; • Nest with eggs; • Nest with young; • Used nest; • Recently fledged young; or • Adult carrying faecal sac/food.
Possibly breeding	Territorial behaviour suggestive of breeding recorded in the same location on only one visit.	<ul style="list-style-type: none"> • Male in song; or • Adult giving alarm call.
Non-breeder	No territorial behaviour suggestive of breeding recorded.	<ul style="list-style-type: none"> • Feeding birds only; or • Birds flying over only.

2.35 An assessment of the individual bird species recorded in the study area, as well as the overall assemblage, has been made with reference to the national conservation status of the different breeding species. These refer to the Birds of Conservation Concern³ Report.

2.36 Appropriate consideration has also been given to the conservation status of each bird species at the local level. Accordingly, the Oxfordshire Ornithological Society's (OOS) publication *Birds of Oxfordshire 2008*⁴ has been consulted to provide information on status of key species within Oxfordshire.

Barn Owls

2.37 In order to account for barn owls which may be nesting/roosting in the study area, a day time inspection of all mature trees within the study area to check for evidence of barn owls was undertaken in conjunction with the day time visual assessments of mature trees for potential bat roosts undertaken on 10 June 2013, as discussed previously. The survey comprised a search for evidence of barn owls including pellets, droppings and feathers in and around the base of all mature trees within the study area and an assessment of any features on the tree that may be suitable for roosting and/or nesting birds. The survey was undertaken from the ground with the use of a pair of binoculars.

Limitations

2.38 It is considered that the level of survey undertaken provides a detailed account of the breeding bird community within the study area, together with an indication of the breeding abundances of each species. However, it should be noted that this level of survey will typically not provide exact breeding population figures for each species.

³ Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R.D., Aebischer, N.J., Gibbons, D.W., Evans, A. And Gregory, R.D. 2009 "*Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and Isle of Man*" British Birds, Vol. 102, pages 296-341

⁴ Oxfordshire Ornithological Society 2012. *Birds of Oxfordshire 2008*

2.39 Due to the relatively low number of survey visits compared to the relatively detailed field evidence required to confirm breeding, the results may offer a range in the breeding population of certain species that is relatively large. This can be particularly true for cryptic or skulking species, or species that inhabit areas that are difficult to access, such as dunnock (*Prunella modularis*) breeding within dense scrub. As the study area supports large areas of dense continuous scrub it is likely that the breeding population of some species may have been underestimated.

Winter Bird Surveys

2.40 The requirement for winter bird surveys is principally restricted to wetland sites that may support notable assemblages of waders and waterfowl⁵. The potential for such species to be present in the study area is low, being restricted to the small areas of marshy grassland, stream corridor and inundated areas of the arable Field (F13). However, the dense hawthorn and blackthorn scrub habitat present in the study area is also considered to have potential to support migratory flocks of thrushes and finches. Therefore, as a precaution and in response to consultees, a winter bird survey was undertaken to identify whether the study area supports any notable species populations during the winter months.

2.41 Recognised winter bird survey methodology relates to wetland habitats and is therefore not considered to be applicable to the variety of habitats present in the study area. An adapted version of Wetland Bird Surveys (WeBs) and CBC was therefore employed comprising of monthly surveys undertaken between October 2013 and March 2014. The surveys were timed to avoid adverse weather, such as heavy rain and high winds, which may affect the survey findings. As a result the December survey had to be postponed to the start of January. The surveys were undertaken during the mornings to coincide with higher levels of bird activity and lasted approximately two and a half to three hours. In common with the CBC, the survey methodology involved walking to within 50m of all parts of the study area and recording all bird species present and their activity status, using recognised British Trust for Ornithology codes. Details pertaining to the surveys are provided in **Table EDP 2.4**.

Table EDP 2.4: Date, timing and weather conditions during the winter bird survey visits

Visit	Date	Start – Finish Time	Precipitation	Wind (Beaufort)	Visibility
1	23/10/13	07:55 – 10:20	None.	Light breeze	Good
2	27/11/13	08:45 – 11:45	None.	Light Breeze	Moderate
3	02/01/13	10:30 – 13:00	None.	Light Breeze	Good
4	23/01/14	09:05 – 11:40	Two 5 minute rain showers at 10:15 and 10:50	Moderate Breeze	Moderate
5	25/02/14	8.45 – 11.00	Start delayed by rain and brief shower at 10:00	Moderate Breeze	Moderate

⁵ Gilbert et al (1998) Bird Monitoring Methods: A manual of techniques for key UK species. RSPB.

Visit	Date	Start – Finish Time	Precipitation	Wind (Beaufort)	Visibility
6	12/03/14	7.30 – 9.30	None	Light Breeze	Good

- 2.42 The surveys were carried out by experienced surveyors, at an appropriate time of year for the locality, and in suitable weather conditions. It is therefore considered that the results provide a representative overview of the winter bird interest at the study area and have not been limited by seasonal or climatic factors.
- 2.43 An assessment of the individual bird species recorded at the study area, as well as the overall assemblage, has been made with reference to the national and local conservation status of the different wintering species recorded according to data from the Birds of Conservation Concern, local and UK BAP priority species and the latest Oxfordshire Bird Report 2008.

Updated Great Crested Newt Survey

- 2.44 Ponds located within the study area, and within a 250m radius, have been subject to great crested newt surveys for a number of years since 2002. The original survey was completed in 2002 and 2004, with further updates undertaken in 2010 and 2012.
- 2.45 The 2013 updated great crested newt survey has been completed with reference to a standard methodology provided within Natural England’s published guidance⁶. The ponds surveyed during 2012 were re-surveyed in 2013; a total of 11 ponds were surveyed including five ponds located in the study area and a further 6 ponds located within 250m from the study area boundary, as illustrated on **Plan EDP 3**.
- 2.46 In accordance with published guidelines, the survey comprised the completion of six survey visits to ponds where great crested newts were found present within any one of the first four surveys undertaken. In those ponds where no great crested newts were recorded in the first four surveys, only four survey visits were completed. Surveys were completed in suitable weather conditions between mid-May to mid-June 2013 with half of all visits (3 no.) completed between mid-April and mid-May 2013.
- 2.47 Each survey visit was completed by a licensed great crested newt surveyor accompanied by an assistant. Each pond was subject to the use of three survey methodologies during each visit including bottle trapping, torching and egg searching. The weather conditions during surveys are detailed in **Table EDP 2.5**.

Table EDP 2.5: Dates and Temperatures During the Amphibian Survey visits

Survey Visit	Date (evening)	Overnight Air Temp. (°C)	Overnight Water Temp. (°C)
1	09/05/2013	Min. : 7.1	Min. : 12.6
		Max. :12.8	Max. :16.8

⁶ English Nature (2001) *Great crested newt mitigation guidelines*. Peterborough, England

Survey Visit	Date (evening)	Overnight Air Temp. (°C)	Overnight Water Temp. (°C)
2	13/05/2013	Min. : 3.8	Min. : 10.7
		Max. :12.0	Max. :14.8
3	16/05/2013	Min. : 5.2	Min. : 10.1
		Max. :18.4	Max. :19.6
4	20/05/2013	Min. : 11.3	Min. : 14.3
		Max. :17.0	Max. :18.6
5	04/06/2013	Min. : 9.1	Min. : 16.2
		Max. :27.2	Max. :21.8
6	06/06/2013	Min. : 7.4	Min. : 10.7
		Max. :23.2	Max. :19.2

2.48 The conditions were generally considered optimal for detecting the presence of great crested newts, although overnight minimum air temperature dropped below the recommended temperature for completing great crested newt surveys (5 °C) on one occasion; the minimum air temperature recorded on 13 May 2013 was 3.8°C. Minimum overnight water temperature on this night was 10.7 °C, and given the level of survey effort undertaken at this pond and those in the vicinity over the course of updating the ecology baseline and in previous baseline surveys, it is not considered that this significantly affected the validity of the results obtained. An updated Habitat Suitability Index (HSI) Assessment was undertaken during the last survey visit to each pond.

Updated Reptile Survey

2.49 An update reptile survey was completed during 2013 to strengthen the baseline data gathered during the 2010 survey. A refugia-based reptile survey comprising a mixture of bitumen roofing felt and corrugated galvanised steel artificial reptile refugia was completed in all areas of suitable habitat to the east of Langford Brook where the coverage of scrub did not prevent access. A total of 489 bitumen felts were deployed, along with 14 corrugated tins, in locations illustrated on **Plan EDP 4**. Refugia were checked for the presence of reptiles on 20 separate survey visits; the level of survey effort applied being the recommended minimum required to establish a population size class estimate for widespread reptiles⁷.

2.50 Survey visits were completed during suitable weather conditions between June and September 2013 (one survey visit was completed on 1 October 2013), with periods of extreme heatwave conditions experienced throughout the UK during the summer 2013 avoided where possible. During the survey visit dated 27 June 2013 reptile refugia within fields F1, F2 and F7 were not checked as the survey was ended early due to heavy

⁷ Froglife (1999) Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth

rainfall. A summary of the date, timing and weather conditions during the reptile survey visits is provided in **Annex EDP 3**.

- 2.51 During each survey visit, artificial refugia were individually checked by an experienced EDP Ecologist with any reptiles observed recorded, along with notes on their life stage (adult/juvenile) and sex where possible. To assign a level of relative importance to each of the fields with respect to their value to reptiles, the peak survey count⁸ of individuals of a species recorded within each field was recorded.
- 2.52 To estimate the approximate population size class for each reptile species across the study area, the peak survey count (*'highest number of individuals recorded'*) was used, following the population size class categories, as derived from the 2011 withdrawn draft reptile mitigation guidelines⁹, and summarised with respect to widespread reptiles in **Table EDP 2.6**.

Table EDP 2.6: Population Size Class Estimates

Species	Population Size Class Category		
	Small	Medium	Large
Slow-worm	< 10	10 - 40	> 40
Common lizard	< 5	5 - 20	> 20
Grass snake	< 5	5 - 10	> 10
Adder	< 5	5 - 10	> 10

- 2.53 In order to evaluate the value of respective fields within the study area for those reptile species recorded, the relative importance (high, medium or low) of each field was determined based on the peak count of common lizards recorded within each field. Those fields of 'high' importance were those fields which supported a peak count of common lizard of greater than 20 individuals; 'medium' importance fields supported a peak count of between 5 to 20 individuals, and 'low' importance fields supported a peak count of less than 5 individuals.

Limitations

- 2.54 Although all reptile surveys undertaken were done so in suitable weather conditions and within recognised optimal months for reptile surveys, surveys were not completed throughout the entire active season for reptiles. Surveys were completed within the months June to October 2013, and as such there was no survey effort applied during the early season spring period of the active reptile season. This may have reduced the likelihood of recording mobile reptile species such as adders which often utilise distinct spring breeding areas, which can be over several kilometres apart from summer foraging grounds and hibernating sites¹⁰. Therefore, adders (which were unrecorded during the

⁸ Peak survey count - The highest number of individuals recorded during any one survey

⁹ Natural England (2011) *Natural England Technical Information Note TIN102 Reptile Mitigation Guidelines*. WITHDRAWN

¹⁰ Edgar, P., Foster, J. and Baker, J. (2010). *Reptile Habitat Management Handbook*. Amphibian and Reptile Conservation, Bournemouth