CONSTRUCTION ECOLOGICAL
MANAGEMENT PLAN
THE DELL, FOSSE WAY, PRINCETHORPE

A Report to HB Architects

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CONSTRUCTION ECOLOGICAL MANAGEMENT PLAN

THE DELL, FOSSE WAY, PRINCETHORPE

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01 OF 02

01 HB ARCHITECTS
02 MIDDLEMARCH ENVIRONMENTAL LTD

This report was conducted and compiled by
John Daw MSc AIEEM

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted, that whilst every effort is made to meet the client’s brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Contract Number C105316

August 2009
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1. INTRODUCTION

1.1 BACKGROUND

In July 2009, HB Architects commissioned Middlemarch Environmental Ltd to produce a Construction Ecological Management Plan (CEMP) for the redevelopment of a site known as The Dell, Fosse Way, Princethorpe. Middlemarch Environmental Ltd understands that the redevelopment will include the demolition of an existing dwelling and the construction of a new residential property with associated landscaping, garage and footbridge.

To support the fulfilment of the above brief the following have previously been undertaken:

1. Desk study review;
2. An Extended Phase 1 Habitat Survey, and;
3. An Initial Bat Survey.

The desk study review and Extended Phase 1 Habitat Survey was undertaken in May 2009 by Middlemarch Environmental Ltd (MEL 2009a). MEL (2009a) also details the Initial Bat Survey undertaken on the existing building. The report highlighted the existence or potential presence of water vole, a badger sett, nesting birds, great crested newt and roosting bats on site that potential would suffer detrimental impacts from the proposed development without appropriate mitigation and/or compensation.

Utilising the information from the above survey work, the current report details information of a construction ecological management plan with respect to nesting birds, water voles and badgers for the proposed development.

Middlemarch Environmental Ltd Reports RT-MME-105278 (MEL 2009b) and RT-MME-105279 (MEL 2009c) detail the results for additional assessments and surveys recommended for great crested newts and roosting bats. At present these species are not known to occur on site. If found to be present on site then a species specific mitigation plan and Natural England License Application would be required. Therefore these species are not considered in further detail within this current report.
1.2 SITE DESCRIPTION

The site is approximately 0.5 ha in size and is located to the north of Princethorpe, at National Grid Reference SP 404 713. A two-storey dilapidated cottage was located in the southeast of the site. The remainder of the site was found to be dominated by areas of dense scrub, tall ruderal vegetation and broadleaved woodland. A stream (which is part of an Ecosite known as Bourton Heath) passes through the site, flowing in a south-westerly direction.

The surrounding landscape is dominated by agricultural land with a linear strip of woodland situated to the east of the site. The Fosse Way (B4455) is located adjacent to the eastern boundary of the site.

1.3 SUMMARY OF PROPOSED WORKS

It is understood that the site is to be redeveloped for a new residential dwelling, with associated landscaping, a garage and vehicle access/parking.

It is assumed the works will include:

- The demolition of the existing building;
- Vegetation clearance of the development footprint and work areas;
- Earth works and movement;
- Construction of a footbridge across the stream;
- Construction of a new residential dwelling, areas of hardstanding and a garage.
- Amenity areas and soft landscaping.

It is anticipated that these works are to take place during the winter 2009/spring 2010.

1.4 SUMMARY OF BASELINE ECOLOGY LIKELY TO BE AFFECTED

Middlemarch Environmental Ltd Report RT-MME-105118 (MEL 2009a) details the habitats and species that are likely to be affected, either directly or indirectly, by the proposed works and provides a detailed discussion of the current ecology of the site. The ecological considerations of the proposed works have been based upon Extended Phase 1 Habitat field survey and desk study review. The presence of nesting birds and a badger sett on site was confirmed during the Extended Phase 1 Habitat Survey.
(MEL 2009a). Though the site has the potential for water vole to be a notable consideration with regards to the proposed development, the presence of water vole has not been ascertained. The following sections detailing appropriate mitigation measures assumes that water vole are present on site and a precautionary approach will be undertaken at all times.

In brief the relevant ecological considerations for the proposed development are as follows.

Habitats

- Building;
- Broadleaved woodland;
- Dense scrub;
- Running water;
- Scattered broadleaved trees;
- Scattered conifer trees;
- Scattered scrub;
- Species poor defunct hedge;
- Standing open water, and;
- Tall ruderal vegetation.

Species

- Nesting birds
  - General;
- Mammals
  - Badger;
  - Water vole;
  - Bats;
- Amphibians
  - Great crested newt.

Habitats recorded on site have the potential to support roosting bats (building) and great crested newts (standing open water, tall ruderal vegetation scrub, broadleaved woodland and hedgerow). To date, the presence of these species on site has not been confirmed and therefore appropriate mitigation measures have not been considered within this current report. See Middlemarch Environmental Ltd Reports RT-MME-
105278 (MEL 2009b) and RT-MME-105279 (MEL 2009c) for details regarding these protected species.

1.5 **SCOPE OF THE CEMP**

This CEMP has been produced to remove or reduce the ecological impacts of construction works for the proposed development with regards to badgers, water voles and nesting birds.

Through the implementation of appropriate mitigation measures, detrimental impacts and breaches of current British wildlife legislation will be avoided. Without these measures there is the risk of disturbing, injuring or killing nesting birds (during the nesting bird season), badgers occupying the badger sett and water voles that maybe inhabiting the stream, banks and adjacent tall ruderal vegetation.

The following elements are included within this CEMP:

- Objectives and targets.
- Legislative requirements regarding the site ecology, including
  - Person/s responsible for:
    - The compliance with legal consents relating to nature conservation.
    - Compliance with planning conditions relating to nature conservation.
- Control of works during construction, including:
  - Person/s responsible for:
    - Installation of physical protection measures;
    - Implementation of sensitive working practices;
    - Regular inspection and maintenance of physical protection measures and monitoring of working practices;
    - Provision of training and information about the importance of "Wildlife Protection Zones" to all construction personnel on site.
- Implementation of mitigation strategies, including:
2. AIMS AND OBJECTIVES

2.1 AIM
- Preservation of the sites ecology, with regards to badgers, water voles and nesting birds.

2.2 OBJECTIVES
- To ensure no breach of British wildlife legislation occurs on site for the duration of the proposed development.
- To protect nesting birds, water voles and badgers from the proposed development and construction works.
- To minimise damage to adjacent habitats and protect habitats on site that are part of the final development.

2.2 ECOLOGICAL ISSUES
The priority ecological issues i.e. those that have legislative requirements or planning considerations and are relevant to the site and the proposed works, are as follows:

British legislation
- Nesting birds are protected by the Wildlife and Countryside Act 1981 (as amended).
- Water voles and their burrows are protected by the Wildlife and Countryside Act 1981 (as amended).
- Badgers and occupied setts are protected by the Badger Act 1992.

Planning considerations
- Local wildlife site – The small stream passing through the site is part of the Ecosite known as Bourton Heath (Ref. 42/47).
- BAP habitats – Four habitats on site are considered to be BAP habitats either at a UK or local level. These include broadleaved woodland, the building, standing open water and the stream.
- BAP species – There is suitable habitat for UK Priority Species within the proposed development site, i.e. water vole, great crested newt, bats, song thrush and smooth newt.
2.3 LEGISLATIVE REQUIREMENTS

2.3.1 Species legislation

Table 2.1 details the legal situation in relation to badgers, nesting birds and water voles. Details of the legislation are provided in Middlemarch Environmental Ltd Report RT-MME-105118 (MEL 2009a).

<table>
<thead>
<tr>
<th>Legislative issues</th>
<th>Legislation</th>
<th>UK BAP</th>
<th>Local BAP</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Badgers</td>
<td>Badger Act 1992</td>
<td>-</td>
<td>-</td>
<td>It is an offence to ‘interfere with a badger sett by disturbing a badger that is occupying the sett’ (Natural England 2007).</td>
</tr>
<tr>
<td>Nesting birds</td>
<td>Schedule 1 of the Wildlife &amp; Countryside Act 1981 (as amended)</td>
<td>*</td>
<td>*</td>
<td>Disturbance to nesting birds is illegal.</td>
</tr>
<tr>
<td>Water voles</td>
<td>Schedule 5 of the Wildlife &amp; Countryside Act 1981 (as amended)</td>
<td>✓</td>
<td>✓</td>
<td>Legal protection makes it an offence to intentionally or recklessly kill, injure or take water vole from the wild. To damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection. To disturb water voles while they are using such a place (Natural England 2008).</td>
</tr>
</tbody>
</table>

Key
* = species dependant

Table 2.1: Species Legislative Issues

2.3.2 Habitat legislation

Although not legally protected some of the habitats occurring on site and/or within the footprint of the proposed works could be included under the Natural Environments and Rural Communities Act 2006 (NERC) and the Warwickshire or UK Biodiversity Action Plans (BAP). Table 2.2 summarises the habitats identified on site of the proposed development in relation to several BAPs. Habitats identified within the NERC 2006 list, the Warwickshire BAP or UK BAP should form target habitats within the landscaping of the development and where possible be retained or enhanced. Other habitats that should form a priority for retention and/or enhancement/re-creation are those that have associated protected species; these are also summarised in Table 2.2.
A Wildlife Protection Plan. An appropriate scale plan showing "Wildlife Protection Zones" where construction activities are restricted and where protective measures will be installed or implemented to enable the impact of disturbance on habitat areas of the site to be minimised and areas suitable for storage of materials etc. to be identified. This is illustrated through the use of a ‘traffic light’ classification (see Table 3.5 in Section 3 for details).

Details of protective measures (both physical measures and sensitive working practices) to avoid impacts during construction/site investigation.

A timetable to show phasing of construction activities to avoid periods of the year when sensitive wildlife could be harmed (such as the bird nesting season).

This document has been prepared with reference to the following document:

### Table 2.2: Habitats Recorded within the Site in Relation to Local & National BAPs & Associated Protected Species

<table>
<thead>
<tr>
<th>Habitat Code</th>
<th>Habitat Type</th>
<th>UK BAP</th>
<th>Local BAP</th>
<th>Associated Protected Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>J4</td>
<td>Bare ground</td>
<td>-</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>A1.1.1</td>
<td>Broadleaved woodland</td>
<td>Lowland mixed deciduous woodland</td>
<td>Woodlands</td>
<td>Nesting birds and badgers</td>
</tr>
<tr>
<td>J3.6</td>
<td>Building</td>
<td>-</td>
<td>The built environment</td>
<td>Nesting birds and roosting bats*</td>
</tr>
<tr>
<td>A2.1</td>
<td>Dense scrub</td>
<td>-</td>
<td>-</td>
<td>Nesting birds and badgers</td>
</tr>
<tr>
<td>A3.1</td>
<td>Scattered broadleaved trees</td>
<td>-</td>
<td>-</td>
<td>Nesting birds</td>
</tr>
<tr>
<td>A3.2</td>
<td>Scattered conifer trees</td>
<td>-</td>
<td>-</td>
<td>Nesting birds</td>
</tr>
<tr>
<td>A2.2</td>
<td>Scattered scrub</td>
<td>-</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>J2.2.2</td>
<td>Species poor defunct hedge</td>
<td>-</td>
<td>-</td>
<td>Nesting birds</td>
</tr>
<tr>
<td>G1.2</td>
<td>Standing open water</td>
<td>-</td>
<td>Ponds, lakes and reservoirs</td>
<td>Great crested newt*</td>
</tr>
<tr>
<td>G2.2</td>
<td>Stream/ flowing water</td>
<td>Rivers</td>
<td>Rivers and streams</td>
<td>Water vole*</td>
</tr>
<tr>
<td>C3.1</td>
<td>Tall ruderal vegetation</td>
<td>-</td>
<td>-</td>
<td>Water vole* and badgers</td>
</tr>
<tr>
<td>J2.5</td>
<td>Wall</td>
<td>-</td>
<td>-</td>
<td>Great crested newt*</td>
</tr>
</tbody>
</table>

* No evidence of these species occurring on site has been recorded to date.

### 2.3.3 Planning regulations

Table 2.3 summarises the relevant national, regional and local polices relating to nature conservation in relation to the current development proposals.
<table>
<thead>
<tr>
<th>Legislative Issues</th>
<th>Legislation Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning Policy Statement 9 (PPS9)</td>
<td>The effect of any development upon sites of regional and local biodiversity interest (such as Ecosites) should be considered when local authorities consider schemes. Local Authorities should have criteria based policies in the local development documents against which proposals for any development on, or affecting, such sites will be judged. Networks of natural habitats are recognised as a valuable resource. Such networks should be protected from development and where possible strengthened or integrated into the development. Local planning authorities should maximise the opportunities for building in beneficial biodiversity features in and around developments. Local authorities should have specific policies relating to species which receive statutory protection. Local authorities should take measures to protect the habitats of species of principal importance for the conservation of biodiversity in England. These are defined in Section 74(2) of the Countryside and Rights of Way Act 2000.</td>
</tr>
<tr>
<td>Hedgerow Regulations</td>
<td>The Hedgerow Regulations 1997 protect most hedgerows from removal without prior consent from the Local Planning Authority (LPA). Where a hedgerow is considered as ‘important’ as defined by the criteria set out in the Hedgerow Regulations 1997, the LPA can order its retention.</td>
</tr>
<tr>
<td>UK Biodiversity Action Plan</td>
<td>The UK Biodiversity Action Plan (BAP) (Ref. 11.2) is the mechanism for dealing with biodiversity conservation in response to the Rio Convention 1992. Governments signing up to this convention are committed to create and enforce national strategies and action plans to conserve, protect and enhance biodiversity. Within the UK BAP, Species Statements and Broad Habitats Statements have been written to outline issues affecting species and semi-natural habitats and broad policies to address them. In addition to these, Priority Species and Habitats have been identified and targets determined in order to maintain and enhance their distribution and contribution to UK biodiversity. These species and habitats are those considered to be at most threat and reported as UK Species Action Plans (SAPs) and UK Habitat Action Plans (HAPs). The UK BAP is implemented through national, regional and local policy.</td>
</tr>
<tr>
<td>Warwickshire Structure Plan</td>
<td>The Warwickshire Structure Plan for the period 1996-2011 was adopted by the County Council on the 20th August 2001. The Structure Plan is the strategic land use plan for Warwickshire and forms part of the statutory development plan for the county. The County Council's overriding aim is to promote a pattern of development that enables the housing, employment, leisure, recreation and transport needs of the community to be met without reducing the capacity of the environment to satisfy the needs of present and future generations. Chapter 8 (Environmental Resource Policies) of the Warwickshire Structure Plan recognises that <code>Development will only be permitted where it is consistent with protection of the environmental assets of the County and respect for the character and quality of its towns and countryside.'</code></td>
</tr>
</tbody>
</table>

Table 2.3: Planning Policy Legislative Issues (table continues)
Legislative Issues | Legislation Information
--- | ---

Table 2.3 (cont.): Planning Policy Legislative Issues

2.4 **PERSONS RESPONSIBLE FOR NATURE CONSERVATION LEGISLATION COMPLIANCE**

The Ecological Management Team will be responsible for nature conservation legislation compliance. These duties are detailed in Section 3.2.
3. CONTROL OF WORKS

To ensure that the works are undertaken in accordance with the CEMP a series of control measures will be utilised. These measures include:

1) The application of Natural England licences where applicable.
2) The appointment of an ecological management team.
3) The use of ecological permits.
4) The identification of ecologically sensitive areas, through the use of ‘traffic light’ risk zones.

The application of the ‘traffic light’ system allows classification of the level of risk and ecological sensitivity of the ecological systems. The three levels of risk (red, amber and green) are summarised in Section 3.4, with red being the highest risk areas. Works within each of these risk-zones will be controlled through the use of Ecological Permits. Examples of such permits are provided in Appendix 1. The ‘traffic light’ classification for the site is detailed on Middlemarch Environmental Ltd Drawing C105316-01 in Appendix 2.

3.1 LEGISLATIVE

With current understanding (August 2009) of the presence/likely absence or usage of the site by protected species, no licences to undertake works are required from Natural England.

3.2 ECOLOGICAL MANAGEMENT TEAM

The ecological management team will consist of the following posts:

- Ecological Manager; and,
- Ecological Clerk of Works.

The ecological management team will ensure that all site personnel are appropriately briefed on the ecological issues within the site. This will be undertaken through inclusion of ecological briefings within the ‘toolbox’ talks given to all staff as part of the site induction process. The roles are detailed below.
Ecological Manager

- Develop method statements and site protocols as required.
- Provide guidance for the site team including legal and statutory requirements affecting the works.
- Liase with Natural England and other Statutory or third party with an ecological interest in the scheme if necessary.
- Ensure any ecological related licences required for the works are applied for and complied with if required.

Ecological Clerk of the Works

- Undertake toolbox talks/site induction briefings.
- Ensure the site team and sub-contractors comply with the site protocols.
  Report any findings to the Site Manager immediately. If insufficient action is taken, stop works and report the situation to the Project Manager.
- Raise a Quality Alert for any non-compliance with the ecological protocols.
- Carry out necessary inspections of the protective fencing, known habitats and protected areas.
- To be familiar with ecological licences and associated constraints.
- Approve all method statements and ensure that any relevant site environmental protocols are appended and that these controls are adhered to.

3.3 Ecological Permits

Ecological permits will be used to ensure the co-ordination and control of all operations that could impact upon the ecology of sensitive areas. Table 3.1 summarises the use of these permits in terms of when they are issued and by whom. Table 3.2 summarises how works with potential ecological impact are controlled. Examples of permits are provided in Appendix 1.
### Table 3.1: Summary of Control of Works

<table>
<thead>
<tr>
<th>Permit/report</th>
<th>Responsibility</th>
<th>When issued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecological permit</td>
<td>Ecological manager</td>
<td>Prior to works commencing</td>
</tr>
<tr>
<td>Ecological certificate</td>
<td>Ecological manager</td>
<td>Once an activity has been completed or working in a designated area finished a certificate to confirm it has been carried out to an acceptable standard will be signed.</td>
</tr>
<tr>
<td>Rectification notices</td>
<td>Site manager and Ecological clerk of works</td>
<td>Issued by the ECW to the site manager for implementation of action required</td>
</tr>
<tr>
<td>Daily record sheets</td>
<td>Ecological clerk of works</td>
<td>Activities and observations recorded on a Daily Record Sheet</td>
</tr>
</tbody>
</table>

### Table 3.2: Control of Potential Ecological Impacts

<table>
<thead>
<tr>
<th>Ecological Consideration</th>
<th>Potential Ecological Impact</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Badgers</td>
<td>Disturbance of badgers occupying sett.</td>
<td>Control of works within 30 m radius exclusion zone. No works are permitted within this exclusion zone without prior consultation with the ecological manager.</td>
</tr>
<tr>
<td>Nesting birds</td>
<td>Disturbance to nesting birds.</td>
<td>The removal of suitable nesting habitat, that is planned for removal as part of the proposed development, to occur outside of the nesting bird season. Nesting bird checks will be undertaken if suitable nesting habitat is impacted during the nesting bird season (March-September).</td>
</tr>
<tr>
<td>Water voles</td>
<td>Disturbance, injuring or killing of water voles and destruction of their burrows.</td>
<td>Control of works within an 8 m exclusion zone of the stream. Above ground vegetation to be made unsuitable for water vole. No works are permitted within the exclusion zone without prior consultation with the ecological manager.</td>
</tr>
</tbody>
</table>

### 3.4 Ecologically Sensitive Areas

A ‘traffic light’ system is to be used to classify the potential ecological risks. The current status of the site with respect to the ‘traffic light’ system is detailed on Middlemarch Environmental Ltd Drawing C105316-01 provided in Appendix 2.

#### Red Zones/Features

These will define the most ecologically sensitive sites, or the most vulnerable to damage, with regards to nesting birds, badgers and water voles.

Red zones are the areas where the most stringent ecological mitigation and control measures are to be undertaken and works constantly monitored by the Ecological Clerk of the Works. No works can be undertaken within the red zones/features.
without prior consent. All methodologies are to be agreed in advance with the relevant statutory body. Table 3.3 details which habitats/features are included within the red zone and are of highest ecological importance.

<table>
<thead>
<tr>
<th>Protected Species</th>
<th>Potential Impacts</th>
<th>Habitat/feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Badgers</td>
<td>Directly impacted or indirectly affected by works within 30 m of sett.</td>
<td>Badger sett</td>
</tr>
<tr>
<td>Water voles</td>
<td>Indirectly and directly affected by works within 8 m of stream.</td>
<td>Stream and banks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tall ruderal vegetation</td>
</tr>
<tr>
<td>Nesting birds*</td>
<td>Habitats/features directly affected by works during the nesting season.</td>
<td>Building</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dense scrub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scattered broadleaved trees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scattered conifer trees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Broadleaved woodland</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Species poor defunct hedge</td>
</tr>
</tbody>
</table>

* = degree of ecological concern changes depending timing of works and if suitable habitat is made unsuitable.

Table 3.3: Habitats/features included within Red Zones and considered to be of Highest Ecological Concern

**Amber Zones/Features**

These areas are sites of moderate ecological value/concern and may be directly or indirectly affected by the development works.

<table>
<thead>
<tr>
<th>Protected Species</th>
<th>Potential Impacts</th>
<th>Habitat/feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Badgers</td>
<td>Directly/indirectly affected by works +30 m from the sett.</td>
<td>Badger sett</td>
</tr>
<tr>
<td>Nesting birds*</td>
<td>Habitats/features directly affected by works outside of the nesting bird season.</td>
<td>Building</td>
</tr>
<tr>
<td></td>
<td>Habitat/features indirectly affected by works during the nesting bird season.</td>
<td>Dense scrub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scattered broadleaved trees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scattered conifer trees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Broadleaved woodland</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Species poor defunct hedge</td>
</tr>
</tbody>
</table>

* = degree of ecological concern changes depending timing of works and if suitable habitat is made unsuitable.

Table 3.4: Habitats/features included within Amber Zones and considered to be of Moderate Ecological Concern

In this zone works will proceed with precaution with regular monitoring by the Ecological Clerk of the Works.
Green Zones/Features

These are zones of low ecological value that are anticipated to be directly or indirectly affected by development works.

Currently only a small proportion of the site is recognised as being within a green zone status i.e. areas of tall ruderal vegetation. However, it is anticipated that the status of the site with respect to the ‘traffic light’ system will change as works progress e.g. following removal of suitable bird nesting habitat (the building, dense scrub, scattered broadleaved trees, scattered conifer trees, broadleaved woodland and species poor defunct hedge) the habitat maybe down graded to ‘GREEN’ from ‘RED’ or ‘AMBER’.

Table 3.5 summarises the control of works in relation to the ‘traffic light’ system.
<table>
<thead>
<tr>
<th>Status</th>
<th>Activity/area</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED</td>
<td>Any works with the potential to affect badgers occupying the sett</td>
<td>No works to occur within a red zone without the prior authorisation from the EM.</td>
</tr>
<tr>
<td></td>
<td>Any works with the potential to impact water voles or their burrows.</td>
<td>Ecological Permit required.</td>
</tr>
<tr>
<td></td>
<td>Any works likely to affect nesting birds.</td>
<td>ECW to ensure no ecological issues remain prior to work commencing.</td>
</tr>
<tr>
<td></td>
<td>Vegetation clearance within bird nesting period.</td>
<td>ECW to approve method statement prior to work commencing</td>
</tr>
<tr>
<td></td>
<td>Installation of environmental protection measures.</td>
<td>ECW to give toolbox talk on proposed work and its impact on the ecology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ECW to ensure all ecological protection measures are in place prior to work commencing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ECW to supervise works as appropriate (This will be full-time unless agreed otherwise)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EM to certify the works have been carried out to ecological best practice</td>
</tr>
<tr>
<td>AMBER</td>
<td>Site Set-up.</td>
<td>ECW to approve method statement prior to work commencing</td>
</tr>
<tr>
<td></td>
<td>Vegetation clearance and tree felling outside the bird nesting season.</td>
<td>ECW to give toolbox talk on proposed work and its impact on the ecology</td>
</tr>
<tr>
<td></td>
<td>Implementation of Ecological Mitigation Features.</td>
<td>ECW to ensure all ecological protection measures are in place prior to work commencing.</td>
</tr>
<tr>
<td></td>
<td>Landscape works/ Habitat Creation.</td>
<td>ECW to certify the works have been carried out to ecological best practice</td>
</tr>
<tr>
<td></td>
<td>Drainage works.</td>
<td></td>
</tr>
<tr>
<td>GREEN</td>
<td>Construction and earthworks outside designated ecologically sensitive areas or post ecological mitigation works.</td>
<td>Works to be carried out to ecological best practice.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ECW to approve method statement prior to work commencing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ECW to certify the works have been carried out to ecological best practice</td>
</tr>
</tbody>
</table>

Table 3.5: Ecological Control of Works
4. IMPLEMENTATION OF CEMP

4.1 INTRODUCTION

This section provides specific details relating to the CEMP e.g. method of vegetation clearance as well as timing constraints. Middlemarch Environmental Ltd Drawings C105319-02 (badger), C105319-03 (nesting birds) and C105319-04 (water vole) identify areas where construction activities are restricted and where protective measures will be installed or implemented to enable the impact of habitats and/or species on site to be minimised. These plans may need to be revised on confirmation of the extent and nature of activities occurring within the works footprint and as works progress. The following sections provide specific requirements and constraints relating to the key ecological issues occurring within the site.

4.2 SPECIES PROTECTION PLAN

4.2.1 Badgers

It is a criminal offence to disturb a badger whilst occupying a sett. Table 2.2 details the habitats associated with this species, i.e. broadleaved woodland, tall ruderal vegetation and dense scrub. The location of the badger sett is shown on Middlemarch Environmental Ltd Drawing C105316-02, Appendix 2. For the purposes of this report, this badger sett will be considered occupied and subject to constant use by badgers for the duration of the proposed development. Given the location of the sett (to the west of the stream), topography of the ground and the initial direction of the tunnel, it is anticipated that any underground chamber is likely to be located away from the footprint of the development, near the northwest boundary of the site.

Badger tunnels can extend up to 20 m from the entrance hole and can be located between 0.2 and several metres underground (Natural England 2007). In line with Natural England’s Interim Guidance Document (Natural England 2007) all excavation works and use of heavy machinery will be kept away from the sett to avoid any disturbance. Any development works (including excavation works and use of heavily machinery) that are located within 30 m of the sett entrance, as shown on Middlemarch Environmental Ltd Drawing C105316-02 in Appendix 2, will need prior authorisation and/or monitoring by the Ecological Management Team to avoid any potential disturbance.
Any pile driving, fires or use of chemicals must not take place within 30 m of a sett.

Any trees requiring pruning or felling should be felled so that they fall away from active sett and badger paths kept clear of felled timber and scrub wherever possible.

Disturbances, such as loud noise or vibrations, that might agitate badgers occupying a sett should be avoided or limited to areas well away from the sett. Advice is to be sought from the Ecological Management Team.

The site should not be illuminated by any lighting during the proposed works or as part of the final development. This lighting would deter badgers from using their foraging and commute routes on site.

Best ecological practice should be undertaken during the construction works. Any excavations that will be left over night should be covered or fitted with a series of ramps to allow otherwise trapped mammals a means of escape.

4.2.2 Nesting Birds
All nesting and breeding birds are protected from disturbance, injuring or killing while nesting. Table 2.2 identifies the habitats that may be occupied by breeding birds and thus where disturbance will be minimised during the bird-nesting season (generally accepted to be March – September inclusive). Essentially on site this is related to areas of broadleaved woodland, scattered trees (broadleaved and conifer), dense scrub, species-poor defunct hedgerow, tall ruderal vegetation and the building.

Suitable nesting habitat that will be directly affected by works has been identified as red areas under the traffic light system, see Middlemarch Environmental Ltd Drawing C105316-03, Appendix 2. Note that if appropriate action is undertaken outside of the nesting bird season, resulting in this habitat becoming unsuitable for nesting birds, than this area will be down graded to Green. If however, suitable nesting habitat is still in-situ during the nesting bird season, then this area will remain as Red.
Where suitable nesting habitat is planned for removal as part of the development, the timing of their removal can be very important to avoiding any impact. Where possible, suitable habitat planned for removal as part of the development should be removed during the winter period, before the end of February. Trees and scrub should be cut to ground level and where possible roots removed, (or a suitable herbicide used to prevent regrowth if left for some time). Where this is not possible, appropriate action must be taken in order to ensure relevant habitats remain unsuitable for nesting birds during the nesting season. This could include trimming and netting hedgerows and scrub prior to the nesting season or keeping grass cut during the nesting season. If this is not feasible then a suitably qualified ecologist will need to check the habitats prior to removal.

If a nest is subsequently found then works in the immediate area (dependant on species and stage in breeding process) will be delayed until the birds have naturally left the nest. Middlemarch Environmental Drawing C105316-03 in Appendix 2 illustrates Red areas where the key bird issues are focused.

### 4.2.3 Water Vole

The assessment of the stream and banks (MEL 2009a) concluded these habitats to be suitable for use by water voles. To lower the potential risk to water voles from the development, bank side vegetation will be strimmed by hand down to ground level (approximately 5-10 cm) and under direct supervision of the ECW prior to the start of development works. This approach is to be undertaken in March-April or August-September (outside of the water vole breeding period and when alternative food sources/cover are not scarce (Arnott 2001)) to minimise any potential impact to water voles, resulting in the section of stream concerned becoming sub-optimal and facilitate the movement of water voles off site.

To avoid any potential impact the proposed development may have on water voles an 8 m exclusion zone will be erected between the footprint of the development and the stream through the use of temporary heras fencing (as shown on Middlemarch Environmental Ltd Drawing C105316-04 in Appendix 2). This exclusion zone will prevent any potential damage or impact to water voles (disturbance, injury or killing) and to their burrows. Vegetation within this zone is to be maintained as unsuitable for
water voles for the duration of the construction phase to prevent the re-colonisation of the species back onto the site. Once construction works have been completed, this vegetation will be allowed to re-establish and form part of the developments landscaping plans. This mitigation strategy will also prevent any direct impacts affecting the adjacent watercourse (part of the Bourton Heath and Stream Ecosite) that may originate from the development.

Essential works that are required within the 8 m exclusion zone will need prior authorisation and/or monitoring by the Ecological Management Team to avoid any potential disturbance or breach of British wildlife legislation with respect to water voles. Works are to be undertaken at a suitable time of year to lower any potential impact and sensitive methods employed. If water voles are found to still be present then further mitigation will be required.

Middlemarch Environmental Ltd Drawing C105316-04 in Appendix 2 illustrates the exclusion zone (red zone) where the key water vole issues are focused.

4.2.4 Fauna -General

Whilst not considered significant, there is a predicted impact on fauna from noise, vehicles, ground works and the use of artificial lighting.

Construction noise will be controlled according to normal procedures. In all cases the best practicable means of minimising noise must be used. Guidance is given in British Standard BS 5228: Parts 1 and 2 (1997) and Part 4 (1992). Details covered by other specialist consultants.

Haulage roads and the movement of site vehicles will be strictly controlled with a view to protecting local wildlife.

Night working will be limited and any necessary artificial lighting will be directional and restricted in use.
The following precautions will be adopted throughout works on site:

1. Avoid vegetation work between March to September (inclusive) to obviate conflict with the Wildlife and Countryside Act 1981 regarding disturbance to nesting birds.

2. All herbicides should be used in accordance with the manufacturers instructions and appropriate guidelines with regards to the stream.

3. Vegetation clearance should work from the ‘inside-out’ to allow fauna to migrate out of the way into adjacent habitats.

### 4.3 Habitat Protection

In addition the following measures apply:

- The recommendations of BS5837 (2005) and NJUG 10 (as appropriate to operations) should be followed when working close to trees.

- All herbicides should be used in accordance with the manufacturer’s instructions and guidelines for working within the vicinity of a water course.

- Environment Agency Pollution Prevention Guidelines, notably PPG1, 5 and 6 should be adhered to throughout works on site.

### 4.4 Timing Restrictions

Table 4.1 details timing constraints relating to mitigation works occurring on site in order to reduce ecological impacts.

<table>
<thead>
<tr>
<th>Species</th>
<th>Operation</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water voles</td>
<td>Strimming (by hand) of vegetation located to within 8 m of the stream.</td>
<td>March to April and August to September</td>
</tr>
<tr>
<td></td>
<td>The site and exclusion zone is to be maintained as unsuitable for water vole.</td>
<td></td>
</tr>
<tr>
<td>Nesting birds</td>
<td>Tree/scrub/vegetation clearance impacted by development.</td>
<td>November to February*</td>
</tr>
<tr>
<td></td>
<td>Maintenance of site impacted by development as unsuitable for nesting birds.</td>
<td>March to September</td>
</tr>
</tbody>
</table>

* Timing of operation to minimise impact upon breeding birds. Works can take place outside these periods providing site has been confirmed clear of nesting birds by a suitably qualified ecologist and an ecological clerk of the works is present to check for notable species.

Table 4.1: Timing of Mitigation Operations
Table 4.2 details a master timetable of works in order to minimise the ecological impact of the development. This is based on the outline works programme detailed in Section 1.3. The timing of the activities in Table 4.2 may alter if there are changes in the works programme.
### Table 4.2: Master Timetable of Works

<table>
<thead>
<tr>
<th>Ecology</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sept</td>
<td>Oct</td>
</tr>
<tr>
<td><strong>Badgers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No disturbance permitted within 30 m of existing badger sett. Advice to be sought by Ecological Management Team.</td>
<td>EMT/ECW</td>
<td>EMT/ECW</td>
</tr>
<tr>
<td><strong>Nesting birds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removal of suitable nesting bird habitat.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove nesting habitat/make unsuitable: SURVEY &amp; SUPERVISION before works.</td>
<td>ECW</td>
<td>ECW</td>
</tr>
<tr>
<td><strong>Water voles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial removal of tall ruderal vegetation within 8 m of the stream.</td>
<td>ECW</td>
<td>ECW</td>
</tr>
<tr>
<td>Maintenance of bank side vegetation as short/unsuitable for water vole.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timing of sensitive works permitted within 8 m exclusion zone. Advice to be sought by Ecological Management Team prior to works commencing and works done under supervision.</td>
<td>EMT/ECW</td>
<td>EMT/ECW</td>
</tr>
</tbody>
</table>

**Key**
- Blank cells = no works to be undertaken during this period. Consult with EMT.
- Critical time to undertake works
- Highly recommended periods
- EMT = advice required from ecological management team prior to works commencing
- ECW = ecological clerk of works required.
5. POST DEVELOPMENT MONITORING

To ensure no net loss of vulnerable species and to measure the success of mitigation proposals and habitat creation it is proposed that the site will be monitored over a 5-year period post development. The monitoring scheme will comprise of 2 one-day visits each year, one in April and one in September, starting in the year after completion of the development. The survey data will be submitted to HB Architects and the local biodiversity records office as a report at the end of each year.

This programme will include the monitoring of the badger sett for evidence of occupation, the re-establishment of tall ruderal vegetation on the banks of the stream and surveying for the presence of water vole.
REFERENCES


Pollution Prevention Guidelines General guide to pollution prevention: PPG1

Pollution Prevention Guidelines Works in, near or liable to affect watercourses: PPG5
Pollution Prevention Guidelines Working at construction and demolition site: PPG6


APPENDICES

APPENDIX 1
Example ecological permits & Ecological Permit to Work

APPENDIX 2
Middlemarch Environmental Ltd Drawing C105316-01, Master Plan of
Ecological Risk Zones.

Middlemarch Environmental Ltd Drawing C105316-02, Badger Exclusion Zone

Middlemarch Environmental Ltd Drawing C105316-03, Nesting Bird Habitat

Middlemarch Environmental Ltd Drawing C105316-04, Water vole Exclusion Zone
APPENDIX 1

Example Ecological Permits & Ecological Permit to Work
<table>
<thead>
<tr>
<th>E.P. NO:</th>
<th>DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREA:</td>
<td></td>
</tr>
</tbody>
</table>

**ACTIVITY:**

**ECOLOGICAL CONSIDERATIONS:**

**MEASURES TO MITIGATE ABOVE:**

**METHOD STATEMENT APPROVED:** (ECW)

**PERMIT TO COMMENCE WORK:** (ECW)

**SUB-CONTRACTOR**

**WORK COMPLETED:** (ECW)

**SUB-CONTRACTOR**
## ECOLOGICAL CLERK OF WORKS
### DAILY RECORD SHEET

<table>
<thead>
<tr>
<th>DATE:</th>
<th>ECW ON SITE</th>
<th>NAME:</th>
<th>WEATHER:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIMES:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ISSUES/ LOCATION</th>
<th>NOTES</th>
<th>ACTION REQUIRED (WHOM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Rev. 05/04
ECOLOGICAL CERTIFICATE  EC1

Form of certificate to be used by the Contractor’s Ecologist for certifying that the pre-construction surveys/reviews have been undertaken and that no species or habitats protected by Law have been found within a particular area of the Site or Adjacent Areas.

1. We certify that we have used reasonable professional skill and care in surveying and inspecting the ________________________________ (Description of relevant area by reference to an appropriate drawing) on ___/___/03 and that there were no species or habitats protected by Law within such area on that date.

Signed: _________________
Contractor’s Ecologist (Principle)

Name: _________________
Title: _________________
Date: _________________

2. This certificate is:
   iv. Received:*
   v. Received with comments as follows:*
   vi. Returned marked “comments” as follows:*

*delete as appropriate

Signed: _________________
Employer’s Agent

Name: _________________
Date: _________________
ECOLOGICAL CERTIFICATE  EC2

Form of certificate to be used by the Contractor’s Ecologist for certifying that the relevant Ecological Mitigation Construction Works required to be carried out have been completed.

1. We certify that we have used reasonable professional skill and care in examining the Works carried out within ____________________________ (Description of relevant area by reference to an appropriate drawing) and that all such Works have been completed in all aspects in accordance with the Contract, so as to accord with ____________________________ (Description of relevant Ecological Design) to which there have been no comments under the Review Procedure and so as to satisfy the Employer’s Requirements, the Contractor’s Proposals, and the following:

(List, if any, changes covered by any Change Certificate received and countersigned by the Employer’s Agent.)

Signed: ______________
Contractor’s Ecologist (Principle)

Name: ______________
Title: ______________
Date: ______________

2. This certificate is:
   iv. Received:* 
   v. Received with comments as follows:* 
   vi. Returned marked “comments” as follows:* 
*delete as appropriate

Signed: ______________
Employer’s Agent

Name: ______________
Date: ______________
ECOLOGICAL CERTIFICATE EC3

Form of certificate to be used by the Contractor’s Ecologist for certifying that the relevant Maintenance and Monitoring Works required to be carried out have been completed.

1. We certify that we have used reasonable professional skill and care in examining the Works carried out within ____________________________ (Description of relevant area by reference to an appropriate drawing) and that all such Works have been completed in all aspects in accordance with the Contract, so as to accord with ____________________________ (Description of relevant Ecological Design) to which there have been no comments under the Review Procedure and so as to satisfy the Employer’s Requirements, the Contractor’s Proposals, and the following:

(List, if any, changes covered by any Change Certificate received and countersigned by the Employer’s Agent.)

Signed: ____________________________
Contractor’s Ecologist (Principle)

Name: ____________________________
Title: ____________________________
Date: ____________________________

2. This certificate is:
   iv. Received:*  
v. Received with comments as follows:*  
vi. Returned marked “comments” as follows:*  
*delete as appropriate

Signed: ____________________________
Employer’s Agent

Name: ____________________________
Date: ____________________________
ECOLOGICAL CERTIFICATE    EC4

Form of certificate to be used by the Contractor’s Ecologist for certifying that the relevant Monitoring Works required to be carried out have been completed.

1. We certify that we have used reasonable professional skill and care in examining the Works carried out within ________________________________ (Description of relevant area by reference to an appropriate drawing) and that all such Works have been completed in all aspects in accordance with the Contract, so as to accord with ________________________________ (Description of relevant Ecological Design) to which there have been no comments under the Review Procedure and so as to satisfy the Employer’s Requirements, the Contractor’s Proposals, and the following:

(List, if any, changes covered by any Change Certificate received and countersigned by the Employer’s Agent.)

Signed: ____________________
Contractor’s Ecologist (Principle)

Name: ______________
Title: ______________
Date: ______________

2. This certificate is:

iv. Received:*  
v. Received with comments as follows:*  
vi. Returned marked “comments” as follows:*

*delete as appropriate

Signed: ______________
Employer’s Agent

Name: ______________
Date: ______________
APPENDIX 2

Ecological Risk Zones
The Dell, Fosse Way, Princethorpe

C105316-01

HB Architects

Legend

- Badger sett

- Areas of high ecological concern/sensitivity

- Areas of medium ecological concern/sensitivity

- Areas of low ecological concern/sensitivity

This map is reproduced from drawing "TheDell_dwg", supplied by the client.
The map is reproduced from drawing "The_Dell.dwg", supplied by the client.

**Legend**

- **X** Badger sett
- **Red Line** 30 m radius from badger sett, within site
- **Dashed Line** 30 m radius from badger sett, outside site
- **Pink** 30 m radius from badger sett (exclusion zone)
The map is reproduced from drawing "3941The_Dell.dwg", supplied by the client.

Legend
- Nesting bird habitat anticipated to be directly affected by works
- Nesting bird habitat anticipated to be indirectly affected by works

Triumph House, Coundon Road, Coventry, CV6 4AZ
T: 01676 525880  F: 01676 521492
E: admin@middlemarch-environmental.com

This map is reproduced from drawing "3941The_Dell.dwg", supplied by the client.
Legend

- 8 m radius from running water (exclusion zone)
MIDDLEMARCH ENVIRONMENTAL

QUALITY ASSURANCE

TITLE: CONSTRUCTION ECOLOGICAL MANAGEMENT PLAN

THE DELL, FOSSE WAY, PRINCETHORPE

A Report to HB Architects

Contract Number: C105316
Report Number: RT-MME-105316
Revision Number: 00
Description: FINAL
Date: August 2009

Checked by:

[Signature]
Helen Miller
Principal Technical Ecological Consultant

Approved by:

[Signature]
David Smith
Ecology and Landscaping Director