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client

**Gallagher Estates Ltd**

project title

**Land North of Gavray Drive,  
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**Plan EDP 14: White-Letter Hairstreak  
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**Land at Gavray Drive  
West, Bicester**

**Findings of  
Arboricultural  
Assessment**

(Incorporating Tree  
Protection Measures  
and Arboricultural  
Impact Assessment)

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

On behalf of:  
**Gallagher Estates Ltd**

December 2014  
Report Reference  
**EDP124\_33a**



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*This version is intended for electronic viewing only*

<b>For EDP use</b>	
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## Section 1 Introduction and Methodology

- 1.1 The Environmental Dimension Partnership (EDP) was commissioned by Gallagher Estates Ltd to undertake a *BS 5837:2012 Trees in Relation to Design, Demolition and Construction* compliant survey of the trees in relation to the proposed development of Land at Gavray Drive West, Bicester (hereafter referred to as 'the site').
- 1.2 The survey was undertaken by Iain Clark, Consultant Arboriculturist, on 16 October 2014. The focus of the survey was to assess the condition of the subject trees and hedgerows, specifically:
- The main bole and central stem;
  - The primary and secondary branch system and crown supported thereon; and
  - Trees in relation to their surroundings.
- 1.3 This report has been prepared to support an outline planning application for residential development for up to 171 dwellings including; market dwellings, affordable housing, public open space, and localised land remodelling. The surveys findings have where necessary informed the proposals such as its design, layout and mitigation proposals.

### The Site

- 1.4 The site measuring 6.92 Hectares (ha) in size, is centred on National Grid Reference (NGR) SP 459 222 and falls within the Cherwell District Local Planning Authority area. The site is bounded to the north by the London to Birmingham railway, to the east by Langford Brook, to the south by Gavray Drive and to the west by the London to Bicester (Bedford extension) railway.

### Tree Survey Methodology

- 1.5 The methodology adopted for this survey is based on guidelines set out in *BS 5837:2012 Trees in Relation to Design, Demolition and Construction*, especially Section 4.4, 'Tree Survey'. Site trees and other significant vegetation are as noted on the tree survey plan (**Plan EDP 1**). All surveyed items are detailed in **Schedule EDP 1** (contained at the rear of this report). No other trees are covered by this survey.
- 1.6 The subject trees have not been tagged for identification purposes.
- 1.7 All trees have been visually inspected from ground level unless otherwise stated, with no climbing or further detailed investigative tests being undertaken. The comments made on their condition are based on observable factors present at the time of inspection. All

measurements are metric and have been recorded in accordance with the measurement conventions set out in Section 4.4.2.6 of BS 5837:2012.

1.8 Any recommendations given regarding longer-term management are made on the basis of optimising the life expectancy of site trees, given their current situation and any effects which may result from the development proposals.

1.9 **Schedule EDP 1** provides information about the following factors in accordance with paragraph 4.4.2.5 of BS 5837:2012;

- Sequential Reference Number (recorded on **Plan EDP 1**);
- Species;
- Height;
- Stem Diameter (DBH);
- Branch Spread;
- First Significant Branch and Direction of Growth;
- Existing Height Above Ground Level;
- Life Stage;
- Physiological Condition;
- Structural Condition;
- Preliminary Management Recommendations;
- Estimated Remaining Contribution;
- Category Grading; and
- Tree Works Priority Codes.

***Sequential Reference Number***

1.10 Individual trees have been given the prefix 'T', groups of trees the prefix 'G' and hedgerows the prefix 'H', all numbering of surveyed items is sequential and commences with T1.

### ***Species***

- 1.11 Common, English names are used wherever possible for simplicity.

### ***Height***

- 1.12 An approximation of height (in metres) is provided for the highest point of the tree.

### ***Stem Diameter***

- 1.13 This is the measurement of stem diameter in millimetres taken in accordance with Annex C of BS 5837:2012.

### ***Branch Spread***

- 1.14 This is taken at four cardinal points, with a stated value in metres to enable an accurate representation of the crown, as shown on **Plan EDP 1**.

### ***First Significant Branch***

- 1.15 Height of first significant branch and direction of growth e.g. 2.4 N, measured from adjacent ground level.

### ***Existing Height above Ground Level***

- 1.16 An approximation of height (in metres) of crown clearance above adjacent ground level.

### ***Life Stage***

- 1.17 There are six classes to which trees are assigned:

- Young;
- Semi Mature;
- Early Mature;
- Mature;
- Over Mature; and
- Veteran

### ***Physiological Condition***

- 1.18 An indication of the tree's physiological condition is represented and classed as good, fair, poor or dead. This is informed by the following:

- Canopy Density: It should be taken that, unless otherwise stated with each individual entry, the canopy density of the trees is typical of the species; and

- Leaf Size and Colouration: It should be taken that, unless otherwise stated with each individual entry, leaf size and colouration is typical of the species.

### ***Structural Condition***

- 1.19 Additional notes are provided giving details of the tree's structural condition. This is informed by '*the presence of any decay and physical defect*'<sup>1</sup>.

### ***Preliminary Management Recommendations***

- 1.20 These are made on the basis of optimising the life expectancy of site trees; given their current situation and that which may result from the development proposals. The survey process pays particular attention to implications for life and/or property; defects recorded under the structural condition have the necessary mitigation measures proposed within this section of the schedule.

### ***Estimated Remaining Contribution***

- 1.21 The definitions of the terms used are as follows and describe the estimated length of time (in years) over which the tree can be expected to make a safe contribution to local amenity:
- Less than 10;
  - 10+;
  - 20+; and
  - 40+.

### ***Category Grading***

- 1.22 Trees have been assigned 'U' or Category Grading 'A' to 'C' in accordance with the Cascade Chart given in BS 5837:2012 (copy extract contained as **Appendix EDP 2**).

### ***Tree Works Priority Codes***

- 1.23 Priority codes from 1 to 3 have been given for trees requiring work. The definition of the codes used is as follows:

*Priority 1: Work that should be undertaken urgently due to the identification of a potential hazard.*

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<sup>1</sup>BS 5837: 2012 Section 4.4.2.5

*Priority 2: Work that should be undertaken prior to any works commencing on site.*

*Priority 3: Work that should be undertaken following the completion of the development.*

### **Limitations**

- 1.24 Due to the changing nature of trees and other site circumstances, this report and any recommendations made are limited to 24 months from the date of this report. Any alterations to the site or the development proposals could change the current circumstances and may invalidate this report and any recommendations made.
- 1.25 Trees are dynamic structures that can never be guaranteed 100% safe; even those in good condition can suffer damage under average conditions. Regular inspections can help to identify potential problems before they become acute.
- 1.26 A lack of recommended work does not imply that a tree is safe and likewise it should not be implied that a tree will be made safe following the completion of any recommended work.

### **Planning Status**

#### ***Tree Preservation Orders***

- 1.27 Information supplied from Cherwell District Council determines that none of the trees within the site are subject to a Tree Preservation Order, however several trees surveyed, located on the eastern side of Langford Brook and subsequently outside the proposed development area, are the subject of a Tree Preservation Order (Cherwell District Council Tree Preservation Order No 17/90, Confirmed 6 August 1990). These trees were recorded during the survey process, as their size and position may be a potential constraint to development. The trees covered by this aforementioned order are highlighted within the Tree Schedule EDP1. A copy of Schedule 1 and associated plan of TPO No 117 are enclosed as **Appendix EDP 3**.

#### ***Conservation Areas***

- 1.28 The site is not situated within a designated Conservation Area.

## **Protected Species**

### ***Bats***

- 1.29 All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV(a) to the Habitats Directive). This affords bats protection under the Conservation of Habitats and Species Regulations 2010, making it an offence to:
- Damage or destroy a breeding site or resting place of a wild individual of an EPS;
  - Deliberately capture, injure or kill a wild individual of an EPS;
  - Deliberately disturb a wild individual of an EPS wherever they are occur, in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce or, in the case of hibernating or migratory species, to hibernate or migrate; or
  - Affect significantly the local distribution or abundance of the species to which they belong.
- 1.30 Additional protection for bats is also afforded under the Wildlife and Countryside Act 1981 (as amended) and the Countryside Rights of Way Act 2000, making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place. As bats tend to re-use the same roosts, legal opinion is that roosts are protected whether or not bats are currently occupying these resting places/places of shelter.
- 1.31 A separate ecological report and ES Chapter has been produced for the site (report reference **C\_EDP124\_29a**) which includes details of any trees identified as having potential to support roosting bats.
- 1.32 Prior to undertaking any tree works or tree removals, further advice should be sought from a suitably qualified ecologist.

### ***Nesting Birds***

- 1.33 The main bird nesting season is between March and August inclusive. Contractors have a legal responsibility to comply with current legislation relating to breeding birds. Under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000 birds as well as their nests and eggs, are protected and it is an offence to:
- Take, damage or destroy the nest of any wild bird while it is in use or being built;
  - Take or destroy the egg of any wild bird; and

- To disturb any wild bird while it is nest building, or at a nest containing young, or disturb the dependent young of such a bird.

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## Section 2 Summary of Findings

### The Tree Stock Generally

- 2.1 The survey process recorded a total of eight individual trees, seven groups of trees and one hedgerow, totalling 16 items. **Schedule EDP 1** included at the rear of this report, contains full attribute details for each item surveyed. The survey data can be categorised into three specific areas of reference: species diversity, age distribution and grading classification, analysis of which enables a fuller arboricultural appraisal to be undertaken of the site.
- 2.2 The site comprises agricultural farmland with a linear feature of early mature bund planting, located on the southern boundary of the site. Species present in this location include; Ash, Silver Birch, Oak, Field Maple and Hornbeam. A mixed species hedgerow is present in the western area of the site, bisecting the site from north to south.
- 2.3 Located adjacent to the eastern side of Langford Brook and subsequently outside the red line boundary of the proposed development, is a linear feature of young to over mature specimen trees. These trees were recorded during the survey process, as their size and position may be a potential constraint to development. Species present in this location include; Willow, Ash, Oak and Field Maple, collectively these aforementioned trees form a significant landscape feature adjacent to the site. The extents, location and principal arboricultural features within the site and adjacent (identified through site survey) are illustrated on the Tree Survey Plan enclosed as **Plan EDP 1** to the rear of this report.

### Species Diversity

- 2.4 A total of 11 species are represented throughout the site, a summary of this is presented in **Table EDP 2.1**. In order to illustrate a true reflection of the overall diversity, each species represented individually or in a group is allocated a single count upon each occurrence totalling 37 items (accounting for the difference between total items recorded and species diversity). A total of 7 Ash (19%), 7 Willow (19.0%), 5 Oak (13.5%), are located outside the site boundary, adjacent to eastern side of Langford Brook, whilst Hawthorn (13.5%), 1 English Elm (2.7%), 2 Blackthorn (5.3%) populate the internal hedgerow. This broad mix of native species is typical of the immediate surrounding landscape; with bund buffer zone planting represents the remaining species diversity.

**Table EDP 2.1:** Species Diversity

Species	Number	Percentage
Ash	7	19.0
Blackthorn	2	5.3
Common Oak	5	13.5

Species	Number	Percentage
Crack Willow	7	19.0
Dogwood	1	2.7
English Elm	1	2.7
Field Maple	5	13.5
Hawthorn	5	13.5
Holly	1	2.7
Hornbeam	2	5.4
Silver Birch	1	2.7
<b>Total</b>	<b>37</b>	<b>100</b>

### **Age Distribution**

2.5 Analysis of the data in **Table EDP 2.2** identifies that there are no young items that are tolerant of ground disturbance and easy to move or replace; 2 (12.5%) semi mature items which are less tolerant of disturbance and less easy to move or replace; 7 (43.8 %) early mature, 5 (31.2%) mature items which are intolerant to ground disturbance and need careful consideration where development is proposed in their vicinity. An additional 2 (12.5%) over mature items were recorded which given their sensitivity to abiotic factors such as ground disturbance require particular consideration in any future development proposals. No veteran items were recorded.

**Table EDP 2.2:** Age Distribution

Age Class	Number	Percentage
Young	0	0
Semi-Mature	2	12.5
Early-mature	7	43.8
Mature	5	31.2
Over Mature	2	12.5
<b>Total</b>	<b>16</b>	<b>100</b>

2.6 This distribution across the early mature and mature age classes reflects the early mature bund planting on the southern boundary of the site, with the mature items being represented by the tree line adjacent to the eastern side of Langford Brook which is subsequently located outside the eastern boundary of the site.

### **Grading Classification**

2.7 Whilst age distribution and species diversity are important, the overriding factors have to be the health and condition of these trees. Trees in poor health and condition have a limited lifespan and contribute little to the landscape character, sustainability and continuity of the population. Tree categorisation is applied in accordance with the cascade chart (**Appendix EDP 3**), following consideration of the presence of any disease, structural defects or tree related hazards. On occasion, and based on the professional judgment of a suitably qualified Arboriculturist, EDP has down-graded or up-graded trees based on their arboricultural merit and individuality, despite a predicted short or long lifespan.

- 2.8 **Plan EDP 1** provides information about the relative merits of the trees in arboricultural and landscape terms. Distribution across the category range is depicted in **Table EDP 2.3**. Across and adjacent to the boundaries of the site there is one (6.25%) 'A' grade item of high quality and value; 8 (50%) 'B' grade items of moderate quality and value, 3 (18.75%) 'C' grade items of low quality and value.
- 2.9 In addition there are a further 4 (25%) 'U' grade items that should have tree surgery operations performed for reasons of sound arboricultural management, regardless of any design proposals.

**Table EDP 2.3:** Category Grading

Category Grading	Description	Number	Percentage
A	High quality and value	1	6.25
B	Moderate quality and value	8	50.00
C	Low quality and value	3	18.75
U	Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	4	25.00
<b>Totals</b>		<b>16</b>	<b>100</b>

- 2.10 The distribution between the category classes is indicative that the majority of 'B' Grade items being represented within the southern area of the site, comprising the linear bund planting feature. 'U' grade trees are represented by the trees located outside the proposed development boundary, adjacent to Langford Brook and subsequently require arboricultural works to extend their lifespan. These aforementioned 'U' grade trees are indicative of the lack of formal management which is subsequently leading to a decline in condition commensurate to increasing age.

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## Section 3 Recommendations for Tree Works and Tree Protection

### Tree Surgery Works

- 3.1 Any tree surgery works or further detailed investigations detailed in **Schedule EDP 1** are proposed on the basis that they are undertaken by a qualified Arboricultural contractor who is listed in the Arboricultural Association's Approved Contractors Directory (ref: [www.trees.org.uk](http://www.trees.org.uk)).
- 3.2 All tree surgery work should be undertaken in accordance with the requirements of *BS 3998:2010 British Standard Recommendations for Tree Work* and *BS 5837:2012 Trees in Relation to Design, Demolition and Construction*.

### Tree Surgery Works - Timing

- 3.3 No trees have been noted as requiring Priority Code 1 works as at the time of inspection none were assessed as posing an imminent or serious risk to persons or property when considered in context of the current land use.
- 3.4 No trees were noted as requiring Priority Code 2 works. These works, where prescribed are considered necessary to mitigate a perceived hazard from an observed and recorded defect. This work should ordinarily commence prior to any site works, thus establishing an acceptable level of risk in the context of the proposed land use. **Schedule EDP 1** contained to the rear of this report details the nature, extent and location of each recorded defect accompanied by a full description of the prescribed remedial works.
- 3.5 Five trees and 2 groups were noted as requiring Priority Code 3 works. These are considered to be more general essential maintenance works, especially in relation to extending the structural lifespan of the highlighted individuals and groups of Willow. **Schedule EDP 1** contained to the rear of this report details the nature, extent and location of each recorded defect accompanied by a full description of the prescribed remedial works.

Tree Number	Tree Species	Management Recommendation
T7	Crack Willow	Re -pollard to prevent bole collapse.
T8	Crack Willow	Re - pollard and retain in lesser form as an ecological habitat.
T9	Crack Willow	Re - pollard and retain in lesser form as an ecological habitat.
T10	Common Oak	Sever ivy.
T12	Ash	Reduce and retain as an ecological habitat.

Tree Number	Tree Species	Management Recommendation
G13	Crack Willow	Re - pollard over mature trees and retain in lesser form as an ecological habitat. Young stems and understorey can be retained.
G16	Crack Willow	Re - pollard over mature trees and retain in lesser form as an ecological habitat. Young stems and understorey can be retained.

### Tree Constraints Assessment

- 3.6 The findings of EDP's arboricultural assessment are summarised in **Section 2, Schedule EDP 1** and **Plan EDP 1** included at the rear of this report. These findings have been considered without reference to the development proposals for the site. **Plan EDP 2**, The Tree Constraints Plan, illustrates the constraints imposed by the tree stock throughout the development parcel, specifically in connection with the recommended root protection areas (RPA), as described in the tree constraints schedule (**Schedule EDP 2**), calculated using the methodology set out in Section 4.6 and annex C and D of BS 5837:2012.
- 3.7 **Plan EDP 3**, Tree and Hedgerow Shadow Extent Plan, illustrates the constraints imposed by shadowing from the tree and hedgerow cover within the proposed development parcel. This plan has been produced to further inform design proposals and is in accordance with Section 5.2.2 of BS 5837:2012.

### Tree Protection - General Considerations

- 3.8 The adequate protection of retained trees on development sites is of paramount importance if they are to be retained successfully. In the event that development of the site proceeds, the trees identified as retainable shall be protected in accordance with the provisions outlined in the Tree Protection Plan enclosed as **Plan EDP 4**.
- 3.9 The protection measures specified below should be implemented prior to any development or site clearance works commencing and must be maintained throughout the construction period.

### Roots

- 3.10 To ensure appropriate protection is afforded to the roots, the extent of the RPA shall be defined by means of the installation of protective barriers in accordance with the recommendations given in Section 6.2 of BS 5837:2012. The extent of this enclosed area known as the Construction Exclusion Zone (CEZ) is depicted on **Plan EDP 4**.
- 3.11 Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, the shape of the RPA may be modified but not reduced in area and its

shape should reflect a soundly based arboricultural assessment of the likely root distribution.

- 3.12 Any deviation in the RPA from the original circular plot should take account of the following factors whilst still providing adequate protection for the root system:
- The morphology and disposition of the roots, when known to be influenced by past or existing site conditions (e.g. the presence of roads, structures and underground services);
  - Topography and drainage;
  - The soil type and structure;
  - The likely tolerance of the tree to root disturbance or damage, based on factors such as species, age and condition and presence of other trees; and
  - The maximum extent of the RPA is capped at the equivalent of a circle with a radius of 15m.
- 3.13 Protective barriers should be fit for the purpose of excluding construction activity and special attention should be paid to ensuring that they remain intact throughout the construction process. It is recommended that protective barriers should be erected in accordance with the recommendations given in BS 5837:2012 reproduced as **Appendix EDP 4**.
- 3.14 It is proposed that the final line of protective barriers will be agreed with the Local Planning Authority prior to development commencing on site.
- 3.15 Where the RPA of retained trees extends underneath unmade access roads that are to be utilised during the construction process, porous ground protection should be installed in accordance with Section 6.2.3 of BS 5837:2012 to avoid compaction of the underlying soil.
- 3.16 Where construction workspace or temporary construction access is required within the RPA, this should be facilitated by a setback in the alignment of the tree protection barrier and new temporary ground protection should be installed.
- 3.17 The location and design of the revised barrier and ground protection should be determined following consultation with an Arboriculturist and agreed with the Tree Officer prior to commencement of site works.
- 3.18 As roots can be damaged by the direct toxicity of some material, care will be taken as to the nature of any materials stored near the protective barriers.

### ***Trunks, Stems and Branches***

- 3.19 The above ground parts of a tree, whilst being more visible and easily protected, are a potential constraint to development and consideration should be given to the current and ultimate height and spread of the trees, details of which are contained in **Schedule EDP 2**.
- 3.20 Barriers erected to protect the roots should in most cases provide sufficient protection for the above ground parts. Should it be necessary to prune the branches to accommodate the development or construction equipment which is in addition to that proposed in **Schedule EDP 1**, this shall be on the advice of an Arboriculturist and in accordance with the recommendations of BS 3998:2010.
- 3.21 Where any significant part of the tree's crown overhangs the provisional position of the tree protection barriers, these parts may sustain damage during the construction period. In these cases, it will be necessary to increase the extent of the protection barriers to contain and thereby protect the spread of the crown.

### **Recommendations for Future Action**

- 3.22 To minimise the impact on retained trees, the following is recommended:
- The 'Recommendations for Tree Protection' detailed in **Section 3** and **Appendix EDP 4** of this report are followed. It is proposed that the lines of protective barriers are agreed with the Local Planning Authority prior to commencement on site;
  - All protective barriers must remain intact and in place throughout the period of construction if they are to be effective, and should only be removed by the main contractor following a written instruction from the Contract Administrator;
  - It is recommended that, prior to demolition or construction commencing close to trees where access will be required under canopies, such as areas required for scaffolding, the ground is protected with appropriate ground protection as described and specified in Section 6.2.3 of BS 5837:2012;
  - Excavation under the canopies of trees to construct roads or other paved areas, with their associated kerb drainage and service runs, can seriously affect tree health. The line of service runs should be carefully designed to avoid passing under tree canopies. Guidance for the planning and installation of services should be sought from NJUG 4, issue 2<sup>2</sup> (**Appendix EDP 5**). Where this is not possible,

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<sup>2</sup> National Joint Utilities Group - Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees



allowance should be made to ensure excavations are undertaken by hand in accordance with the Section 7.1 and 7.7 of BS 5837:2012;

- Where tree roots are encountered these shall be retained and protected, and shall not be cut unless otherwise instructed. When work is not taking place they shall be temporarily covered with hessian to prevent drying out. Upon completion, any exposed roots shall be covered over again by replacing the excavated soil;
- Where roots have to be cut, these shall be cut using a sharp clean knife or fine toothed saw to give a clean cut. Ragged cuts are to be avoided;
- The lowering of the water table and/or the disruption of soil moisture profiles can be detrimental to retained trees. It is recommended that as much of the hard standing areas as possible either drain to soft landscape areas and/or drain to soakaways.
- It is recommended that following the completion of the development, arboricultural inspections of all site trees are undertaken on an annual cycle. This is so that the health of the trees can be monitored in relation to their continued viability and safety. Within this recommendation is also a detailed inspection of all Ash trees on the site during the spring to autumn months to check for the notifiable disease Ash Dieback (*Chalara fraxinea*), any suspected cases must be reported in line with the reporting procedure current at the time of identification.

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## **Section 4**

### **Arboricultural Impact Assessment**

- 4.1 This Arboricultural Impact Assessment has been prepared following site based observations, a desktop study of the survey data and consideration of the development proposals.
- 4.2 It recognises that construction activities pose a real and significant threat to the subject trees and assesses the likely impacts of the proposals on the tree stock and where appropriate, provides mitigation with the view of achieving a harmonious relationship between the trees and the built form.
- 4.3 Consideration should be given to retaining all trees where possible. The proposed development design has evolved following inputs from EDP and consideration of the constraints posed by the trees. As a result, the footprint of the proposed development has taken account of the findings of this survey and tree losses minimised.
- 4.4 However, ultimately the removal of any tree is dependent on its close proximity to the footprint of any proposal and associated landscaping. This Arboricultural Impact Assessment should be read in conjunction with **Plan EDP 4**, its base is the existing Tree Constraints Plan which has the proposed development superimposed. It shows the existing trees, numbered, with high, moderate and low category trees to be retained marked in green, mid blue and grey respectively; and those to be removed are indicated by a dashed red outline, it also shows the proposed location of protective measures, as specified in **Sections 3** and **4** of this report.

#### **Hedgerows under Footprint of Proposed Development**

- 4.5 A review of the illustrative master plan identifies that one hedgerow (H4) falls directly beneath the footprint of the proposed development and will need to be removed. The hedgerow is classed as 'C' grade of low quality and value.

#### **Trees under Footprint of Proposed 'Local Equipment Area of Play'**

- 4.6 A review of the illustrative master plan identifies that one group of trees (G14 – Willow) fall within the footprint of the proposed 'Local Equipment Area of Play'. This aforementioned group of trees can be incorporated within this area and subsequently root protection areas adhered to.

### **Tree and Hedgerow Shadow Assessment**

- 4.7 A review of the illustrative master plan indicates that tree shadow, when viewed in relation to the south eastern to the south western boundary of the site (incorporating tree groups G2, G3 and G5) will not have a detrimental shade impact on the majority of proposed residential areas of the site. The shading extent is demonstrated on **Plan EDP 3**.

### **Damage to Rooting Environment during Construction Activities**

- 4.8 The required RPA for each tree as described in **Schedule EDP 2** is depicted on **Plan EDP 2**. To ensure appropriate protection is afforded to the roots, the extent of the RPA shall be defined by means of the installation of protective barriers in accordance with the recommendations given in Section 6.2 of BS 5837:2012. The extent of this enclosed area, known as the CEZ, is depicted on **Plan EDP 4**.
- 4.9 The RPAs of the trees (T6-T12 inclusively and groups G13, G15 and G16) are depicted as an area in an easterly direction. This is due to the rooting morphology of these aforementioned trees will have been restricted in a westerly direction due to the presence of Langford Brook, subsequently no rooting activity within the proposed development area should be occurring by these aforementioned trees.

### **Mitigation Planting**

- 4.10 Hedgerow loss arising as a direct consequence of the proposals shall be offset by a replacement planting programme at a suggested replacement ratio of 1:1, the specification of which is set out in the detailed landscape proposals prepared and submitted in support of the application.
- 4.11 Existing trees identified for retention on the appended Tree Protection Plan, (**Plan EDP 4**) will continue to be managed in accordance with BS 5837:2012. Critically this requires arboricultural review of any future emerging detailed design and the implementation of physical protection measures to safeguard the retained trees. The importance of such matters cannot be overlooked if a successful outcome is to be ensured.

### **Future Growth and Management of Trees**

- 4.12 In order to insure the viable retention of all retained and proposed trees it is proposed that all site trees are the subject of an annual inspection regime; such a regime will monitor tree health and will prescribe remedial works where appropriate.
- 4.13 It is considered that any losses would be offset by the following beneficial effects which flow from the proposed development namely:

- Implementation of restorative pruning programme;
- Proactive management and enhancement of existing resource; and
- Appropriate tree planting of locally indigenous species in certain areas enhancing the open spaces, improving species diversity across the site and securing the continuation and sustainability of the tree population.

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## Section 5 Summary and Conclusions

- 5.1 EDP was instructed by Gallagher Estates Limited to undertake a survey of trees in relation to the proposed development of Land at Gavray Drive West, Bicester. The initial survey was undertaken by an appropriately qualified Arboriculturist on 16 October 2014, in predominately dry and sunny conditions.
- 5.2 The survey was undertaken in accordance with the recommendations of British Standard *5837:2012 Trees in relation to Design, Demolition and Construction*.
- 5.3 Findings for the 8 individual trees, 7 groups of trees, and one hedgerow surveyed are included as **Schedule EDP 1** and illustrated on **Plan EDP 1** of this report.
- 5.4 The tree population ranges from early mature to over mature in age and consists of a native mix of deciduous trees of varying condition and form.
- 5.5 To ensure adequate provision is made for the retention of trees, the recommended Root Protection Areas (RPA) have been calculated in accordance with *BS 5837:2012* and are shown on **Plan EDP 2** and **Schedule EDP 2**.
- 5.6 The Arboricultural Impact Assessment identified that one Category 'C' hedgerow falls beneath the footprint of the proposed development and needs to be removed. Additionally one Category 'B' group of Willow are located within the proposed Local Equipment Area of Play, however this aforementioned group of trees can be incorporated within the design.
- 5.7 Should the development proceed, retained trees should be protected in accordance with the provisions of *BS 5837:2012*, key principles set out in **Section 3**, and **Appendices EDP 4** and **5** of this report.
- 5.8 Any work to the trees to implement the consented development should only be undertaken following consideration of ecological statute protection detailed in **Section 1**.
- 5.9 Potential losses associated with the proposals may be offset by a range of benefits which would undoubtedly flow from the development, namely, new appropriate tree planting of locally indigenous species in certain areas, enhancing the open spaces and improving species diversity across the site.
- 5.10 It is considered that the provision of these measures will compensate for losses that may arise through the implementation of a sympathetic and sustainable scheme and would offer significant longer-term enhancement to the visual amenity of the site and succession of the tree population.

- 5.11 Adverse development effects on the retained trees and woodlands are not expected and will be further avoided by a) detailed design progressing in light of ongoing arboricultural advice; and b) tree protection measures are correctly implemented during the demolition and construction phases.
- 5.12 Future reserved matters will need to be more specific but can be appropriately conditioned, and such conditions should include the requirements for a detailed tree protection plan.



## Appendix EDP 1 Glossary

<b>Arboricultural Impact Assessment</b>	Study, undertaken by an Arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.
<b>Arboricultural Method Statement</b>	Methodology for the implementation of any aspect of development that has the potential to result in loss of, or damage to a tree.
<b>Construction Exclusion Zone</b>	Area based on the RPA (in m <sup>2</sup> ), identified by an Arboriculturist, to be protected during development, including demolition and construction work, by the use of barriers, and/or ground protection fit for purpose to ensure the successful long-term retention of a tree.
<b>Detailed Investigation</b>	During a visual inspection, a tree may be identified as requiring further detailed investigation. Examples of further assessment can include invasive boring tests, Picus reports, climbing inspections or root scans.
<b>Root Protection Area (RPA)</b>	Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m <sup>2</sup> .
<b>Services</b>	Any above ground and piped and/or ducted underground infrastructure including water main, electricity supply, gas supply, fibre-optic utilities, telecommunications cabling, storm and foul water drainage, including temporary storage for run-off, pumping stations, interceptors and other allied buried structures.
<b>Special Engineering</b>	Design of a structure with the physiological requirements of trees as a priority.
<b>Tree Constraints Plan</b>	Plan prepared by an Arboriculturist for the purposes of layout design showing the RPA and representing the effect that the mature height and spread of retained trees will have on layouts through shade, dominance, etc.
<b>Tree Protection Plan</b>	Scale drawing prepared by an Arboriculturist showing the finalised layout proposals, tree retentions, and tree and landscape protection measures detailed within the arboricultural method statement (AMS), which can be shown graphically.
<b>Veteran Trees</b>	A tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characterised of, but not exclusive to, individuals surviving beyond the typical age range of the species concerned.

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## Appendix EDP 2

### Cascade Chart for Tree Quality Assessment (Extract of BS 5837:2012, Table 1)

Category and definition	Criteria (including subcategories where appropriate) Identification on plan		
<b>Trees unsuitable for retention</b> (see Note)			
<b>Category U</b> Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> <li>Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li> <li>Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality</li> </ul> <p>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see <b>4.5.7</b>.</p>		
	<b>1 Mainly arboricultural qualities</b>	<b>2 Mainly landscape qualities</b>	<b>3 Mainly cultural values, including conservation</b>
<b>Trees to be considered for retention</b>			
<b>Category A</b> <b>Trees of high quality</b> with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
<b>Category B</b> <b>Trees of moderate quality</b> with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
<b>Category C</b> <b>Trees of low quality</b> with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

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**Appendix EDP 3**  
**Copy of Cherwell District Council**  
**Tree Preservation Order No 17/90**

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# Town and Country Planning Acts 1971-1985<sup>1</sup>

THE CHERWELL DISTRICT COUNCIL

Insert title of  
Order

## TREE PRESERVATION ORDER, (No. 17) 1990

Bicester South East Development

Insert name  
of local  
planning  
authority

The Cherwell District Council

in this Order called "the authority", in pursuance of the powers conferred in that behalf by section 60 [and 61\*] of the Town and Country Planning Act 1971 as amended † [and section 2 of the Town and Country Planning Act 1984], and subject to the provisions of the Forestry Acts 1967 and 1979, hereby make the following Order:—

### 1. In this Order:—

"the Act" means the Town and Country Planning Act 1971;

"owner" means the owner in fee simple, either in possession or who has granted a lease or tenancy of which the unexpired portion is less than three years; lessee (including a sub-lessee) or tenant in possession, the unexpired portion of whose lease or tenancy is three years or more; and a mortgagee in possession; and

"the Secretary of State" means the [Secretary of State for the Environment] ~~Secretary of State for Wales~~.

2.—Subject to the provisions of this Order and to the exemptions specified in the Second Schedule hereto, no person shall, except with the consent of the authority and in accordance with the conditions, if any, imposed on such consent, cut down, top, lop, uproot, wilfully damage or wilfully destroy or cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of any tree specified in the First Schedule hereto or comprised in a group of trees or in a woodland therein specified, the position of which trees, groups of trees and woodlands is defined in the manner indicated in the said First Schedule on the map annexed hereto ‡ which map shall, for the purpose of such definition as aforesaid, prevail where any ambiguity arises between it and the specification in the said First Schedule.

3.—An application for consent made to the authority ¶ under Article 2 of this Order shall be in writing stating the reasons for making the application, and shall by reference if necessary to a plan specify the trees to which the application relates, and the operations for the carrying out of which consent is required.

4.—(1) Where an application for consent is made to the authority under this Order, the authority may grant such consent either unconditionally, or subject to such conditions (including conditions requiring the replacement of any tree by one or more trees on the site or in the immediate vicinity thereof), as the authority may think fit, or may refuse consent:

Provided that where the application relates to any woodland specified in the First Schedule to this Order the authority shall grant consent so far as accords with the principles of good forestry, except where, in the opinion of the authority, it is necessary in the interests of amenity to maintain the special character of the woodland or the woodland character of the area, and shall not impose conditions on such consent requiring replacement or replanting.

<sup>1</sup> NOTE: Where appropriate this Order has been updated to reflect statutory amendments which have resulted in the need to show substitutions or repeals of the prescribed form.

\* Include only where Order contains a direction under section 61 of the Act.

† Section 60 is amended by section 10 of the Town and Country Amenities Act 1974 and Schedule 15 paragraph 13 and Schedule 34 Part X of the Local Government Planning and Land Act 1980. Section 61 is amended by Schedule 34 Part X and Schedule 15 paragraph 14 of the Local Government Planning and Land Act 1980.

‡ Include only where Order relates to Crown Land.

‡ Map to be to a scale of not less than 25 inches to one mile (1:2500), except in the case of large woodlands when the scale shall be 6 inches to one mile (1:10000 or 1:10560).

¶ NOTE: If it is proposed to fell any of the trees included in this Order and the felling requires a licence under the Forestry Act 1967, an application should be made in the first place to the Forestry Commission.

Provided that no compensation shall be payable in respect of loss or damage suffered by reason of such refusal or grant of consent in the case of any trees the subject of a certificate in accordance with Article 5 of this Order.

10.—In assessing compensation payable under the last preceding Article account shall be taken of:

- (a) any compensation or contribution which has been paid whether to the claimant or any other person, in respect of the same trees under the terms of this or any other Tree Preservation Order under section 60 of the Act, or under the terms of any Interim Preservation Order made under section 8 of the Town and Country Planning (Interim Development) Act 1943, or any compensation which has been paid or which could have been claimed under any provision relating to the preservation of trees or protection of woodlands contained in an operative scheme under the Town and Country Planning Act 1932, and
- (b) any injurious infection to any land of the owner which would result from the felling of the trees the subject of the claim.

11.—(1) A claim for compensation under this Order shall be in writing and shall be made by serving it on the authority, such service to be effected by addressing the claim to the authority and leaving it at or sending it by post to the principal office of the authority.

(2) The time within which any such claim shall be made as aforesaid shall be a period of twelve months from the date of the decision of the authority, or of the Secretary of State, as the case may be, or where an appeal has been made to the Secretary of State against the decision of the authority, from the date of the decision of the Secretary of State on the Appeal.

12.—Any question of disputed compensation shall be determined in accordance with the provisions of section 179 of the Act.

13.—[(1) The provisions of section 61 of the Act shall apply to this Order and the Order shall take effect immediately .]\*

~~[(2) This Order shall apply to any tree specified in the First Schedule hereto, which is to be planted as mentioned therein, as from the time when that tree is planted.]†~~

**NOTE:** Any person contravening the provisions of this Order by cutting down, uprooting or wilfully destroying a tree, or by wilfully damaging, topping or lopping a tree in such a manner as to be likely to destroy it is guilty of an offence and liable on summary conviction to a fine not exceeding the prescribed sum§ or twice the sum which appears to the court to be the value of the tree, whichever is the greater, or on indictment to a fine. The penalty for any other contravention of this Order is a fine not exceeding Level 4 on the standard scale‡ on summary conviction and, in the case of a continuing offence when the contravention is continued after conviction, a person is liable on summary conviction to an additional fine not exceeding £5 for every day on which the contravention is so continued.

If a tree is removed, uprooted or destroyed in contravention of an order or, except in the case of a tree to which the Order applies as part of a woodland, is removed, uprooted or destroyed or dies at a time when its cutting down or uprooting is authorised only by section 60(6) of the Town and Country Planning Act 1971 relating to trees which are dying or dead or have become dangerous, it is the duty of the owner of the land, unless on his application the local planning authority dispense with the requirement, to plant another tree of appropriate size and species at the same place as soon as he reasonably can. Except in emergency, not less than 5 days previous notice of the removal, etc., should be given to the authority to enable the latter to decide whether or not to dispense with the requirement. In respect of trees in a woodland it is sufficient to replace the trees removed, uprooted or destroyed by planting the same number of trees either on or near the land on which the trees removed, uprooted or destroyed stood or on such other land as may be agreed between the authority and the owner of the land, and (in either case) in such places as may be designated by the authority.

\* This provision is not to be included unless it appears to the authority that the Order should take effect immediately.

† This provision may be included in relation to trees to be planted pursuant to a condition imposed under section 59 of the Act.

§ £2000 but subject to alteration by Order.

‡ £1000 but subject to alteration by Order.



**WOODLANDS\***

(within a continuous black line on the map)

<i>No. on Map.</i>	<i>Description</i>	<i>Situation.</i>
None		

\* The word "NONE" must be entered where necessary.

**SECOND SCHEDULE**

This Order shall not apply so as to require the consent of the authority to

- (1) the cutting down of any tree on land which is subject to a forestry dedication covenant where
  - (a) any positive covenants on the part of the owner of the land contained in the same deed as the forestry dedication covenant and at the time of the cutting down binding on the then owner of the land are fulfilled;
  - (b) the cutting down is in accordance with a plan of operations approved by the Forestry Commission under such deed.
- (2) the cutting down of any tree which is in accordance with a plan of operations approved by the Forestry Commission under a grant scheme under section 1 of the Forestry Act 1979 except a scheme which applies to a forestry dedication covenant.
- (3) the cutting down, uprooting, topping or lopping of a tree
  - (a) by or at the request of the Post Office where the land on which the tree is situated is land which has been acquired for the purpose of the Post Office's undertaking and either works on such land cannot otherwise be carried out or the cutting down, uprooting, topping or lopping is for the purpose of securing safety in the operation of the undertaking; or the lopping in pursuance of the power conferred on any operator of a telecommunications code system by virtue of paragraph 19 of Schedule 2 to the Telecommunications Act 1984;
  - (b) by or at the request of
    - (i) a statutory undertaker where the land on which the tree is situated is operational land as defined by the Act and either works on such land cannot otherwise be carried out or the cutting down, uprooting, topping or lopping is for the purpose of securing safety in the operation of the undertaking;
    - (ii) an electricity board within the meaning of the Electricity Act 1947, where such tree obstructs the construction by the board of any main transmission line or other electric line within the meaning respectively of the Electricity (Supply) Act 1919 and the Electric Lighting Act 1882 or interferes or would interfere with the maintenance or working of any such line;
    - (iii) a water authority established under the Water Act 1973, or a drainage board constituted or treated as having been constituted under the Land Drainage Act 1976, where the trees interferes or would interfere with the exercise of any of the functions of such water authority or drainage board in relation to the maintenance, improvement or construction of water courses or of drainage works; or
    - (iv) the Secretary of State for Defence, the Secretary of State for Transport, the Civil Aviation Authority, or in relation to any airport managed by a company to which any property, rights or liabilities have been transferred in pursuance of a scheme made under section 1 or 15 of the Airports Act 1986, the person for the time being having the management of the airport, where in the opinion of such Secretary of State, Authority or person the tree obstructs the approach of aircraft to, or their departure from, any airport or hinders the safe and efficient use of aviation or defence technical installations;
  - (c) where immediately required for the purpose of carrying out development authorised by the planning permission granted on an application made under Part III of the Act, or deemed to have been so granted for any of the purposes of that Part;
  - (d) which is a fruit tree cultivated for fruit production growing or standing on land comprised in an orchard or garden;
 

[Where the trees are within the Thames catchment area]
  - [(e) in pursuance of the powers of the Thames Water Authority under section 105 of the Thames Conservancy Act 1932.]

(3) Where an authority submit an Order to the Secretary of State for his confirmation under this section, the authority shall furnish the Secretary of State with a statement of their reason for making the Order and shall serve notice together with a copy of the aforesaid statement on the owner and on the occupier of the land affected, and on any other person who in their opinion will be affected by the Order, and if within the period of twenty-eight days from the service thereof any person on whom notice is served so requires, the Secretary of State, before confirming the Order, shall afford to that person, and to the authority, an opportunity of appearing before, and being heard by, a person appointed by the Secretary of State for the purpose.

(4) The power conferred by this section to revoke or modify a consent may be exercised at any time before the operations for which consent has been given have been completed:

Provided that the revocation or modification of consent shall not affect so much of those operations as has been previously carried out.

(5) Where a notice has been served in accordance with the provisions of subsection (3) of this section, no operations or further operations as the case may be, in pursuance of the consent granted, shall be carried out pending the decision of the Secretary of State under subsection (2) of this section.

**46. Unopposed revocation or modification of consent.**—(1) The following provisions shall have effect where the local planning authority have made an Order (hereinafter called "such Order") under section 45 above revoking or modifying any consent granted on an application made under a tree preservation order but have not submitted such Order to the Secretary of State for confirmation by him and the owner and the occupier of the land and all persons who in the authority's opinion will be affected by such Order have notified the authority in writing that they do not object to such Order.

(2) The authority shall advertise the fact that such Order has been made and the advertisement shall specify (a) the period (not less than twenty-eight days from the date on which the advertisement first appears) within which persons affected by such Order may give notice to the Secretary of State that they wish for an opportunity of appearing before, and being heard by, a person appointed by the Secretary of State for the purpose and (b) the period (not less than 14 days from the expiration of the period referred to in paragraph (a) above) at the expiration of which, if no such notice is given to the Secretary of State, such Order may take effect by virtue of this section and without being confirmed by the Secretary of State.

(3) The authority shall also serve notices to the same effect on the persons mentioned in subsection (1) above.

(4) The authority shall send a copy of any advertisement published under subsection (2) above to the Secretary of State, not more than three days after the publication.

(5) If within the period referred to in subsection (2) (a) above no person claiming to be affected by such Order has given notice to the Secretary of State as aforesaid and the Secretary of State has not directed that such Order be submitted to him for confirmation, such Order shall at the expiration of the period referred to in subsection (2) (b) of this section take effect by virtue of this section and without being confirmed by the Secretary of State as required by section 45 of the Act.

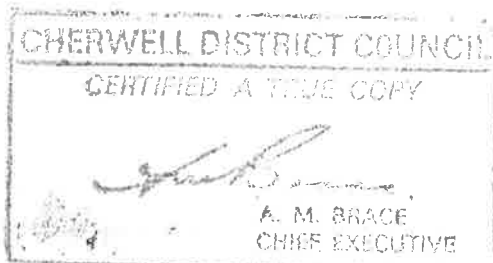
(6) This section does not apply to such Order revoking or modifying a consent granted or deemed to have been granted by the Secretary of State under Part III, Part IV or Part V of the Act.

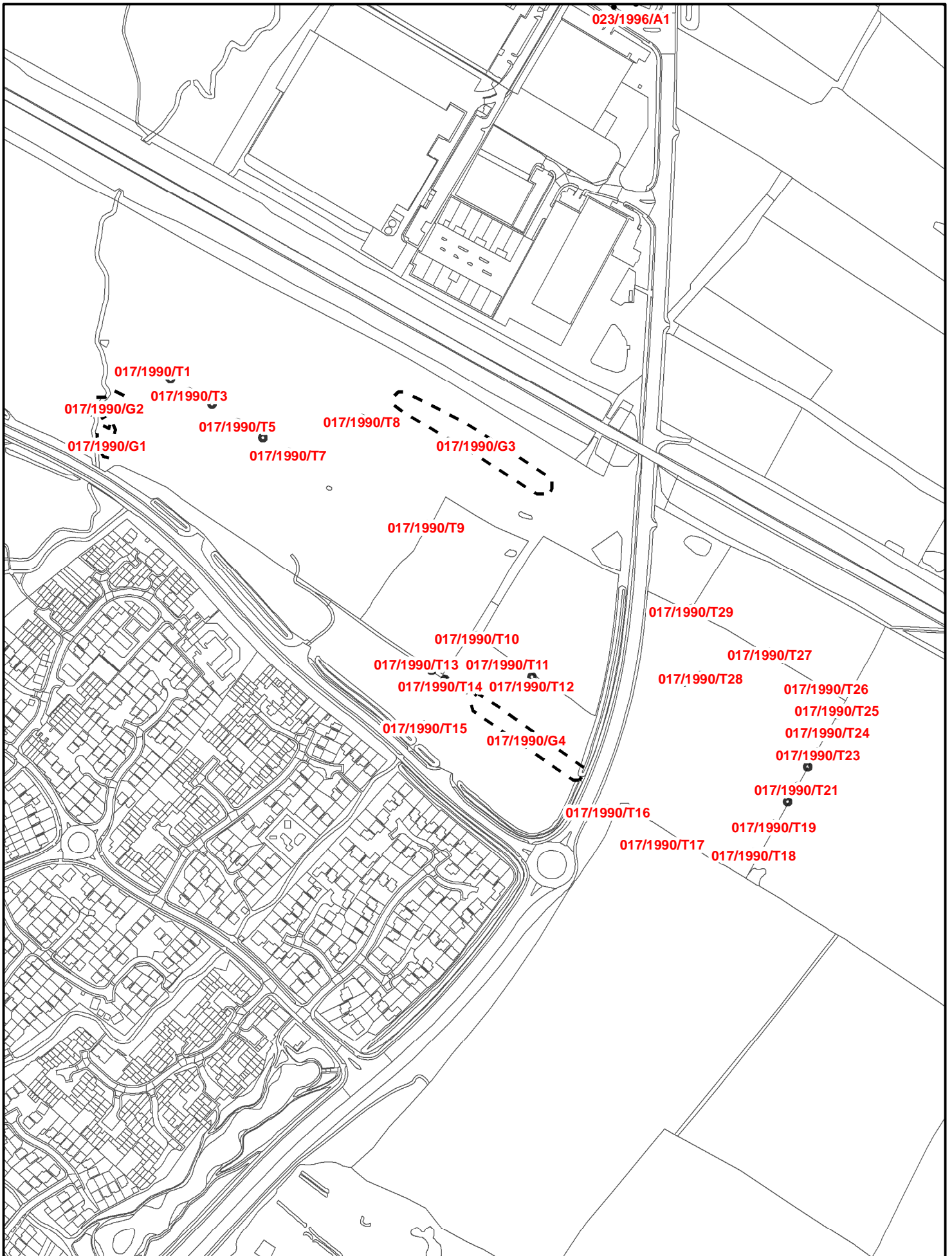
**GIVEN** under the Common Seal of the

. Cherwell District Council

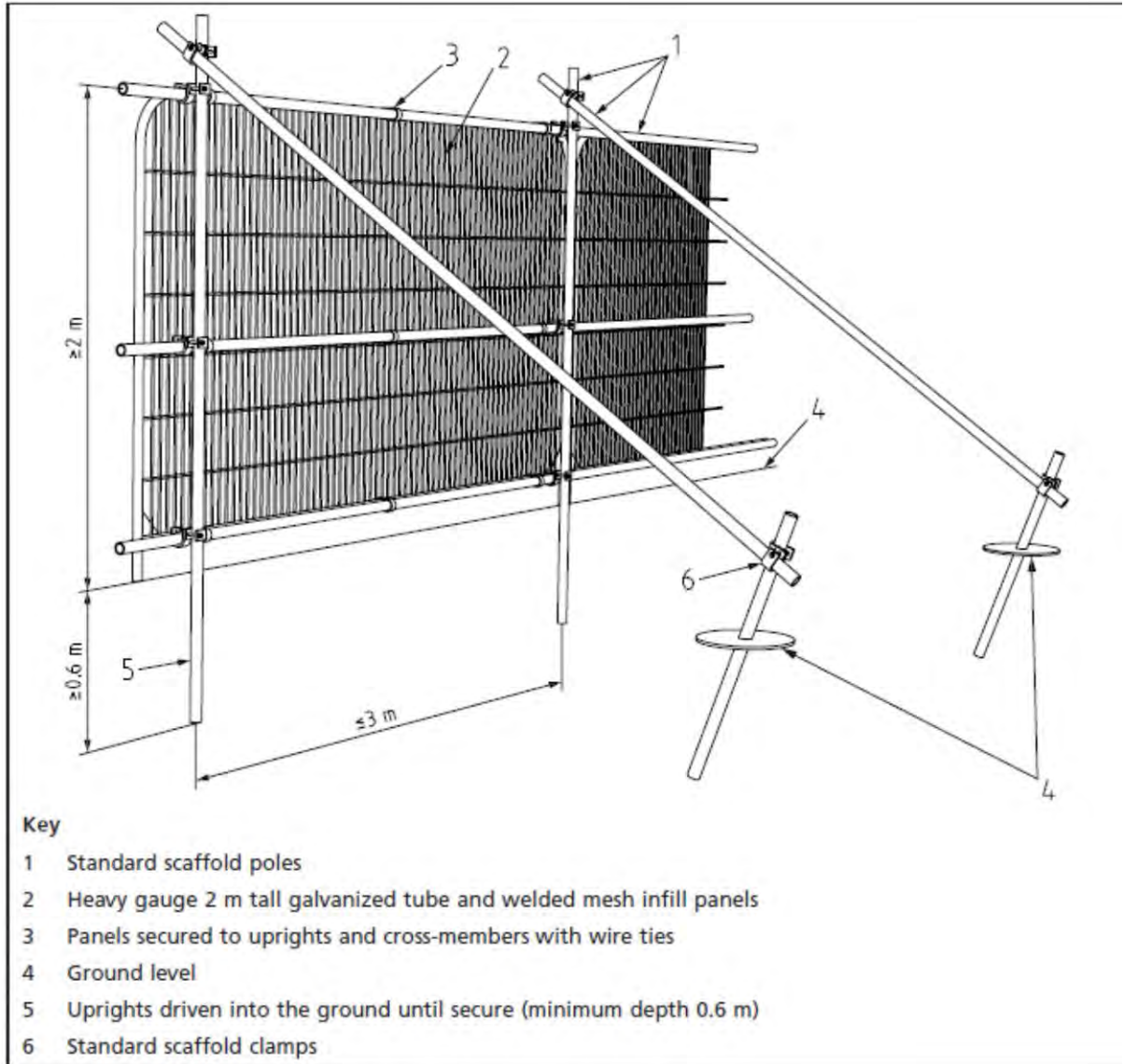
the 5th day of September 1990 .

Chief Executive





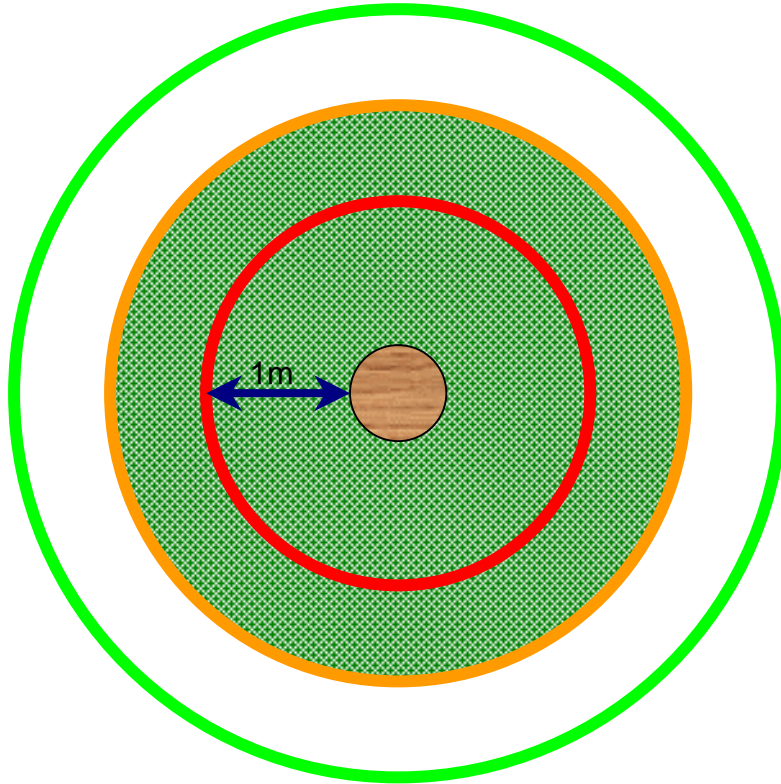
## Appendix EDP 4 Tree Protection Barrier on Scaffold 2.0m High (Extract from BS 5837:2012, Figure 2 'Protective Barrier')



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**Appendix EDP 5**  
**NJUG Vol. 4: Guidelines for the Planning, Installation and  
Maintenance of Utility Apparatus in Proximity to Trees (Issue 2)**

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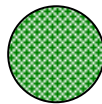


### TREE PROTECTION ZONE

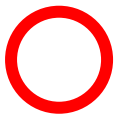
#### Key to Diagram



Trunk of Tree



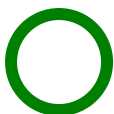
Spread of canopy or branches



**PROHIBITED ZONE – 1m from trunk.** Excavations of any kind must not be undertaken within this zone unless full consultation with Local Authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.



**PRECAUTIONARY ZONE – 4 x tree circumference.** Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with Local Authority Tree Officer if in any doubt.



**PERMITTED ZONE – outside of precautionary zone.** Excavation works may be undertaken within this zone however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.



## NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2

### DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

### PROTECTING ROOTS - DO'S and DON'TS

There are three designated zones around a tree each of which has its own criteria for working practices.

#### THE PROHIBITED ZONE

- Don't** excavate within this zone.
- Don't** use any form of mechanical plant within this zone
- Don't** store materials, plant or equipment within this zone.
- Don't** move plant or vehicles within this zone.
- Don't** lean materials against, or chain plant to, the trunk.
- Do** contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.
- Do** protect any exposed roots uncovered within this zone with dry sacking.
- Do** backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.
- Do** notify the local authority tree officer or the tree's owner of any damage.

#### THE PRECAUTIONARY ZONE

- Don't** excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.
- Don't** cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.
- Don't** repeatedly move / use heavy mechanical plant except on hard standing.
- Don't** store spoil or building material, including chemicals and fuels, within this zone.
- Do** prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
- Do** backfill the trench with an inert granular material and top soil mix. Compact the backfill with care around the retained roots. On non highway sites backfill only with excavated soil.
- Do** protect any exposed roots with dry sacking ensuring this is removed before backfilling.
- Do** notify the local authority tree officer or the tree's owner of any damage.

#### THE PERMITTED ZONE

- Don't** cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.
- Do** use caution if it is absolutely necessary to operate mechanical plant within this zone.
- Do** prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
- Do** protect any exposed roots with dry sacking ensuring this is removed before backfilling.
- Do** notify the local authority tree officer or the tree's owner of any damage.