



Broad Oak Place Whiteknights Campus, University of Reading

Habitat Management Plan

Pursuant to Condition 6(d)

Final Report
November 2017

P14/42-2A



Broad Oak Place Habitat Management Plan

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Broadoak Place

Habitat Management Plan

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Broad oak Place

Habitat Management Plan

1 INTRODUCTION

Planning Context

- 1.1 Reading Borough Council has granted full planning permission for the erection of ten residential units (to be known as Broad oak Place) at 1A Upper Redlands Road, on the University of Reading's Whiteknights Campus.
- 1.2 This document, prepared by Ecological Planning & Research Ltd on behalf of the University of Reading, presents a plan for the management and maintenance of reinstated and retained habitats within an area of wooded open space directly to the south of Broad oak Place, pursuant to the requirements of planning condition 6(d).

2 ENVIRONMENTAL & ECOLOGICAL CONTEXT

Introduction

- 2.1 This section provides a summary of baseline environmental and ecological conditions at Broadoak Place, as a means to inform its ongoing management.

Physical Context

Location

- 2.2 Broadoak Place lies toward the northern extent of Whiteknights Campus, Reading. Beyond the parkland landscape of the campus, the broader landscape context is largely urbanised.
- 2.3 The area of wooded open space at Broadoak Place lies directly to the south of the residential development, occupying some 0.2ha. **Appendix 1** indicates the area of management responsibility with which this document is concerned.

Existing Habitats & Flora

- 2.4 The existing woodland is of relatively recent origin, and has a mixed broadleaved character, including young and mature Oak, Ash, Beech, Horse Chestnut, Red Maple, Lime and Sycamore trees, above an understorey of Hawthorn, Rowan, Bamboo, Buddleia and Holly. Ground flora is sparse, and largely comprises Ivy and Bramble.
- 2.5 A car park, encompassed by a narrow verge of species-poor grassland, distinguished by occasional forbs including Bird's-foot Trefoil and Red Clover, lies to the south-west of the site.

Habitat Reinstatement Proposals

- 2.6 As fully detailed within **Appendix 2**, woodland habitat will be reinstated within the footprints of two crane mats employed during the construction phase. These areas will be planted with a prescribed mixture of standard trees and shrubs, including Hornbeam, Hawthorn, Rowan, Hazel, Alder Buckthorn and Guelder Rose.

Biodiversity Context

- 2.7 At the national level, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services* (DEFRA, 2011) provides an overarching biodiversity strategy. The NERC Act 2006 places a duty on local authorities to have due regard to biodiversity when exercising their normal functions, and the conservation of habitats and species of 'Principal Importance' listed under Section 41 of the NERC Act constitutes a material consideration in the planning process. Habitat management at Broadoak Place has the potential to deliver enhancements for mixed broadleaved deciduous woodland, a Section 41 habitat, and associated Section 41 species, such as the Stag Beetle.
- 2.8 At the county level, the *Natural Environment in Berkshire: Biodiversity Strategy 2014-2020* identifies locally deliverable objectives that will promote the achievement of national outcomes for biodiversity. The proposals for habitat management at Broadoak Place have the potential to make a positive contribution towards *Objective 1.15: Promote better management of our woodlands*.

2.9 At the local level, nature conservation objectives are promoted through a series of Habitat and Species Action Plans set out in the *Reading Biodiversity Action Plan (BAP; 2006)*. The proposals for habitat management at Broadoak Place have the potential to make a positive contribution towards actions prescribed under the Broadleaved Woodland Habitat Action Plan (HAP), including the achievement of aspirations to:

- Have active management plans for all public woodlands;
- Improve the diversity of species and tree age structure in all woodlands;
- Encourage natural regeneration of woodlands selecting for native species;

and actions prescribed under the Stag Beetle Species Action Plan (SAP), including aspirations to:

- Promote sympathetic management of habitat at appropriate sites to encourage increase and spread of species; e.g. the retention of tree stumps in/or the ground.

Management Context

2.10 Broadoak Place stands within the University of Reading's Whiteknights Campus, within which landscape management is guided by the *Whiteknights Campus Habitat Management Plan 2015-2020* (WCHMP). Broadoak Place falls within a zone identified in the WCHMP as 'Upper Redlands Road Copse', within which recommended works include:

- Continuing to manage remaining areas of Japanese Knotweed; and
- Thin planting to achieve 3-4m spacing.

2.11 The WCHMP in turn reflects principles set out in the University's Biodiversity Policy, which includes an aspiration to

"Implement sympathetic management techniques for grounds and other maintenance activity to reduce the impact on wildlife, to stimulate natural habitat and encourage native species."

2.12 Although this document provides a discrete local management plan for Broadoak Place, it is nevertheless cognisant of the overarching principles and objectives set out in the University's Biodiversity Policy and the WCHMP.

3 AIMS & OBJECTIVES

3.1 Ongoing landscape management at Broadoak Place will be directed by two principal aims:

- 1) To promote biodiversity through conservation management, in accordance with local biodiversity strategy targets; and
- 2) To promote amenity, through maintaining naturalistic areas of public space in a safe, accessible and attractive condition.

3.2 Each of these principal aims is underpinned by a series of more specific objectives:

- 1.1) To promote the successful establishment of reinstated habitats;
- 1.2) To enhance the naturalness and diversity of habitats;
- 1.3) To enhance habitat suitability for wildlife;
- 2.1) To maintain public safety;
- 2.2) To maintain accessibility; and
- 2.3) To maintain attractiveness.

4 MANAGEMENT & MAINTENANCE

Introduction

- 4.1 This section provides guidance on aftercare required to ensure the successful establishment of reinstated habitats at Broadoak Place, and ongoing management work that will be undertaken to maintain the amenity and biodiversity value of both reinstated and retained habitats.

Management Actions

- 4.2 Management actions, categorised with reference to the aims and objectives described in **Section 3**, are set out in **Table 4.1** below.

Responsibility for Management

- 4.3 The University of Reading Estates and Facilities Department will be responsible for the delivery of actions specified in this management plan.

Table 4.1: Broadoak Place Habitat Management Actions

Aim	Objective	Action	Timing
1. Promote biodiversity	1.1 Promote successful establishment of reinstated habitats	Subject to localised rainfall, regularly water newly planted trees, applying 20l per visit for large Hornbeam, 15l per visit for other trees, and 5l per visit for shrubs	Thrice weekly until September, in the first growing season after planting
		Reduce weed competition by hand-weeding around newly planted trees and shrubs	Biannually, in mid-summer and mid-autumn, for at least three years after planting
		Annual review of establishment, to inform replacement planting requirements and continued approach to weed and herbivory control	Annually, in autumn, for at least three years after planting
		Replacement planting	Annually, November to March, as required for at least three years after planting
	1.2. Enhance the naturalness and diversity of habitats	Inspect for the presence of pernicious invasive weeds (particularly Japanese Knotweed) and implement appropriate measures for the control and removal thereof	Ongoing periodic assessment and remediation
		Prevent further Sycamore development by hand-pulling seedlings	Annually, in summer or early autumn
		Review potential for gradual renewal of Sycamore standards, in order to reduce overall tree density to 3-4m spacing, and promote native species tree and ground flora regeneration	Biennial review of woodland composition
		Coppice a maximum of five individual specimens of understorey shrub species (Rowan, Hawthorn, Holly) per year, in order to promote structural diversity and ground flora diversification	Annually, November to February
	1.3. Enhance habitat suitability for wildlife	Retain standing deadwood to the extent that this is compatible with safety considerations	As required
		Retain tree stumps in situ and retain woody arisings on site in the form of log piles or densely stacked brash piles	As required

Aim	Objective	Action	Timing
2. Promote amenity	2.1. Maintain safety	Assess tree safety and prescribe remedial works as required	Ongoing periodic safety survey in accordance with University of Reading Tree Safety guidance
	2.2. Maintain access	Assess navigability of paths and prune back encroaching / overhanging vegetation as required	Ongoing periodic assessment and remediation
		Strim grass verge around car park	Annually, in early autumn, or as required to maintain accessibility
	2.3. Maintain attractiveness	Remove and dispose of tipped waste and loose litter	Ongoing periodic assessment and remediation



Notes

RA Area omitted from Halls Mar		
Maintenance shown on		
drawing		
16		
Rev	Description	DATE
1	Initial	1/10/11
2	Revised	22/06/11
3	Revised	22/06/11
4	Revised	22/06/11
5	Revised	22/06/11
6	Revised	22/06/11
7	Revised	22/06/11
8	Revised	22/06/11
9	Revised	22/06/11
10	Revised	22/06/11
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96	Revised	22/06/11
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99	Revised	22/06/11
100	Revised	22/06/11



Facilities Management Directorate,
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Building / Childs Halls

Project	Areas within Halls
Title	Maintenance
Woodland, Copse, Tree	Groups and Large Shrubs

Drawn	KW	Date	22/06/11
Job Number	1155268	Scale	NTS
Building No.	Code	Drawing No.	Rev.
U998	B	0042	RA

ARBORICULTURAL METHOD STATEMENT

REPLACEMENT TREE PLANTING (REFER TO PRIMARY TPP FOR ALL OTHER MATTERS)

A) PRELIMINARY MATTERS

- No plant access is permitted for planting operations within the RPAs of retention trees, excepting only where appropriate temporary ground protection has been installed
- Trees for removal within the RPA of retention trees shall have their stumps ground out (by tree contractors)
- Stumps from felled trees not in proximity to retention trees (beyond RPAs) can be grubbed out
- Operatives to be briefed by FLAC on the precautions to be observed for working within the RPA

B) REMOVAL OF PHYSICAL TREE PROTECTION MEASURES

- To enable planting activities tree protection fencing (TPF) shall be removed to allow access and working space for the subject areas. If construction operations are still ongoing then TPF not directly affecting landscaping works is to be retained.
- The Temporary Ground Protection (TGP) that lies within the areas for planting shall be removed so as to minimize traffic movement upon unprotected ground, working backwards across the TGP. Once removed there must be no plant or vehicle movements over the RPAs formerly protected.

C) PROHIBITIONS & PRECAUTIONS

- Landscaping operations necessitate access and activity within the root protection areas (RPAs) of retained trees. Within this zone, the following activities are strictly prohibited during planting works (other than as described below):
 - Excavation / lowering of levels into rootable soil: removal of surface organic matter using hand tools is acceptable; general scraping or reduction in depth of topsoil is not, tree planting pits to be excavated manually using hand tools
 - Roots >25mm in diameter are to be retained, roots <25mm in diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or of 25 mm diameter and over should be severed only following consultation with an arboriculturist, as such roots might be essential to the tree's health and stability.
 - Operation, transit or storage of plant, and storage of materials, including demolition arisings, other than on ground protection
 - Storage or handling of any chemical substance injurious to trees, including fuels, oils, lubricants and cement washings

D) GROUND PREPARATION

- Temporary ground protection within the areas for planting must be carefully removed, in a sequential manner, working backwards across the protection without causing compaction of the ground within RPAs. This process will restore the original ground levels. Some degree of compaction may have occurred but this should only be shallow and within the uppermost horizon of the soil
- Surface compaction is to be re-mediated by simply forking the ground, manually with hand tools, to break any compacted soil to improve conditions for plant growth, moisture permeability and gaseous exchange. When planting, the soil around the planting position for each shrub and plant must be broken and worked to allow good contact between soil and roots without voids or impenetrable compacted lumps of soil. Any foreign bodies within the soil are to be removed.

E) PLANTING

- Planting work is to be undertaken by appropriate, experienced personnel in accordance with the provisions below:
 - Species - As listed in schedule on plan
 - Stock - Containerized
 - Size - As listed in schedule plan
 - Locations - As marked on the plan provided
 - Timing - Trees and shrubs will be containerized stock, although planting of containerized trees is possible throughout the year summer planting requires greater aftercare and watering to prevent early losses. For this reason dormant season planting from November through to the end of February/ beginning of March is preferable (i.e. before the trees become active). If planting is to be undertaken in advance of the dormant season regular watering must take place to reduce the potential for plant losses (see watering schedule below).

F) AFTERCARE

- Maintenance will be necessary during the establishment period to minimize competition by weed species and to replace losses, natural or otherwise
- In the first two years weeding must take place twice, in mid Summer and mid Autumn. The best method will be by hand because the weed plants will be relatively new and easy to pull out of the ground
- At successive visits for weeding an assessment of any losses can be made and used to inform the replacement planting in the next planting season
- Any losses are to be replaced (beating up) in the next planting season from November to the end of March but avoiding prolonged periods of waterlogging, frozen ground or snow cover

G) WATERING

- If planting takes place before the dormant season (Nov-Mar) a program of regular watering is to be carried out to avoid drought stress losses. Watering must occur 3no. times per week from the time of planting to the end of September, at the following volumes per tree and shrub sizes:
 - CBLg 20 litres per visit
 - CB, CM, SA 15 litres per visit
 - All shrubs 5 litres per visit
- Localized rainfall may be a consideration but normal rainfall cannot be relied upon to provide sufficient water for new plants during the growth season. Any losses will need to be replaced within a timeframe determined by planning conditions so successful establishment is important.

Notes

- Do not scale off dwg - refer to tree survey data schedule for crown spreads etc
- Tree group outlines follow the topo survey base
- Drawn to N unless otherwise indicated



Client
Knowles & Son (Oxford Ltd.)

Instruction
Upper Redlands Road

Instruction ref.
CC31-1036

Dwg title
Replacement Tree Planting Plan

Dwg no.
31-1036.07 - A

Rev. A Date
10.08.17

Scale
1:250 @ A1

Quality & value grades:

Category A High

Category B Moderate

Category C Low

Category U Unretainable

Crown outline coding:

Retained trees

Indicative tree root protection area (retention trees only)

No-dig surface

Temporary ground protection to be replaced with No-Dig surface

Area to receive new tree and shrub planting

New tree position with species code

New shrub position with species code

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Table 1 – Tree and shrub planting schedule

Type of plant	Species code	Common name Cultivar	Botanical name	Size (either stem girth/cm or pot size/litres)	No. of plants Area A	No. of plants Area B	No. of plants per species A+B
Trees	CB(Lg)	Hornbeam	<i>Carpinus betulus</i>	16-18cm	1	1	2
	CB	Hornbeam	<i>Carpinus betulus</i>	12-14cm	2	1	3
	CM	Hawthorn	<i>Crataegus monogyna</i>	10-12cm	1	2	3
	SA	Rowan	<i>Sorbus aucuparia</i>	12-14	3	3	6
Shrubs	CA	Hazel	<i>Corylus avellana</i>	3L	8	13	21
	RF	Alder buckthorn	<i>Rhamnus frangula</i>	3L	8	11	19
	VO	Guelder rose	<i>Viburnum opulus</i>	3L	8	11	19
Number of plants per area/s					31	42	73