163 Iverson Road, West Hampstead.

Landscape and Habitat Management Plan

Job No. 130324

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INTRODUCTION

1.1 The Ecology Consultancy was commissioned by Waugh Thistleton to outline the details of a long-term management plan for the development at 163 Iverson Road, West Hampstead, London. These services are required for the submission to the Local Planning Authority in order to discharge planning condition 10.

1.2 This management plan will serve to secure appropriate features that will enhance the wildlife value of habitats on site and improve overall biodiversity within the area.

SITE CONTEXT

1.3 The site is located at 163 Iverson Road, West Hampstead, London Borough of Camden. Immediately north of the site, just outside the site boundary, is an area of scattered semi-mature trees and a railway line. Residential housing and light industrial units surround the site to the south, east and west. The A5 Kilburn High Road lies to the west of the site and the A41 Finchley Road to the east. The land is not located within any statutory or non-statutory wildlife site. The National Grid Reference at the centre of the site is TQ 253 847.

1.4 The development proposals consist of demolishing the disused warehouse on site and constructing a five-storey, 34-unit residential development in its place. Nine trees on or immediately adjacent to the boundary were identified in the Arboricultural Report[1] as

[1] AP Arboriculture, 2011. Tree Survey Schedule. Reference: APA/AP/2011/062

proposed for removal. All trees to the north of the site are to be pruned back to the boundary line.

1.5 The site does not form part of any statutory or non-statutory designated nature conservation site. There is one statutory designated nature conservation site within 1km of the site; Westbere Copse statutory Local Nature Reserve located 990m north-west of the site.

1.6 There are ten Sites of Importance for Nature Conservation (SINC) within 1km of the site; the closest of which is West Hampstead Railsides, Medley Orchard and Westbere Copse SINC Borough Grade I, which lies adjacent to the northern boundary of the development site. All semi-mature trees forming the northern boundary with the railway line will be retained and pruned, which will protect the adjacent SINC from any disturbance during scheduled works.

PREVIOUS ECOLOGICAL SURVEYS

1.7 The ecological survey[2] states that the habitats on site consisted of a disused warehouse, hard-standing, scattered semi-mature trees and a section of hedgerow. These habitats were considered to be of value within the immediate vicinity of the site only.

1.8 The disused warehouse had several features of bat potential and was assessed as having moderate potential to support roosting bats. As such, further bat emergence surveys were recommended (The Ecology Consultancy, 2011). Subsequent bat emergence surveys[3] found that bat activity at the site was low. The site did not contain any features that are commonly associated with commuting or foraging bats; however, there is one tree line outside of the northern site boundary, where bats were occasionally recorded. This tree line is to be retained. While suitable roosting features were noted on the warehouse, the survey findings suggest that they were not in use by bats. The site is also well-lit from the south and northwest, which would deter some species of bats from this area. Due to the conditions of the site and lack of features of use to foraging/commuting bats, it was advised that any additional features, such as bat boxes, would be unlikely to be successful and not practicable in this instance. However, recommendations with regards to planting that would be beneficial in enhancing and strengthening a commuting and/or foraging route were provided in the report.

[2] The Ecology Consultancy, 2011. Ecological Assessment. Reference: 111040.
[3] The Ecology Consultancy, 2012. Bat Dusk Surveys. Reference: 111097.

1.9 Scattered semi-mature trees and scrub on site were considered to have high potential to support nesting and foraging birds (The Ecology Consultancy, 2011). A nesting bird survey[4] advised that hedgerow and scattered semi-mature trees to the south of the site adjacent to Iverson Road, where a blackbird nest was located, should be retained until the young have fledged the nest. In addition, the semi-mature tree to the north of the site adjacent to the railway line, where a carrion crow nest was located, should be retained within a 5m buffer, again until young have fledged the nest. This is to ensure that levels of disturbance surrounding the nest are kept to a minimum, preventing nesting birds from abandoning their nests, which potentially could comprise a breach of the legislation (Wildlife and Countryside Act 1981 (as amended)). It was advised that an update nesting bird survey should be carried out later in the year to ensure the young have fledged the nest, before the remaining vegetation clearance can be undertaken. Recommendations for improving bird nesting habitat on site post-development are provided within the nesting bird survey report (The Ecology Consultancy, 2012) and within the bat and bird box memo report[5].

1.10 Japanese knotweed was identified on-site at the northern boundary (The Ecology Consultancy, 2013).

AIMS OF THE MANAGEMENT PLAN

1.11 The general aims of management proposals provided below are to:

- Create conditions suitable for London and Camden Biodiversity Action Plan (BAP) species and habitats;
- Enhance habitats to provide conditions suitable for common wildlife;
- Follow relevant British Standards and Codes of Practice, and;
- Select plants of known wildlife value.

1.12 The specific aims of the management proposals provided below are as follows:

- Retention and enhancement of vegetation of value to feeding and nesting birds;
- Provision of bird nesting opportunities;
- Provision of wildflowers to increase flowering of plants and grasses and foraging for invertebrates;

[4] The Ecology Consultancy, 2012. Nesting Bird Survey. Reference: 120198.
[5] The Ecology Consultancy, 2013. Bird and Bat Box Specification. Reference: 130324.

- Planting and management of native shrub plantings to provide increased habitat structure and foraging opportunities, and;
- Provision of additional dead wood habitat for invertebrates.

CONSTRUCTION RELATED TASKS

1.13 **Vegetation clearance to avoid bird nesting season:** In order to avoid any potential offences relating to nesting birds (Newton et al, 2004), it is recommended that all vegetation clearance is undertaken outside of the main bird nesting period which runs from March to late August inclusive. Nesting birds may occur outside of this period and, therefore, if works are scheduled in the early spring or late summer then a pre-construction check is recommended. If active nests are found then clearance of the nest site and a buffer of surrounding vegetation must be delayed until the young have fledged.

1.14 **Japanese knotweed control:** All stands of Japanese knotweed on site should be identified by a specialist and clearly demarcated. Care should be taken not to spread plant fragments during the construction process and thus contravene national legislation. If removal of the species from the site is planned, then this should be carried out in accordance with the Environment Agency's Japanese Knotweed Code of Practice which can be found at the following website: http://www.environment-agency.gov.uk/static/documents/Leisure/japnkot_1_a_1463028.pdf.

HABITAT MANAGEMENT

General considerations

1.15 It is important that biodiversity is incorporated into the landscape plan for the whole of the development. Considerations include incorporating nectar rich plant species to attract pollinating invertebrates and berrying species to provide food for birds, and managing vegetation to minimise disturbance to wildlife. These issues should be developed as part of the site maintenance plan, in consultation with on-site staff.

1.16 The following habitat management guidelines have been prepared as outline recommendations for the enhancement of the conservation value of the site at 163 Iverson Road.

1.17 **Retention of trees and hedgerows:** The protected species assessment (The Ecology Consultancy, 2011) identified scattered semi-mature trees and hedgerows on site, with high potential to support breeding birds.

1.18 During the nesting bird survey (The Ecology Consultancy, 2012) an active blackbird *Turdus merula* nest was observed within the hedgerow and scattered semi-mature trees to the south of the site adjacent to Iverson Road. These habitat features are due to be removed to facilitate the development works. Therefore, it is recommended that the hedgerow and scattered semi-mature trees should be retained throughout the breeding bird season (March until late August inclusive) until the young have fledged the nest.

1.19 An active carrion crow *Corvus corone* nest was observed in one of the poplar trees (amongst scattered semi mature trees) just offsite to the north and adjacent to the railway line. Those semi-mature are due to be retained in accordance with development proposals, but overhanging branches will be trimmed back to facilitate the erection of scaffolding within the development site. A 5m buffer must be erected surrounding the semi-mature poplar tree and retained until young have fledged the nest. This is to ensure that levels of disturbance surrounding the nest are kept to a minimum, preventing nesting birds from abandoning their nests. The semi-mature trees offer a linear feature that could be used by bats for foraging and as a navigation aid to commuting.

1.20 Those retained boundary trees to the north of the site adjacent to the railway line should be protected during the construction phase in accordance with British Standards (BS) 5837:2012 Trees in relation to design, demolition and construction.

1.21 **Selection and appropriate management of ornamental trees and shrubs:** Where ornamental hedges and shrub planting are proposed it is recommended that species producing abundant nectar rich flowers or berries palatable to birds are used[6].

1.22 **New tree, shrub and climber planting:** Landscape contractors should be familiar with the National Plant Specification and follow relevant British Standards and Codes of Practice, including;

[6] http://www.rhs.org.uk/Gardening/Sustainable-gardening/Plants-for-pollinators

- BS 3882:1994 Specification for topsoil
- BS 3936-1:1992 Nursery Stock – Specification for trees and shrubs
- BS 4043:1989 Recommendations for transplanting root balled trees
- BS 4428:1989 Code of Practice for general landscape operations (excluding hard surfaces)

- Where possible, trees, shrubs and climbers should be planted during the dormant season. This is essential for all planting which is not container grown. All planting should follow established horticultural practices. Sections of plastic piping should be inserted to newly planted trees and shrubs to facilitate watering.
- Newly planted areas should be mulched with shredded bark or woodchip to conserve moisture, suppress weed growth, provide cover for soil dwelling invertebrates and foraging for birds and a growing medium for fungi.
- Plants should be watered in the summer months in the first two years after planting.
- Manual weeding should be carried out annually to ensure that invasive and unwanted species such as butterfly bush *Buddleja davidii*, thistles *Cirsium spp.,* docks *Rumex spp*. and field bindweed *Convolvulus arvensis* are removed. This is particularly important whilst the landscape planting is establishing, but once established less invasive annual species could be left periodically to increase the biodiversity of the site.
- Organic matter (decomposed municipal waste, well rotted manure etc.) should be incorporated in to the soil to increase nutrient levels. This will also improve the soil structure and its ability to retain plant nutrients over a longer period. Where fertilizers are used they should be organic and peat free.
- The removal/replacement of any dead or diseased tree/shrubs should be timed to avoid the main breeding bird season (March-late August inclusive).

1.23 **Pruning shrubs:** Approximately 50% of these plantings should be pruned in a given year with the remainder left until the following year to ensure that a good proportion of flowering growth is present in each season. With exception of spring flowering shrubs that flower on the current season's growth, works should be carried out in the late winter when disturbance to wildlife and removal of flowering material providing valuable forage will be minimal. Where practical, any arisings from the shrubs/climbers should be shredded and/or composted and placed back on the soil surface so as to improve the soil condition.

HABITAT AND VEGETATION MANAGEMENT

Bird boxes

1.24 **Install on buildings/ green walls/ trees:** Refer to bat and bird box memo report[7] for suggested locations and specifications of appropriate bird boxes.

1.25 Schwegler general bird nesting boxes are recommended for use by common garden bird species. Schwegler products are supplied by Jacobi Jayne & Company. The following general purpose bird box is recommended:

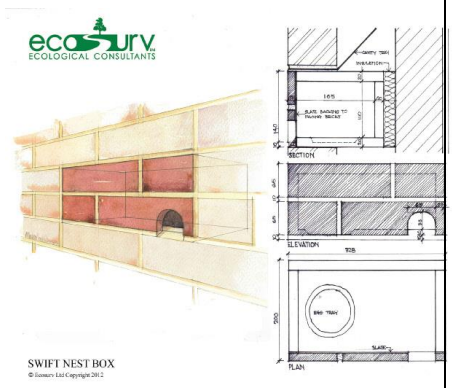
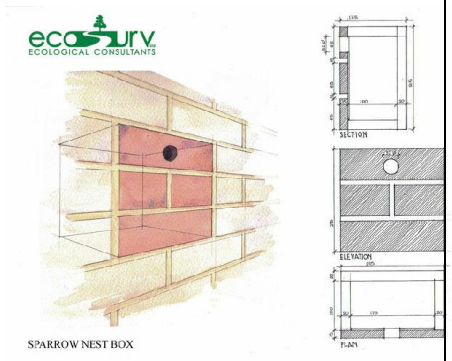
Example	Type	Target species	Location
	Nest Box 1B Hole-fronted • 26mm entrance hole • 32mm entrance hole	Multi-purpose, including; great, blue, and coal tit, redstart, nuthatch, and house sparrows.	Suitable buildings with climbers/green walls. Alternatively trees/shrubs - attached to a tree trunk or hung from branches.

1.26 General bird boxes should be sheltered from prevailing wind, rain and strong sunlight. They should be positioned at least 2m, and preferably 4m, from the ground and angled forwards to give additional shelter to the entrance. Boxes should be located on mature retained trees around the site, or on the west facing green wall in the western section of the site within vegetation and close to good foraging habitat and shrub cover.

1.27 Installation of nest boxes should ideally be carried out in autumn after the main breeding bird season (generally accepted to be from March to late August inclusive) has finished. General purpose bird boxes should be inspected and cleaned annually (or at least bi annually) after the nesting season. If they remain unused after two years consideration should be given to moving them to a different location.

[7] The Ecology Consultancy, 2013. Bird and Bat Box Memo Report.

1.28 Swift and sparrow boxes will be integrated into external building walls and should be installed at 5 metres (m) from the ground, under the roof in the top course of brickwork. EcoSurv[8] swift and sparrow boxes will be appropriate for the building design and are recommended as they follow appropriate criteria for internal space and materials used as specified by the Swift Conservation Trust[9]. The following EcoSurv swift and sparrow boxes are recommended:

Example	Type	Target species	Location
	EcoSurv Swift Nest Box	Swift	Integrated in external brick wall, on north facing façade.
	EcoSurv Sparrow Nest Box	House sparrow	Integrated in external brick wall on north-west facing façade to Block 1B.

Bird feeders

1.29 The installation of a selection of bird feeders on trees and on posts at various locations throughout the site is recommended. They can be hung on trees and shrubs, ideally in small groupings, to limit cover for predators, or may be hung from metal stands. Bird feeders should not be situated close to nest boxes as the availability of food may encourage predation or competition from other birds. Feeding can be continued throughout the year but

[8] http://www.ecosurv.co.uk/index.html
[9] http://swift-conservation.org/swift_bricks.htm

old excess food must be removed to discourage scavengers. Feeders should be cleaned occasionally and water should be provided when conditions are cold or dry.

A variety of models of bird feeders are available including Multi-Buy Bird Feeders & Bird Food available from Jacobi Jane (not illustrated) which may be suitable.

Climbers

1.30 Climbing plants should be planted in the autumn with adequate soil preparation and aftercare until established. Initial training and pruning is recommended to provide good cover over supports. Once established dense growth should be allowed to develop to provide cover and nest sites for birds. Any necessary pruning should be carried out in the autumn to avoid disturbing nesting birds and only a proportion (approximately 1/3) should be cut in a year to avoid removing all 1 year old wood likely to flower and fruit in the following year.

Ground cover planting

1.31 Ground cover plants should be planted in the autumn with adequate soil preparation and watering for two years after planting and as required in drought conditions. Plantings should be mulched with compost/leaf mould produced on site in the late winter when the soil is thoroughly wet. Old flowering stems should be left in situ until early spring of the following year to provide foraging for birds and hibernation sites for invertebrates. Perennial weeds should be dug out regularly.

Herbaceous perennials and bulb planting

1.32 Management as for ground cover planting above.

Invertebrate nesting/hibernating structures

1.33 It is recommended that habitat walls[10] are installed on the green roof to increase the wildlife value of this feature. These panels provide valuable nesting opportunities for invertebrates and are constructed from lighter habitat or forage materials including sheep's wool, reed bundles, bamboo bundles and heavier materials such as cut logs, stacked bark and piled loose stone.

Example of a habitat wall in a section of stone/shingle on top of a green roof.

Log piles

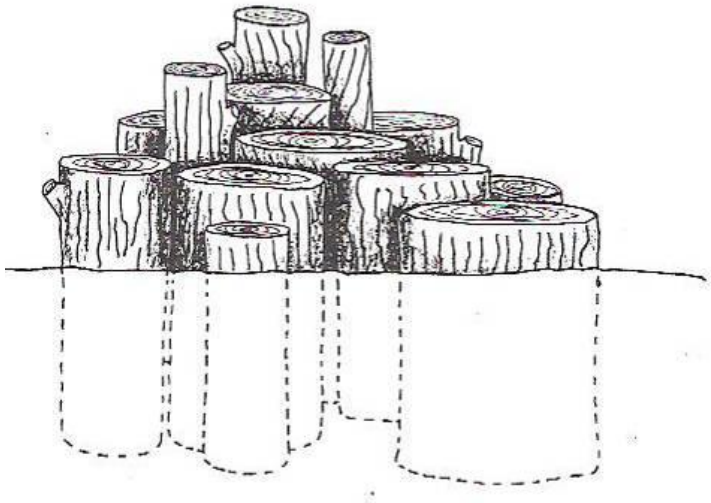
1.34 At least one log pile should be created from timbers felled at the site. As well as supporting many kinds of invertebrates, log piles also provide good foraging areas for birds such as robins and wrens. The log piles could also provide hibernation sites for amphibians and hedgehogs.

1.35 Log piles should be placed in shaded and semi-shaded boundary tree edge locations to provide differing levels of warmth and humidity. Two options for stacking logs are shown below, the second option is more stable and should include buried deadwood of possible value to stag beetle *Lucanus cervus*.

[10] http://greenroofshelters.co.uk/habitat-panels

Example of a log pile with logs that can be moved. Additional stability can be provided if needed by hammering posts into the ground at each end of the pile.

Example of a stag beetle loggery using timbers of 10-50cm diameter with bark attached and buried to depth of 60cm. Chipped wood can be included in the base or centre if the pile is large enough. Oak and beech are the best timbers but stag beetle will use timber from a variety of trees. (London Wildlife Trust 2000[11])



The five-year management plan below sets out the timing of the described management tasks.

[11] See London Wildlife Trust/Natural England stag beetle advice note for further information http://lwt.elmbrook.eu/LinkClick.aspx?fileticket=5mFAexmixeM%3d&tabid=176&mid=1207&language=en-GB

Table 1 – Management Plan Work Programme

	Time of year to conduct tasks				Post-construction				
Management tasks	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Year 1	Year 2	Year 3	Year 4	Year 5
Vegetation clearance to avoid bird nesting season	✓			✓					
Habitat and vegetation management									
Bird boxes									
Install on trees and buildings	✓				✓				
Clean and repair boxes every two years				✓		✓		✓	
Bird feeders									
Install a selection if bird feeders on trees and on posts.				✓	✓				
Fill bird feeders as required throughout year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clean and maintain bird feeders throughout the year as required	✓	✓	✓	✓	✓	✓	✓	✓	✓
Climbers									
Plant climbers				✓	✓				
Water for two years following planting		✓	✓			✓	✓		
Train and prune as required (avoid bird nesting season)	✓			✓	✓	✓	✓	✓	✓
Compost bins									
Install compost bins	✓				✓				

	Time of year to conduct tasks				Post-construction				
Management tasks	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Year 1	Year 2	Year 3	Year 4	Year 5
Fill and empty as required						✓	✓	✓	✓
Ground cover planting									
Soil preparation and planting				✓	✓				
Water for two years following planting, then as required		✓	✓			✓	✓	✓	
Mulch planting with leaf mould/compost produced on site	✓					✓	✓	✓	✓
Weed control		✓	✓			✓	✓	✓	✓
Cut back dead vegetation from previous year	✓					✓	✓	✓	✓
Herbaceous perennials and bulb planting									
Soil preparation and planting				✓	✓				
Water for two years following planting, then as required		✓	✓			✓	✓		
Mulch planting with leaf mould/compost produced on site	✓					✓	✓	✓	✓
Weed control		✓	✓			✓	✓	✓	✓
Cut back dead vegetation of previous years	✓					✓	✓	✓	✓
Invertebrate nesting/hibernating structures									
Buy/make and install smaller breeding/hibernating	✓				✓				

	Time of year to conduct tasks				Post-construction				
Management tasks	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Year 1	Year 2	Year 3	Year 4	Year 5
structures suitable for hanging on trees or attaching to walls.									
Litter									
Clear on an ongoing basis	✓	✓	✓	✓	✓	✓	✓	✓	✓
Log piles									
Create log piles from any felled timber at the site	✓			✓	✓				
Shrub planting									
Soil preparation and planting				✓	✓				
Water for two years following planting		✓	✓			✓	✓		
Weed control		✓	✓			✓	✓		
Prune				✓		✓	✓	✓	✓

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