ARK ESTATES 2 LIMITED

ECOLOGYSOLUTIONS

Part of the ES Group

PROJECT UNION,
HAYES,
LONDON

Ecological Enhancement Strategy

November 2022
7854.EES.vf1

ecology solutions for planners and developers

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1. INTRODUCTION

1.1. Background & Proposals

1.1.1. Ecology Solutions was instructed by Ark Estates 2 Limited to provide ecological advice regarding Project Union, Hayes, London.

1.2. Site Characteristics

1.2.1. The site comprises a parcel of land within a busy industrial estate southeast of the centre of Hayes.

1.2.2. The site consisted of the former Vodafone offices (which have now been demolished) and the adjacent Abellio Bus Garage site. The Vodafone office area surveyed in 2020 comprised a single office building, hardstanding, amenity planting, grassland and scrub. The Abellio Bus Garage site comprises a single office / warehouse building and associated hardstanding, with amenity grassland and young trees around the boundary. The River Crane runs along the eastern boundary of the site, with the Grand Union Canal, towpath and associated scrub belt to the south.

2. BASELINE CONDITIONS

2.1. A habitat survey of the part of the site and land to the north was undertaken in May 2018. Owing to the intervening time and the addition of other areas of land including the former Vodafone office, River Crane and the Grand Union Canal, Ecology Solutions undertook an updated survey in March 2020 encapsulating the entirety of the site. The full details of which are contained within the Ecological Assessment[1].

2.2. Habitats

2.2.1. Three buildings (B1, B2 and B3) are present on site (see Plan ECO2). Building B1 is a small prefabricated building previously used as a gatehouse. It is a steel frame construction with a curved metal roof. Building B2, in the south-east of the site, was previously use as Vodafone offices. It is a modern building, with a mix of two to three storeys with a slanted corrugated metal roof. It is a brick construction with the upper levels dominated by large glass windows. Building B3, in the south-west of the site, is used as a bus repair garage by Abellio West London Ltd. It is a three-storey brick building with a pitched corrugated metal roof. The upper section of the building is clad with corrugated metal sheets.

2.2.2. The majority of the site comprises hardstanding represented by former car parks and infrastructure including a length of North Hyde Garden Road and associated footpaths.

2.2.3. The site supports small areas of amenity grassland. A strip of short-mown amenity grassland is present around the Abellio Bus Garage site and along North Hyde Gardens Road. Species present include Cat's-ear, Common Storks-bill *Erodium cicutarium*, Cranesbill *Geranium* sp., Daffodil *Narcissus* sp., Daisy, Groundsel, Mouse-ear, Perforate St John's-wort *Hypericum perforatum*, Round-leaved Cranesbill *Geranium rotundifolium*, Selfheal *Prunella vulgaris*, Scurvy-grass *Cochlearia* sp., Smooth Sow-thistle, Speedwell and Tufted Vetch *Vicia cracca*.

2.2.4. Areas of amenity planting are present along the boundaries of the site as well as within the car park areas. Species present include Ash *Fraxinus excelsior*, *Berberis* sp., Bindweed *Calystegia* sp., Cleavers, *Clematis* sp., Dogwood *Cornus sanguinea*, Creeping Thistle *Cirsium arvense*, English Elm *Ulmus minor*, European Gorse *Ulex europaeus*, Garlic Mustard *Alliaria petiolate*, Goat's-rue *Galega officinalis*, Hairy Sedge *Carex hirta*, Hazel *Corylus avellana*, Holly *Ilex aquifolium*, Ivy *Hedera helix*, Mexican Orange Blossom *Choisya ternate*, Common Nettle *Urtica dioica*, Silver Birch *Betula pendula*, Snowberry *Symphoricarpos albus*, Spanish Bluebell *Hyacinthoides hispanica*, Rose *Rosa* sp., Portuguese Laurel *Prunus lusitanica*, Sycamore *Acer pseudoplatanus*, Valerian *Valeriana officinalis*, Wild Privet *Ligustrum vulgare*, Willowherb, Wood Avens *Geum urbanum* and Yew *Taxus baccata*.

2.2.5. There is a dense area of scrub along the south-eastern boundary of the site associated with the River Crane that falls partly within the site boundary. Species present include Dogwood, Osier *Salix viminalis*, Goat Willow *Salix*

[1] Ecology Solutions (2020) *North Hyde Gardens, Hayes, London – Ecological Assessment*. Ref: 7854.EcoAs.vf7 [complete]

caprea, White Willow *Salix alba*, Plum *Prunus* sp., Ash *Fraxinus excelsior*, Elder *Sambucus nigra*, Beech *Fagus sylvatica*, Field Maple *Acer campestre* and Hazel. The ground flora is dominated by a layer of Ivy.

2.2.6. The River Crane runs along the eastern boundary of the site. The riverbanks are dominated by large Willow trees, which in summer will shade the majority of the river. Elder *Sambucus nigra*, Hawthorn, Bramble, Butterfly Bush and Ivy were also present. No emergent aquatic vegetation was noted in this section of the watercourse. There are large areas of fly-tipping along the banks as well as within the river itself.

2.2.7. Giant Hogweed *Heracleum mantegazzianum* and Japanese Knotweed *Fallopia japonica* were both recorded to be present along both sides of the riverbank, albeit outside of the red line boundary of the site.

2.3. Species

Bats

2.3.1. The three buildings on site do not offer any suitable opportunities for roosting bats as they lack suitable opportunities owing to the modern construction materials and design.

2.3.2. The main areas of the site are of very little interest to any locally present bat species, with only limited foraging habitat provided by the small areas of scrub and amenity planting.

2.3.3. The River Crane and Grand Union Canal offer far greater potential for foraging and dispersing bats.

Badgers

2.3.4. No Badger setts or field signs that could be attributed to this species were recorded within or immediately adjacent to the site. The site offers negligible opportunities for this species.

Otter

2.3.5. The River Crane and the Grand Union Canal do provide some potential for dispersing Otter *Lutra lutra*. However, the river and canal are subject to frequent light and noise disturbance. No evidence of Otter was recorded on site, and no records were returned for this species from the desk study. It is therefore considered highly likely that this species is not present in the locale and will therefore not be utilising the river or canal.

Water Vole

2.3.6. The River Crane and the Grand Union Canal do not provide any opportunities for Water Vole. The fast-flowing nature of the River Crane and the modified nature of the canal are not the favoured habitat of Water Vole. The high level of disturbance on both the river and the canal will also act as a deterrent for this species.

Hedgehog

2.3.7. No evidence of Hedgehog *Erinaceus europaeus* was recorded on site. The scrub, amenity planting and grassland areas do provide some opportunities for foraging, dispersing and hibernating Hedgehogs.

Birds

2.3.8. The amenity planting, scrub, trees and the vegetation associated with the river corridor provide good nesting and foraging opportunities for birds. An active Magpie nest was recorded in the vegetation associated with North Hyde Gardens Road during the March 2020 survey.

2.3.9. Wood Pigeon *Columba palumbus*, Goldfinch *Carduelis carduelis*, Ring-necked Parakeet *Psittacula krameria*, Magpie *Pica pica*, Dunnock *Prunella modularis*, Carrion Crow *Corvus corone*, Feral Pigeon *Columba livia*, Pied Wagtail *Motacilla alba*, Long-tailed Tit *Aegithalos caudatus*, Robin *Erithacus rubecula*, Herring Gull *Larus argentatus*, Blackbird *Turdus merula* and Black-Backed Gull *Larus* sp. were noted during the course of the survey. Common Moorhen *Gallinula chloropus*, Coot *Fulica atra* and Mute Swan *Cygnus olor* were recorded on the Grand Union Canal.

Reptiles

2.3.10. The site is not considered to offer any opportunities for reptile species given the current management regime of the grassland habitats.

Amphibians

2.3.11. No amphibians were recorded within the site during the survey work. The site does not support any suitable aquatic or terrestrial habitat for this group.

2.3.12. There are no off-site ponds within 250m of the site boundary. The Grand Union Canal and the River Crane do not support any suitable breeding opportunities for amphibians.

Invertebrates

2.3.13. Given the habitats present it is likely a limited number of common invertebrate species would be present within the site. However, there is no evidence to suggest that any rare or notable species would be present.

3. CREATED HABITATS

3.1. Extra Heavy Standard Trees and Specimen Shrubs

3.1.1. The provision of new extra heavy standard trees will offer increased future nesting opportunities for birds and foraging opportunities for bats. Species will include Field Maple *Acer campestre* 'Elegant', Alder *Alnus glutinosa*, Silver Birch *Betula pendula*, Hornbeam *Carpinus betulus* and Small-leaved Lime *Tilia cordata*.

3.2. Thicket Mix Planting

3.2.1. Native thicket mix planting will be located throughout the site. A large area of this will be located in the south of the site to act as a screen from the canal. Planting will comprise of Dogwood, Hazel, Hawthorn, Holly *Ilex aquifolium*, Blackthorn *Prunus spinosa*, Osier *Salix viminalis* and Guelder Rose *Viburnum opulus*. This habitat will provide increased foraging potential for locally present bat and bird species.

3.3. Mixed Species Native Hedgerow

3.3.1. The hedgerows will be planted at 450mm centres in a double staggered row. Rows to be spaced 500mm apart and species present will include Hawthorn, Hazel, Holly, Privet, Blackthorn, Dog Rose *Rosa canina* and Guelder Rose. This habitat will provide similar benefits to faunal groups as the native thicket mix in addition to providing further improvements in connectivity around the site.

3.4. Tall Ornamental Shrub Planting

3.4.1. Tall ornamental shrub planting in the north-west of the site will aim to form a shrub height of above 1m and provide additional foraging and potentially low nesting habitat.

3.5. Low Ornamental Ground Cover Shrub Planting

3.5.1. Areas of below 1m high ornamental and herbaceous planting will be present throughout the site.

3.5.2. Although this planting is primarily for ornamental purposes it will provide additional green infrastructure within the development. The inclusion of some nectar rich species will offer further opportunities for invertebrates subsequently improving the availability of food resource for bats.

3.6. Wildflower Grass Seed Areas

3.6.1. Areas of wildflower grass will be located throughout the site. This will be a species rich mix to elevate the overall floristic diversity across then site.

3.7. Proposed Brown Roof and Green Roof Planting

3.7.1. To provide additional green space *Sedum* sp. and species rich planting of green and brown roof offering similar benefits to the abovementioned habitats including providing additional habitat for bats, birds and invertebrate species. These roofs will offer new habitat opportunities for

early-colonising and open habitat specialist invertebrates throughout the lifetime of the development. They will also offer connectivity across an otherwise urban landscape through the greening of the roofs of the development in combination with the additional planting.

4. SPECIES ENHANCEMENTS

4.1. To provide ecological enhancements for wildlife within Project Union, Hayes, London a number of bat and bird boxes will be installed throughout the site and onto the newly constructed buildings.

4.2. Bats

4.2.1. To offer net gains in roosting opportunities, nine Schwegler 1FF bat boxes or similar, will be installed on larger trees throughout the site and on the Data Centre building associated with the green walls. These boxes will be positioned 3-5m high on southern or eastern aspects.

4.2.2. The bat boxes will not be subject to direct lighting. Where lighting is required, the effects will be minimised by including use of appropriate low UV emitting luminaries. Lighting of green space, particularly to the south of the site will also be kept to a minimum during the construction phase.

4.3. Birds

4.3.1. A total of four Schwegler 1B bird boxes, or similar, will be installed on larger trees along the southern boundary of the site. These bird boxes will have 26mm entrance holes which will allow small birds such as Blue Tit *Cyanistes caeruleus*, Marsh Tit *Poecile palustris*, Coal Tit *Periparus ater*, Crested Tit *Lophophanes cristatus* and Wren *Troglodytes troglodytes* to nest inside.

4.3.2. Larger species and flocks of birds will not be encouraged within the site owing to the proximity of Heathrow Airport and RAF Northolt and the subsequent risk of bird strike, as detailed within the submitted Bird Hazard Management Plan.

4.4. Maintenance

4.4.1. All features described in this section will be subject to an annual visual inspection of their condition and fixings, where access allows. Where these are found to be in poor condition the unit will be replaced with the same model, or a similar item where the original model is no longer available. Bird boxes will be inspected outside the bird nesting season (approximately March to July / August inclusive). Bat boxes will similarly be inspected by a licensed ecologist outside the main activity period for bats i.e., outside the period April to October inclusive.

4.4.2. Owing to the design of the selected boxes, no further maintenance is considered necessary.

5. SUMMARY AND CONCLUSIONS

5.1. Ecology Solutions was instructed by Ark Estates 2 Limited to provide ecological advice regarding Project Union, Hayes, London.

5.2. The site consists primarily of buildings and their associated hardstanding, amenity planting, amenity grassland, young trees and scrub. The River Crane runs along the eastern boundary of the site, with the Grand Union Canal, towpath and associated scrub belt to the south.

5.3. Proposed planting will include: Extra Heavy Standard Trees, Thicket Mix Planting, Mixed Species Native Hedgerow, Tall Ornamental Shrub Planting, Low Ornamental Ground Cover Shrub Planting, Wildflower Grass Seeded Areas, Proposed Grasscrete Areas, Proposed Sedum Green Roof Planting and Proposed Brown Roof and Green Roof Planting.

5.4. **Bats.** Nine Schwegler 1FF bat boxes (or similar) will be installed on larger trees throughout the site and on the Data Centre building associated with the green walls. These boxes will be positioned 3-5m high on southern or eastern aspects. Bat boxes will not be subject to direct lighting.

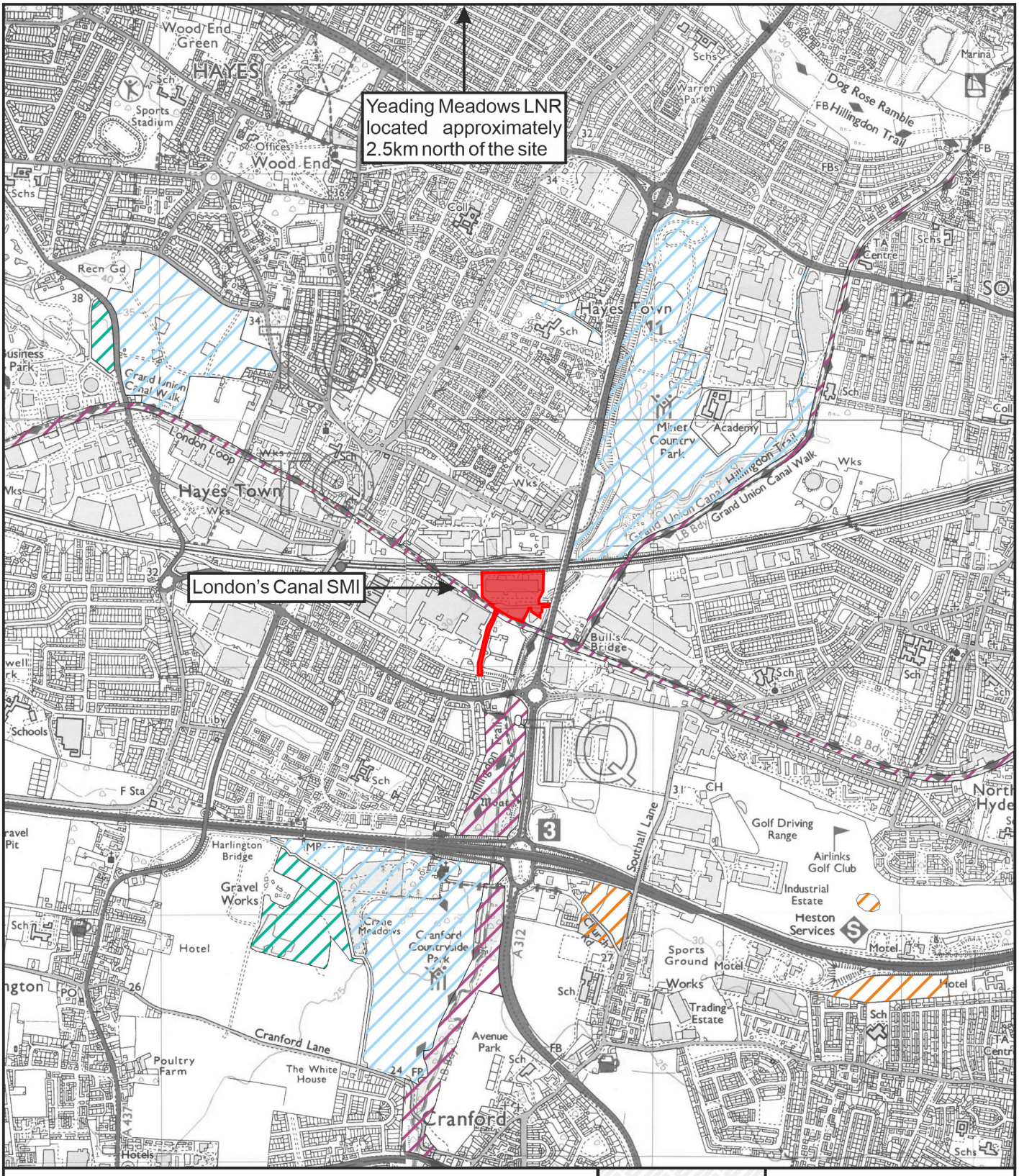
5.5. **Birds.** Four Schwegler 1B bird boxes (or similar) with 26mm entrance holes will be installed on larger trees along the southern boundary. Larger species and flocks of birds will not be encouraged within the site owing to the proximity of Heathrow Airport and RAF Northolt and the subsequent risk of bird strike, as detailed in the submitted Bird Hazard Management Plan.

5.6. In conclusion, the ecological enhancements included within Project Union, Hayes, London will ensure opportunities for wildlife are secured post-redevelopment.

PLANS

PLAN ECO1

Site Location and Ecological Designations



KEY:

- SITE LOCATION
- SITE OF METROPOLITAN IMPORTANCE (SMI)
- SITE OF BOROUGH IMPORTANCE GRADE 1 (SBII)
- SITE OF BOROUGH IMPORTANCE GRADE 2 (SBIII)
- SITE OF LOCAL IMPORTANCE (SLI)

N

ECOLOGYSOLUTIONS
Part of the ES Group

Cokenach Estate
Barkway | Royston
Hertfordshire | SG8 8DL

+44(0)1763 848084
east@ecologysolutions.co.uk
ecologysolutions.co.uk

7854: PROJECT UNION, HAYES, LONDON

PLAN ECO1: SITE LOCATION AND ECOLOGICAL DESIGNATIONS

Rev: B

Oct 2022

PLAN ECO2

Ecological Features

KEY:

- BUILDING
- BUILDING (NOW DEMOLISHED)
- HARDSTANDING
- SEMI-IMPROVED GRASSLAND
- AMENITY PLANTING
- SCRUB
- RIVER CORRIDOR
- AMENITY GRASSLAND
- RIVER CRANE
- TREE
- GIANT HOGWEED
- JAPANESE KNOTWEED
- RUBBLE
- SITE OF METROPOLITAN IMPORTANCE

N

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Cokenach Estate
Barkway | Royston
Hertfordshire | SG8 8DL

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PLAN ECO2: ECOLOGICAL FEATURES

Rev: E

Oct 2022

PLAN ECO3

Ecological Enhancement Strategy

Brown roofs on the Data Centres will provide increased biodiversity gains and will consist of a mixture of sedums and shade tolerant species around and under the solar panels.

The planting of native species and species of known ecological value will provide foraging opportunities for locally present invertebrates, bats, birds and hedgehogs.

Grassland areas sown with wildflower seed mix to provide additional ecological interest.

New wildflower grassland will be managed as necessary to maintain floral diversity, providing opportunities for invertebrates and other wildlife.

Bird boxes will have 26mm entrance holes to provide opportunities for small birds such as Blue, Marsh, Coal and Crested Tit and Wrens. Larger species and flocks will not be encouraged owing to the risk of birdstrike on Heathrow Airport and RAF Northolt, as stated in the Bird Hazard Management Plan.

A number of bat and bird boxes, such as Schwegler 1FF bat boxes and Schwegler 1B bird boxes will be installed across the site on suitable trees to increase nesting / roosting opportunities.

Bat boxes to be positioned 3-5m high on the southern or eastern aspects.

Lighting will be carefully considered and designed such that potential indirect effects on bats and other nocturnal species are minimised.

The site is bound to the south by The Grand Union Canal Site of Metropolitan Importance (SMI). New landscaping, comprising of native species will provide a buffer between the new development and the SMI.

Plants will be replaced if they fail. Any replacements made will be like for like.

Significant biodiversity gains will be delivered through the provision of green walls and green roofs, comprising a number of sedums, grasses and flowering plants, which will require no irrigation.

These will provide increased opportunities for invertebrates, specifically bees and butterflies.

Invasive species Giant Hogweed and Japanese Knotweed will be removed by an accredited company if found onsite during works.

KEY:

SCHWEGLER 1FF BAT BOX (OR SIMILAR)

Suitable for attaching to buildings or trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

Woodcrete construction.
Width: 27cm
Height: 43cm
Weight: 8.3kg

SCHWEGLER 1B BIRD BOX (OR SIMILAR)

This box is attractive to a wide range of species. It can be hung from a branch, nailed to the trunk of a tree with a 'tree-friendly' aluminium nail or hung on walls.

Available in four colours and three entrance hole sizes. 26mm for small tits, 32mm standard size and oval, for redstarts for example.

GREEN WALL

INDICATIVE LOCATIONS

Based on Barry Chinn Associates Landscape Architects Concept Landscape Layout Plan Numbers:
2017-19-31 Rev B
2017-19-10 Rev F

N

Scale: 25m

Cokenach Estate
Barkway | Royston
Hertfordshire | SG8 8DL

+44(0)1763 848084
east@ecologysolutions.co.uk
ecologysolutions.co.uk

7854: PROJECT UNION, HAYES, LONDON

PLAN ECO3: ECOLOGICAL ENHANCEMENT STRATEGY

Rev: D

Oct 2022

APPENDICES

APPENDIX 1

Schwegler 1FF Bat Boxes

Bat Boxes

Schwegler bat boxes are made from woodcrete and have the highest rates of occupation of all types of box.
The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot- and predator-proof and extremely long lasting.

1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or on sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

Woodcrete construction.
Width: 27cm
Height: 43cm
Weight: 8.3kg

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APPENDIX 2

Schwegler 1B Bird Boxes

Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of box.
They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting.
Boxes are made from 'Woodcrete'. This 75% wood sawdust, clay and concrete mixture is breathable and very durable making these bird boxes extremely long lasting.

1B Bird Box

This is the most popular box for garden birds and appeals to a wide range of species. The box can be hung from a branch or nailed to the trunk of a tree with a 'tree-friendly' aluminium nail.

Available in four colours and three entrance hole sizes. 26mm for small tits, 32mm standard size and oval, for redstarts.

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Ecology Solutions Limited | Cokenach Estate | Barkway | Royston | Hertfordshire | SG8 8DL

01763 848084 | east@ecologysolutions.co.uk | www.ecologysolutions.co.uk