

**COPPETTS WOOD
COPPETTS WOOD ROAD
MUSWELL HILL
LONDON
N10 1JS**

**LANDSCAPE AND ECOLOGICAL
MANAGEMENT PLAN**

DECEMBER 2022

Final

Produced by
Ecology and Land Management
For and on Behalf of
RYDON CONSTRUCTION LTD.



Table of Content

Table of Content	i
SECTION 1 INTRODUCTION.....	1
SECTION 2 GENERAL INFORMATION.....	1
2.1 Context and Site Description	1
2.2 Location	1
2.3 History of management and tenure.....	2
2.4 Photographic coverage.....	2
2.5 Environmental Information	2
2.6 Existing Habitats.....	3
2.7 Protected Species.....	3
2.8 Cultural.....	3
2.9 Ecological relationships and implications for management.....	3
SECTION 3 PROPOSED HABITAT DESCRIPTIONS	4
3.1 Introduction	4
3.2 Proposed Habitat	4
3.3 Lighting.....	6
SECTION 4 LONG TERM VISION, EVALUATION, OBJECTIVES AND STRATEGY.....	7
4.1 Historic	7
4.2 Vision.....	7
4.3 Site definition and boundaries.....	7
4.4 Evaluation.....	7
4.5 Aims and objectives	7
4.6 Management Options	7
4.7 Factors influencing management	8
4.8 Obligations.....	8
SECTION 5 PRESCRIPTIONS.....	10
5.1 Tree Management.....	10
5.2 Hedgerow Management.....	10
5.3 Shrub/perennial Management	11
5.4 Wildflower Turf Management	12
5.5 Rain garden.....	12
5.6 Biodiverse Roof Management	12
5.7 Invasive Non-native Species Inspection	13
5.8 Wildlife Shelters.....	13
5.9 Fencing	13
5.10 Litter picking	14
Appendix I – Work Schedule (to be carried out by management company)	15
Appendix II – Proposals Plan	16
Appendix III – Bauder Biodiverse Roof.....	20

SECTION 1 INTRODUCTION

- 1.1 Ecology and Land Management were commissioned by ASW Ecology Ltd on behalf of Rydon Construction Ltd. to produce Landscape and Ecological Management Plan. This report draws on results from the previous ecological surveys and the Planting plans associated with the proposed development.
- 1.2 The habitat creation and ecological management plan is intended to provide a framework for long-term management that can be implemented as part of the proposed development.

SECTION 2 GENERAL INFORMATION

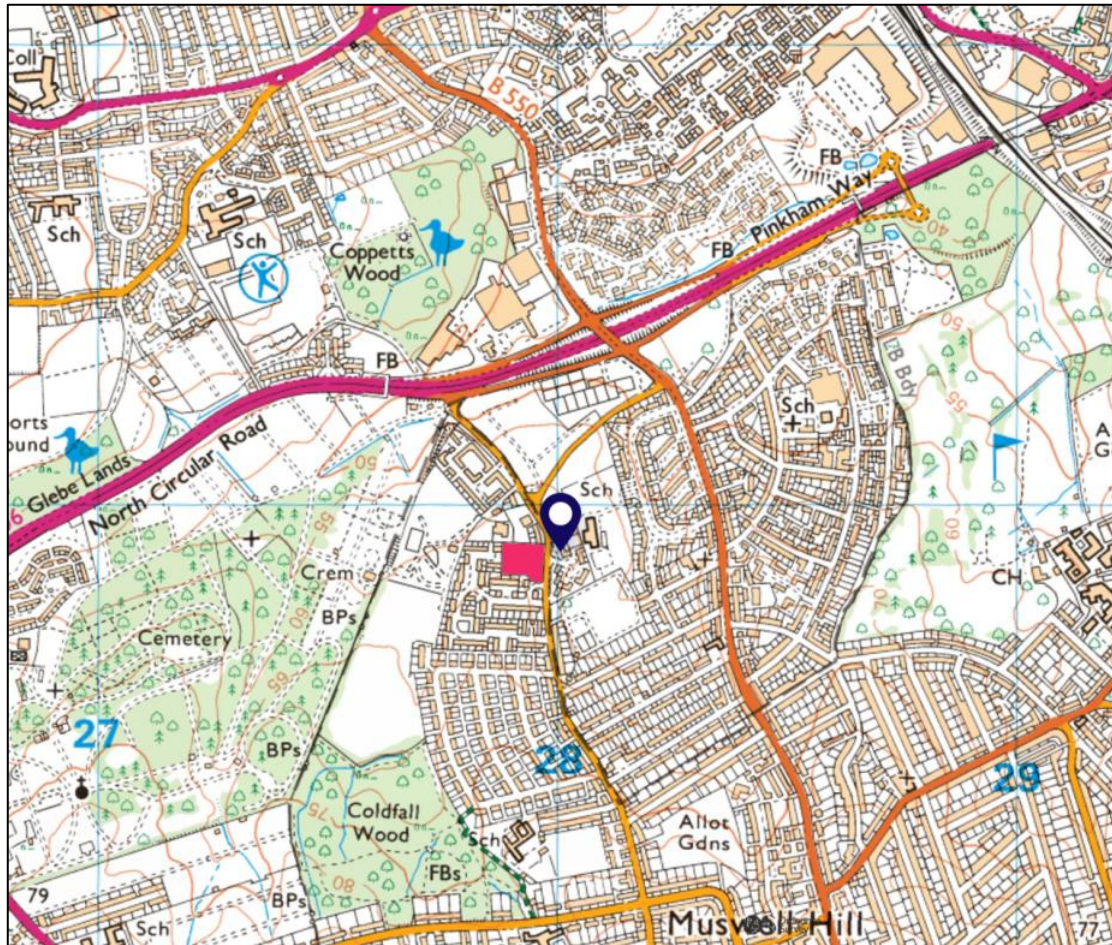
2.1 Context and Site Description

- 2.1.1 Specific enhancement for biodiversity has been proposed associated with the proposed construction of blocks of flats with parking spaces, shared access and associated landscaping to include planting trees, shrubs, climbers, hedging and wildflower turf well as green roofs and wildlife shelters.
- 2.1.1 Ecological surveys have confirmed there are protected species are associated with the site and a European Protected Species licence was issued to destroy three common Pipitrelle bat roosts. This document concerns the biodiversity enhancement and management of the biodiversity enhancement features being constructed as part of the proposed development.

2.2 Location

- 2.2.2 The site is located in Muswell Hill off Coppetts Wood Road and south of the A406 North Circular (OS Grid Ref.: TQ27929088). The site is covered by Haringey Local Plan. The site is shown in Figure 1. The plan is based on the existing OS plan.

Figure 1 – Site Location



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2.3 History of management and tenure

- 2.3.1 The main site is owned by Rydon Construction Ltd. The boundary of the development is shown on the enclosed location plan. The site includes external amenity space with an emphasis on native planting.

2.4 Photographic coverage

- 2.4.1 On completion it is recommended that the report is updated with photographs of available habitats to be managed. These images can be included in Appendix IV.

2.5 Environmental Information

Physical

- 2.5.1 The site lies at approximately 64m AOD. The land is mainly level recently supporting individual Victorian buildings as part of the derelict hospital site. The site is located close to Muswell Hill Playing fields and Halliwick Recreation Grounds.
- 2.5.2 The geology of the site is within London clay formations (Geology Viewer, online 2022).

Biological

- 2.5.3 The site is currently not designated for its wildlife value. There are no priority habitats (NERC Act 2006, s41) within the site boundary.
- 2.5.5 The existing site does support protected species of bat. In addition, the site provides opportunity to create habitat for species of principal importance for the conservation of biodiversity.
- 2.5.6 The site lies within the Northern Thames Basin Natural Character Area, which includes Statements of opportunity relevant to the site as follows:
“SEO 3: Protect and appropriately manage the historic environment for its contribution to local character and sense of identity and as a framework for habitat restoration and sustainable development, ensuring high design standards (particularly in the London Green Belt) which respect the open and built character of the Thames Basin. Enhance and increase access between rural and urban areas through good green infrastructure links to allow local communities recreational, health and wellbeing benefits.”

2.6 Existing Habitats

- 2.6.1 The existing site comprised shrubs, tall ruderal, scrub and scattered trees with a line of mature trees along the northern boundary. The ecological constraint related to vegetation clearance outside the bird breeding season and bat licence requirements.

2.7 Protected Species

- 2.7.1 There were protected species of bat associated with the and therefore ecological constraints related to bats.

2.8 Cultural

- 2.8.1 The site will provide residential accommodation with associated external amenity space. Access for future maintenance purposes would be via a newly constructed access roads associated with the proposed development.
- 2.8.2 It is not known whether archaeological information exists for this area.

2.9 Ecological relationships and implications for management

- 2.9.1 The proposed wildlife areas are likely to enhance the site for biodiversity. The wildflower turf and green roofs would create habitat for birds and invertebrates. Native trees and mixed shrub planting as well as climbing plants would also provide habitat for birds, bats, small mammals and invertebrates and enrich the site for future residents and users of the site. Bird boxes and bat boxes would further enhance potential nesting sites.

SECTION 3 PROPOSED HABITAT DESCRIPTIONS

3.1 Introduction

- 3.1.1 The proposed area of habitat creation has been divided into distinct habitat types for description and management purposes. These habitats would create areas of importance for wildlife. The proposed habitats are shown on the Planting plans (RY1019-IAL-ZZ-GF-PL-L-0401-404) and design details are provided in the Planting Schedules parts 1 and 2. Specific maintenance requirements are provided in the Management and Maintenance Plan (Ireland-Albrecht Landscape Design, November 2021). The habitats are as follows:-

PROPOSED

- Scattered Trees
- Mixed Shrub Planting and perennials including green wall
- Hedging
- Wildflower Turf
- Rain garden
- Biodiverse Bauder Roof
- Wildlife Shelters
- Log pile hibernacula
- Lighting

3.2 Proposed Habitat

Scattered Trees

- 3.2.1 A number of trees have been planted within the external amenity space. This includes a total of 63 trees including 22 species of which six are native. Native species include *Acer campestre*, *Betula pendula*, *Quercus robur*, *Corylus avellana*, *Sorbus aucuparia* and *Tilia cordata*. Ornamental species are listed in the Plant Schedule part 1.

Mixed shrub planting and perennials

- 3.2.2 A mixture of shrubs and herbaceous plants have been planted throughout the proposed site. A total of 439m² is native and/or wildlife friendly and 1267m² forms part of the private gardens and 791m² forms part of the communal amenity space. There is also area of green wall of 96.7m². Species have where possible been chosen to provide opportunities for pollinating insects.

Hedging

- 3.2.3 Sections of hedging have been created throughout the proposed site and in particular along buildings and 47.6m of native hedgerow would be created along the northern boundary. There would be five types of hedge. One is native, species-rich hedgerow comprising hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), dogwood (*Cornus sanguinea*), dog rose (*Rosa canina*) and spindle (*Euonymus europaeus*), rose (*Rosa canina*) and elder (*Sambucus nigra*). A total of 25.7m of one single native species *Carpinus betulus* hedge, 19.3m of *Taxus baccata* and 53m of *Acer campestre* is proposed and the remaining is ornamental hedges. Hedgerows will provide dense green corridors of benefit to bats, nesting birds, invertebrates and their dispersal.

Wildflower Turf and seeding

- 3.2.4 An area of native wild grass seeding has been created at Block D totalling 58m². In addition, wildflower turf has been created in the orchard garden. This totalled

51.02m² and be based on native species with a mixture of 80% herbaceous and 20% grasses.

Rain garden

- 3.2.5 A total of 21m² of rain gardens have been created throughout the proposed site. These comprises a mixture of native and non-native wetland plants suitable for boggy conditions. Species include *Carex pendula*, *Carex pseudocyperus*, *Lythrum salicaria*, *Acorus gramineus* 'Variegatus', *Libertia grandiflora*, *Iris sibirica* 'Blue King' and *Juncus patens*.

Biodiverse Roof

- 3.2.6 An area of 1500m² of biodiverse roofs have been created. Biodiverse roofs have been installed on blocks A, B, C, D and lower roof F. Biodiverse roofs are based on the Bauder extensive/biodiverse/intensive substrate with wildflower mix. Log piles and mounds have also been created, see Appendix III.

Wildlife Shelters

- 3.2.7 A range of wildlife shelters have been installed. These include bat and bird boxes and log piles. Table 1 lists shelters and their proposed location.

Bat Boxes	Number	Location
Schwegler 2F	9	Installed on retained trees prior to works commencing facing S, SE or SW
Bird Boxes		
Schwegler 1MR	15	On retained trees facing E, SE, NW
Log Piles		Biodiverse roofs Blocks, A, B, C, D & F

Table 1 – Wildlife shelters

Bat Boxes

- 3.2.8 9 Schwegler 2F bat boxes were installed on retained trees. Install these boxes prior to works commencing on retained trees. Dimensions: H) 330mm x (W) 160 weight: 3.8 kg. Position south, southwest or southeast at least 4m above ground. The area under the entrance should be unobstructed and lead directly to the ground.



Bird Boxes

Schwegler 1B

- 3.2.9 15 Schwegler 1MR Avianex boxes were installed on retained trees. Schwegler 1B Nest Boxes 32mm hole are suitable for Great, Blue, Marsh, Coal and Crested Tits, Redstarts, Nuthatches, Pied Flycatchers, Wrynecks, Tree and House Sparrows, possibly even Bats. Dimensions: W 190 x H 270 x D 230 mm with a weight of 5.2kg. These were positioned east, southeast and northeast away from prevailing winds and hot sun.



Schwegler 1MR Avianex

Log piles/Deadwood

- 3.2.10 Log piles were created within the green roofs to provide habitat for the plant and animal species that rely on deadwood including a wide variety of specialist invertebrates, which in turn provide food for higher animals including birds. It also represents the carbon and mineral store of trees. Log piles were created from lengths of native hardwood with a minimum diameter of 100mm.

3.3 Lighting

- 3.3.1 Any proposals should incorporate sensitive lighting to facilitate nocturnal foraging across and within the site. Consideration of sensitive lighting scheme is recommended particularly associated with the potential foraging corridors for nocturnal animals including bats. The lighting strategy should include dark buffers, illuminance limits and zonation, appropriate luminaire specifications, screening, dimming and part night lighting. Ideally the design should include LED lighting <2700 Kelvin such as warm white lighting, directional and time, where possible. Lighting should be low or zero UV, which is preferred to reduce attraction of insects to lighting and therefore to reduce the attraction of foraging bats to these areas. Lighting should be directed away or shielded from any green areas i.e. hedgerows and trees to allow bats safe foraging routes where they will not be visible to predators.

SECTION 4 LONG TERM VISION, EVALUATION, OBJECTIVES AND STRATEGY

4.1 Historic

- 4.1.1 The site is currently not designated for its wildlife and nature conservation value. The presence of bat roosts, a European protected species has been considered and appropriate mitigation and enhancement provided. Biodiversity enhancement has proposed to provide long-term biodiversity enhancement.

4.2 Vision

- 4.2.1 It is intended to create a mixture of habitats suitable for a range of species in order to enhance the site for biodiversity. This would be done by creating and managing planting areas incorporating a mosaic of locally important habitats facilitating linkages with the wider landscape. Habitats proposed include a trees, shrubs, green walls, rain garden, hedging, wildflower meadow, extensive roofs and pollinator species and a variety of wildlife shelters.

4.3 Site definition and boundaries

- 4.2.1 The site described in this document applies to the semi-natural or wildlife areas associated with the proposed site. Design proposals are shown on the Planting Plans in Appendix IV.

4.4 Evaluation

- 4.4.1 The proposed planting has created a combined soft landscape with a mixture of ornamental, native and pollinator species as well as native hedgerows. This comprises a good variety of plants, habitat structure and nesting boxes within the proposed built environment. The proposed soft landscape and wildlife shelters may in time support a good assemblage of species include birds, bats, small mammals and invertebrates as well as valuable green space and green corridors.

4.5 Aims and objectives

- 4.5.1 Management activities are subject to funding and resource availability. Aims and objectives for the site are as follows:-

4.6 Management Options

- 4.6.1 The proposed habitats and wildlife shelters should be managed to support protected species such bats, birds, small mammals and invertebrates. Management activities are subject to funding and resource availability. Aims and objectives for the site are as follows:-

- To maintain the external areas to a high visual standard
- To maintain and develop the existing and proposed habitats as appropriate features of the local landscape ensuring any works are carried out by an approved contractor,
- To enhance the ecological value of the site
- to monitor and where required eradicate invasive non-native species from soft landscapes,
- to manage trees, hedgerows, soft landscape and green roofs to support bats, birds and invertebrates and to incorporate the features needed by other wildlife interests such as birds and invertebrates,
- to maintain and enhance the habitats in the interest of visual amenity and wildlife,
- to ensure that all foreign objects and litter are routinely removed from the soft landscape areas,

- to create a cost-effective management and maintenance regime,
- to ensure the site and its management complies with all legal agreements and obligations.

4.7 Factors influencing management

Natural trends

- 4.7.1 The proposed landscape should be designed as part of a sustainable urban drainage system (SUDS) associated with the proposed development.

Man-induced trends

- 4.7.2 The effects upon site management of human activities may affect the establishment of wildlife species and it is important that introduction and management of habitats that may support wildlife should be protected and looked after in perpetuity. Access to the soft landscaping area will be open to the residents and it is envisaged management activities should be planned to ensure maximum protection of wildlife and benefit for people.

External factors

- 4.7.3 Changes in conditions that may affect management of the wildlife areas should be carefully considered. There should be no access to the nesting boxes during the nesting season. It is recommended that any disturbance to the areas suitable for nesting birds and roosting bats is carefully monitored to ensure there is no detrimental impact.

4.8 Obligations

Wildlife and Countryside Act (1981 & amendments)

- 4.8.1 Protected species are being encouraged to the site through biodiversity enhancement. Protected species are covered by the WCA, 1981 and amendments and any obligations in this regard have been considered within the management plan as part of the management of that particular species. This concerns in particular birds, bats and invertebrates.

Habitats and Species Directive (92/43/EC)

- 4.8.2 The Habitats and Species Directive (92/43/EC) enacted through the Conservation of Habitats and Species Regulations 2017. Development works affecting listed species are subject to a licence granted by an appropriate authority. This authority is currently Natural England. This concerns in particular bats and Schedule 1 birds.

The Natural Environment and Rural Communities (NERC) Act 2006

- 4.8.3 Section 41 of the Act requires the Secretary of State to publish a list of habitat and species, which are of principal importance for the conservation of biodiversity in England. This list has been drawn up in consultation with Natural England and forms the basis of the UK Biodiversity Action Plan. Once vegetation is created this will comprise trees, hedgerows and biodiverse roofs.

Site importance for Nature Conservation (SINC)

- 4.8.4 There are two sites designated as of importance for nature conservation within 1km of the site.

The Hedgerow Regulations 1997

- 4.8.5 Under the Hedgerows Regulations 1997 it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. The local planning authority is also the enforcement body for offences created by the

Regulations. Local planning authority permission is normally required before removing hedges that are at least 20 meters in length, more than 30 years old and contain certain plant species. The authority will assess the importance of the any hedgerows using criteria set out in the regulations.

Formal agreements with neighbours

- 4.8.6 There are no formal agreement between neighbours to the site. However, where fencing is required this should be maintained to ensure obligations to local residents are met. It is recommended that good relations are maintained and where possible data exchange is encouraged to facilitate the conservation of protected species. The ground level proposed landscape will be for the enjoyment of local residents. There would be no public access to green roof areas.

Construction (Design and Management) CDM Regulations 2015

- 4.8.7 CDM aims to improve health and safety in the industry by helping contractors to:
- i) sensibly plan the work so the risks involved are managed from start to finish
 - ii) have the right people for the right job at the right time cooperate
 - iii) coordinate your work with others
 - iv) have the right information about the risks and how they are being managed
 - v) communicate this information effectively to those who need to know consult
 - vi) engage with workers about the risks and how they are being managed

Environmental Protection Act 1991

- 4.8.8 Under the Duty of Care Regulations (Environmental Protection Act 1991) particular care must be taken with poisonous plants. Under the Duty of Care Regulations, cut poisonous material must be removed from a site and disposed of at a registered site. Landowners working on their own land are exempt.

The following plants remain toxic after cutting, digging or treating with herbicide:-

Bracken	<i>Pteridium aquilinum</i>
Common ragwort	<i>Senecio jacobaea</i>
Cowbane	<i>Cicuta virosa</i>
Foxglove	<i>Digitalis purpurea</i>
Hard rush	<i>Juncus inflexus</i>
Horsetails	<i>Equisetum spp.</i>
Japanese knotweed	<i>Fallopia japonica</i>

Legal constraints

- 4.8.9 The management company who will be in charge of future management and monitoring will access the site for works via the proposed infrastructure roads.

Health and safety

- 4.8.10 The works are covered by the Management of Health and Safety at Work Regulations (2006 amendment and 1999) and as such any works should be covered by appropriate risk assessments and method statements detailing how the works will be undertaken. Health and safety are an integral part of any training programme provided for field workers and every effort should be made to minimise risks in the field, by identifying hazards, assessing risks and deciding on the appropriate precautions.

SECTION 5 PRESCRIPTIONS

5.1 Tree Management

Inspection

- 5.1.2 Newly planted trees and existing trees should be inspected annually in late summer by a competent arboriculturist with specialist and replacement of dead, dying and diseased specimens should be undertaken, where necessary in the autumn. Additional inspection following extremely windy weather to identify if there needs to be any remedial surgery. Fallen trees will be replaced with native planting in the first available planting season. Tree condition can change due to pests, disease, weather and natural ageing. The inspection should be carried out from ground level using non-invasive tools and binoculars to carry out a visual tree assessment. The tree inspection will identify any pests and disease and recommend action. Monitoring should look out for diseases such as , Dutch elm Disease, Acute Oak Decline and Asian Long Horn Beetle. Early September is the best time of year to identify fungal fruiting bodies and also assess crown vitality. Tree works should be carried out in accordance with the Forestry Commission's Biosecurity Guidance.
- 5.1.2 Stakes and ties should be inspected monthly to ensure they remain firm to prevent movement of the root ball, but allow movement of the trunk. Ties must be loosened as the tree grows to prevent damage to the bark. Ties can usually be removed after three years.

Watering

- 5.1.3 For the first 2 to 3 years young trees should be watered at the beginning of the growing season (April/May) and regularly throughout the summer, usually once per week. If there is little rain during hot weather trees will need more water. A standard tree should have approximately 30 litres per day during spring and the same amount during hot weather in the summer. If there is a lot of rain watering can be reduced. If the tree has a root drencher water through this otherwise water directly at the base of the tree.

Pruning

- 5.1.4 Trees should be managed to provide cover and nesting sites for wildlife as well as amenity value. Where, deemed necessary due to health and safety pruning of dead limbs should be undertaken between November and January inclusive to avoid the bird breeding season. Unstable dead trees or branches can be dangerous. Priority should be given to making them safe or, if essential removing them.
- 5.1.5 Brushwood and log piles should be created out of cut material and left on the ground or on green roofs if they are a suitable size. No vegetation clearance work should be undertaken during the bird breeding season March to September incl.

Leaf Litter from Trees

- 5.1.6 Where possible, allow leaf litter to remain in situ. This will provide an important food source for invertebrates and provide useful nutrients for the soil.

5.2 Hedgerow Management

- 5.2.1 Hedgerows are important for a wide range of wildlife throughout the year. The native species-rich hedging should be managed to provide a dense and rich habitat within the site suitable for birds, small mammals and invertebrates.

Inspection

- 5.2.2 Newly planted trees and existing trees should be inspected annually in late summer and replacement of dead, dying and diseased specimens should be undertaken, where necessary in the autumn.

Watering

- 5.2.3 For the first 2 to 3 years young trees should be watered at the beginning of the growing season (April/May) and regularly throughout the summer, usually once per week. If there is little rain during hot weather trees will need more water. A standard tree should have approximately 30 litres per day during spring and the same amount during hot weather in the summer. If there is a lot of rain watering can be reduced. If the tree has a root drencher water through this otherwise water directly at the base of the tree.

Cutting

- 5.2.4 It is envisaged that hedgerows should be managed to provide dense, species rich green corridors. It is recommended that the hedgerows should be allowed to develop close interwoven branches to provide safe nesting and roosting places for small birds (usually takes 4 to 5 years). When the trees begin to grow together, hedgerows should be clipped. This initial cut is undertaken to establish the hedge height. The hedge height is envisaged to be approximately 1.8m. Cutting should be undertaken in January/February after fruits have been taken by birds but before nesting commences. Disturbance to wildlife would therefore be at a minimum. Once the hedge is well established, cutting should be undertaken annually. Vertical growth should be cut back along the clipped sections to promote thickening of the base and create shelter for flora and fauna. Cutting should be done using either loppers and hedge-shears or hand tools to minimise disturbance to wildlife. At the time of cutting the hedge should be inspected for dead, dying and diseased material and dead trees replaced where appropriate.

5.3 Shrub/perennial Management

Watering

- 5.3.1 For the first 2 to 3 years young shrubs/perennials should be watered at the beginning of the growing season (April/May) and regularly throughout the summer, usually once per week. If there is little rain during hot weather shrubs will need more water.

Weed Control

- 5.3.2 Ideally weed control should be done by hand. Bimonthly visits during the growing season will be required. Weed control should be continued for 3 years or until the shrubs have become established.

Inspection

- 5.3.3 Newly planted shrubs should be inspected annually in late summer and replacement of dead, dying and diseased specimens should be undertaken, where necessary in the autumn.

Shrub Pruning

- 5.3.4 The health and longevity of newly planted shrubs and perennial planting should be promoted as far as possible to maintain the individual shrubs as important landscape features and for wildlife. Additionally, they provide an attractive environment for users. New planting should be kept in good condition and managed to provide a healthy and sustainable crop with interest for both amenity and wildlife. Depending on species newly planted shrubs should be pruned in late

summer or after flowering to maintain healthy growth. Where suitable, prune shrubs in rotation to allow areas to be untouched for more than one growing season. See also Management and Maintenance (Ireland-Albrecht, November 2021).

5.4 Wildflower Turf Management

Mowing regime

- 5.4.1 The meadow areas should be mown annually. Where possible cut grass in late summer to allow seeding of late flowering plants and to allow birds to finish nesting. The sward should be cut by hand to a height of between approximately 150mm to 300 mm by the end of the growing season. All arisings should be removed from site approximately 3 days after cutting to allow invertebrates to escape and taken off site to prevent a build-up in nutrients, which would otherwise allow the invasion and domination of vigorous competitive and nutrient demanding species in the sward.

5.5 Rain garden

- 5.5.1 Hand weeding should be carried out during the first two years ensuring all unwanted plant material is removed. Remove dead, dying and diseased plants during the late autumn. Retain dead stems and seed heads for birds and small mammals. Occasional cutting of plant material in autumn to keep plants vigorous. Remove cut material for composting.

5.6 Biodiverse Roof Management

General Maintenance Guidance

- 5.6.1 Maintenance should consist of a minimum of two visits per year by the appropriate labour force, which will be dictated by the roof area. No irrigation will usually be required once the plant layer is established. Procedures carried out in the first twelve months should include the following:-

Autumn: Trim the roof surface to remove all dead vegetation, rake off debris and cart away

Spring: Inspection substrate surface and vegetation barriers; remove all unwanted grasses, weeds, saplings etc. Any bare areas of the substrate must be re-seeded and lightly raked over, or re-planted. Ensure that perimeters and roof outlets are free from weeds and other blockages. Fertilize with slow release nutrient fertilizer at a rate of 25gm⁻²

- 5.6.2 Subsequent maintenance should be based on items listed below:

- 1) Removal of unwanted plant material such as woody plants that may puncture linings,
- 2) Correction of any localised plant system problems,
- 3) Application of fertilizer,
- 4) Replacement of any failed plants exceeding 5% of total plants installed,
- 5) Removal of dead flower heads (if required)
- 6) Checks on outlets and drainage,
- 7) Replenishment of any areas of settled substrate.

Points **(2)**, **(3)** and **(7)** are generally confined to year one. Subsequent years will see maintenance requirements reduce as the plant system establishes. At the end of year two it is recommended that the client considers negotiating a continuing programme of maintenance with the contractor on the basis that they will be familiar with what is required to maintain a healthy and diverse plant regime.

5.7 Invasive Non-native Species Inspection

- 5.7.1 An inspection should be made annually in spring during maintenance operations to ensure that invasive plants do not become established. There are three plants not listed in the Weeds Act, which must not be allowed to spread. These plants are listed in Schedule 9 Part II of the Wildlife and Countryside Act, 1981 and must not be released or allowed to escape into the wild. They are Japanese knotweed (*Fallopia japonica*), Giant hogweed (*Heracleum mantagazzianum*) and Himalayan balsam (*Impatiens glandulifera* Royle). If any of these species are found, these plants should be removed and disposed of in accordance with Guidelines issued by Defra.

5.8 Wildlife Shelters

Bird box Inspection

- 5.8.1 There must be no human disturbance of the nest box during the breeding season e.g. during maintenance works to the solar panels or during general maintenance work. Once a year in late winter boxes should be checked to ensure they are in good working order. Any defects should be rectified accordingly. At the end of each season all nest boxes should be cleaned out. Bird boxes should be taken down and the lid removed in order to remove all nest material. As birds have parasites, clean the boxes well using boiling water only. Do not use cleaning products. Ensure bedding is replaced annually within the kestrel box. A woodcrete kestrel box would be expected to last for 30 years. If alternatives are used these must be replaced on a more frequent basis.

Bats

Bat Box Inspection

- 5.8.3 Once a year in October the boxes should be inspected to ensure they remain in good working order. Boxes should be cleaned by a licenced bat surveyor. When cleaning out bat boxes, simply remove the droppings, but DO NOT use sprays to clean but use boiling water only. Please note that occupied boxes should not be cleaned and disturbance to occupied bat boxes requires a licence. To check if the box is currently being used, look out for droppings and urine staining below the access point. During the summer (May to September) you can also listen for 'chattering' and watch the box for an hour either side of sunset to observe any bats leaving to feed. It may be necessary to open the box to determine whether it has been used by bats. If the box needs to be opened to check it then there must be a suitably licensed bat worker present.

Bat licence Monitoring

- 5.8.4 In accordance with the Bat Mitigation Licence (ref.: 2018-36809-EPS-MIT) monitoring must be undertaken in the time period and years as specified in the Work Schedule of the mitigation licence.

Log piles

- 5.8.5 Log piles provide important habitat for a range of invertebrates and herpetofauna. Log piles should be replenished every 5 years to ensure this habitat continues to provide a niche for invertebrate species.

5.9 Fencing

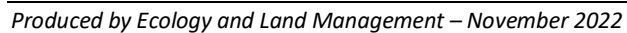
- 5.9.1 Any fencing should be inspected annually in early spring to ensure it remains in good condition and working order. Where defects are found these should be rectified immediately.

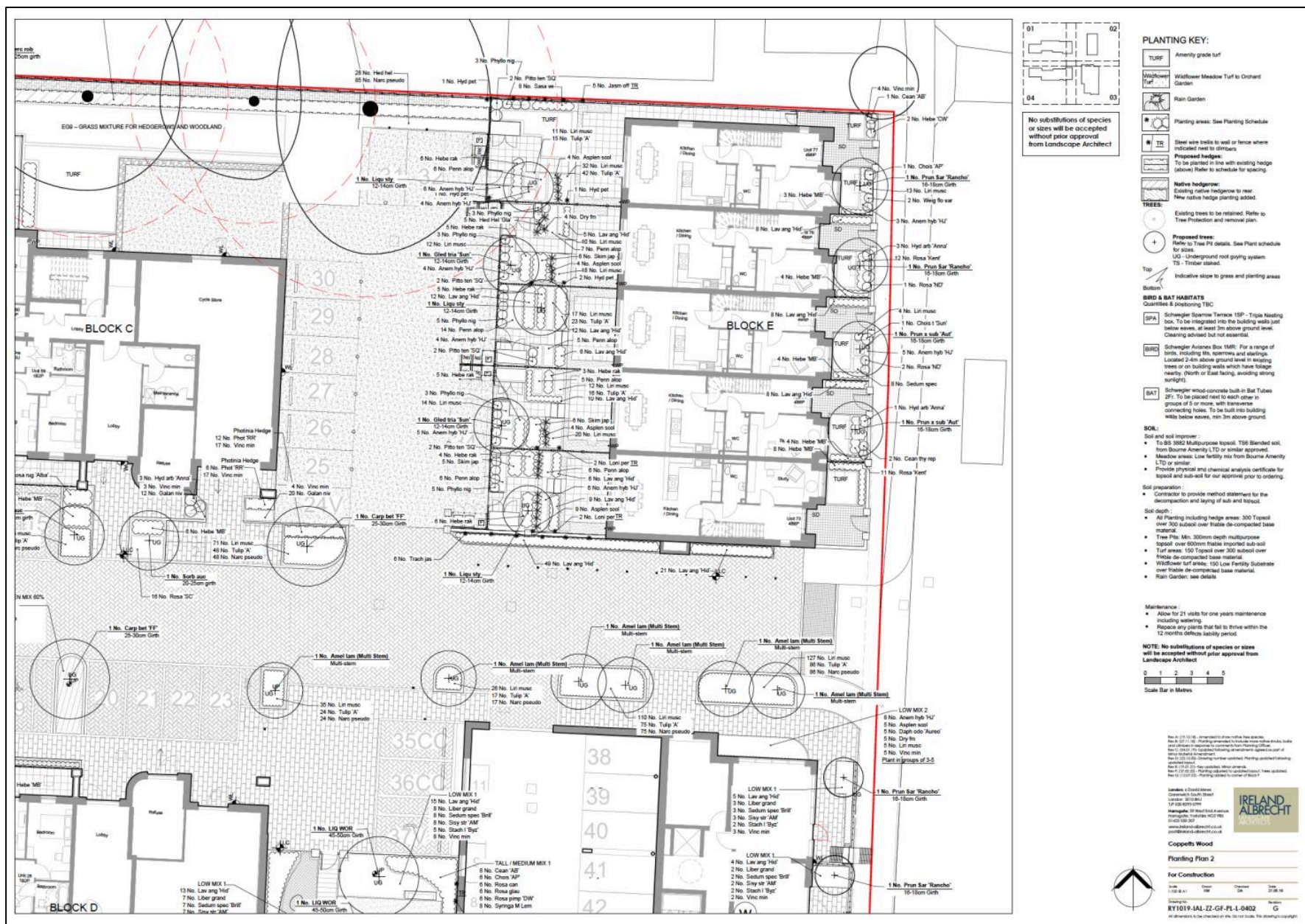
5.10 Litter picking

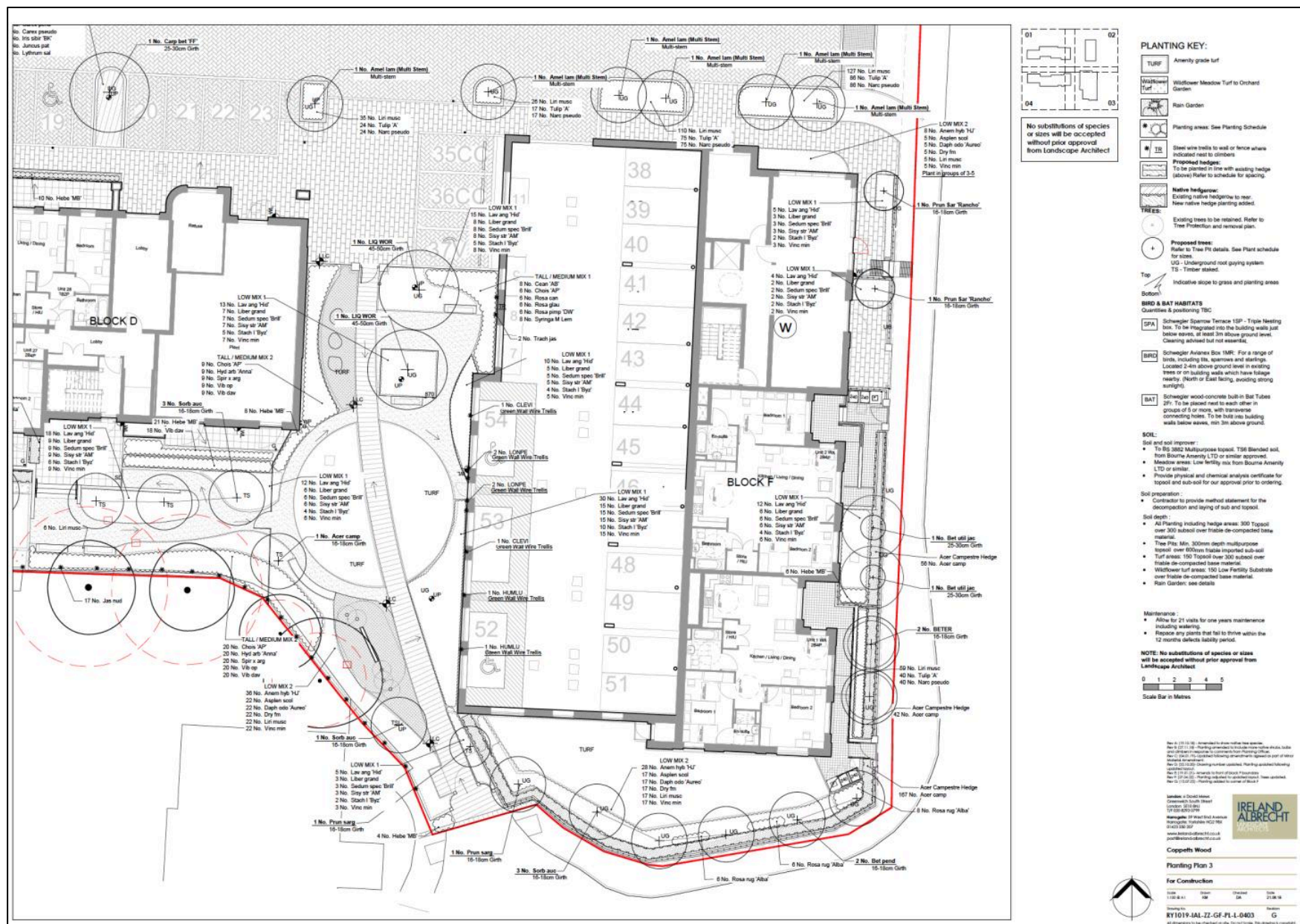
- 5.10.1 Removal of debris and all types of litter should be carried out annually to ensure that the soft landscaped areas remains free of obstructions is kept in good condition for wildlife. All litter should be taken off site and disposed of at an appropriate refuge site.

Appendix I – Work Schedule (to be carried out by management company)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Trees												
Tree Inspection												
Pruning												
Deadwood												
Invasive species inspection												
Hedgerows												
Planting												
Inspection												
Watering (first 2-3 years)												
Cutting												
Shrub/perennial												
Watering												
Weed Control												
Inspection												
Pruning												
Meadow Management												
Mowing												
Biodiverse Roof												
Initial Maintenance												
Long term Maintenance												
Invasive Non-Native Species												
Inspection												
Fauna												
Bat and Bird box maintenance (annual)												
Log pile maintenance (annual)												
Fencing												
Litter Picking												









Appendix III – Bauder Biodiverse Roof



Revision: 06/12/2018 – V1

PRODUCT DATA SHEET

Bauder (FLL Compliant) Extensive/Biodiverse/Intensive Substrate

Lightweight, free draining substrates, designed as a growing medium for a range of different plant species.

Intended Use

This FLL/GRO compliant substrate provides a free draining, growing medium for green roof systems. It is a lightweight substrate designed for most vegetation (Sedum, Wildflower or Grass blankets, Specimen shrubs and trees, plug-plants or seed). Additionally, it provides aeration qualities with some inherent water retention.



PRODUCT INFORMATION AND TECHNICAL PERFORMANCE				
Characteristic	Unit	Extensive Value	Biodiverse Value	Intensive Value
Maximum saturated weight	kg/m ³	≤1,200	≤1,200	≤1,250
Typical supply weight	kg/m ³	c. 900	c. 950	c. 1,000
Water storage	By vol	35%	35%	35%
pH value	-	6 - 8.5	6 - 8.5	6 - 8.5
Bulk bag size	m ³	1.25	1.25	1.25
Small bag size	Litre	25	25	25
Material	Recycled crushed brick, expanded clay, shale, composted pine bark			

CERTIFICATION AND ENVIRONMENTAL INFORMATION	
International Standards Organisation (ISO)	ISO 9001:2015 Quality Management Certificates EN1271 (UK) and 70499/03-15_e (Germany). ISO 14001:2015 Environmental Management Certificates A10552 (UK) and 70499/03-15_d (Germany). ISO 50001: 2011 Energy Management Certificate 70499/03-15_c
Recycled content	≥ 95% recycled material

Disclaimer

This report does not provide legal advice. Natural England is responsible for enforcing laws that protect wildlife and the natural environment. Any queries relating to interpretation of the law should be directed to Natural England. By receiving the report and acting on it, the client - or any third party relying on it - accepts that no individual is personally liable in contract, tort or breach of statutory duty (including negligence).

Ecology and Land Management works towards the policy of 'best practice' advocated by the Chartered Institute of Ecology and Environmental Management (CIEEM), the Chartered Landscape Institute, the Chartered Institute for the Environment as well as a number of specialist organisations working towards the conservation of protected species.

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