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LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN

Black Sike Lane, Holmfirth
Report Reference: BG18.262.3
December 2018





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This report has been prepared in accordance with the CIEEM (2016) **Guidance on Ecological Report Writing**. Chartered Institute of Ecology and Environmental Management, Winchester and CIEEM (2016) Technical guidance series

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Report	Name	Signature	Date
Prepared by	Kinzie Watts		16/12/2018
1 st Check by	Lucinda Sweet		21/01/2019
2 nd Check by	Neil Crofts		29/01/2019
Issued by (PDF)	Neil Crofts		29/01/2019
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Project Details

Project carried out by:

Brindle and Green

Unit 3, Silverhill Court

Radbourne

Derby.

DE6 4LY

Head Office: 01332 825771

Email: info@brindlegreen.co.uk

Website: www.brindlegreen.co.uk

Project carried out for:

Acumen Designers & Architects.

Headrow House

Old Leeds Road

Huddersfield

HD1 1SG

Tel: 01484 546000

Email: hamish@acumenarchitects.co.uk

Project site:

Black Syke Springs

Black Sike Lane

Holmfirth

HD9 3RL

Grid Ref. SE 12124 08076

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1 Introduction

- 1.1 Brindle & Green Ecological Consultants Ltd were commissioned by Acumen Designers & Architects to compile a Landscape and Ecological Management Plan to guide the landscape proposals in reference to Black Sike Lane, Holmfirth.
- 1.2 The project area is approximately 1.8 ha in extent and incorporates grassland, woodland, scattered trees and fishing ponds. The site is located within rural surroundings, approximately 530m west of the village of Upperthong. Agricultural land surrounds the site to the north and south, whilst woodland surrounds Hart Holes Clough to the west and Black Sike Lane lines the eastern end of the site. The site is the subject of a full application for the development of an amenity block/bungalow, four safari tents and associated access.
- 1.3 This report will provide design objectives and management strategies to be implemented from Year 2 onwards to support the long-term biodiversity of the site.
- 1.4 Amendments from the design plans detailed within Appendix 1 may result in slight changes to the enhancement plans at a later stage. If construction has not commenced within one year of the date of this report, the document may require reviewing and/or updating.

2 Baseline Ecological Conditions

- 2.1 The site was the subject of an extended phase 1 habitat survey undertaken during November 2018 (BG17.283). The site was considered to Local value on a regional scale and supported areas of broadleaved woodland and neutral grassland bordered by scrub, bare ground and open water. Patches of marshy grassland are also present, interspersed within the neutral grassland.
- 2.2 The habitats to be affected as part of the development are broadleaved woodland and neutral grassland. Approximately 0.2ha of species rich, neutral grassland supporting meadow indicators will be lost as part of the development, which will also encroach into the adjacent area of mixed deciduous woodland, a UKBAP and LBAP habitat under 'Lowland Mixed Deciduous Woodland'.
- 2.2 The site supported an open, flowing water course provided by Hart Holes Clough stream which connects to Pond 1, flowing into Pond 2, before re-joining and flowing east into a culvert under the eastern end of the site. The watercourse resurfaces to the east of Black Sike Lane, at which point it is referred to as Black Sike Dike. Whilst the ponds supported a high population of fish, and therefore are unsuitable to support Great Crested Newts, they could be found elsewhere on-site within suitable terrestrial habitat in the form of unmanaged grassland, woodland and scrub.
- 2.3 The site supported broadleaved woodland which contained mature trees, many of which contained features which have suitability to support roosting bats. Nine trees are proposed for removal to facilitate the development, two of which were deemed to hold low suitability to support roosting bats and seven of which were awarded negligible suitability. The removal of the trees with low suitability could cause disturbance or injury to roosting bats, and the loss of suitable roosting habitat.

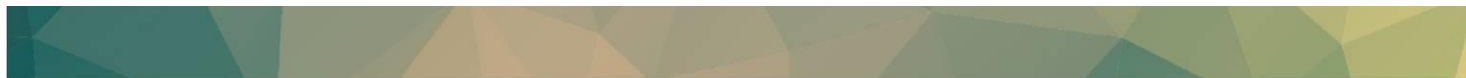
3 Proposals and Ecological Constraints

- 3.1 The development will require the removal of approximately 0.2ha of neutral grassland and 9 existing trees to facilitate the development of 4 camping pods, a residential amenity block and an associated access track. The majority of land will remain undisturbed however, proposals are outlined to create compensatory habitat to the south of the site to facilitate the extension of the neutral grassland.
- 3.2 Retained habitats on site such as mature trees will require protection during the construction phase of the development.
- 3.3 Habitats on site were considered suitable to support breeding birds, roosting and foraging bats, amphibians, reptiles, badger and hedgehog. As such, appropriate precautions should be implemented to safeguard these species during the construction period, secured with a Construction an Environmental Management Plan (CEMP).
- 3.4 Table 1 below outlines the potential impacts and proposed mitigation to protect the above-mentioned species.

Table 1: Ecological constraints associated with the development

Target	Impact	Timing of likely impact	Proposed Mitigation	Timing of Mitigation
Nesting Birds [all species]	i) Potential disturbance, loss or harm to nesting birds, their nests, eggs and young. ii) Loss of foraging resources	Nesting bird season is generally accepted to be March - August [inclusive]	i) Undertake clearance and development works outside of the nesting bird season. ii) If maintenance work needs to be undertaken on the tree, limbs should be soft felled under the supervision of an ecologist. iii) Ensure that open spaces provide suitable foraging habitat for locally dominant bird species iv) Provide nesting provisions attached to retained trees.	Clearance works should take place prior to March. Post Construction
Retained vegetation	i) Mature trees bordering the proposed access route. ii) Loss of approximately 0.2ha of neutral grassland.	Year Round	i) Existing trees to be protected during construction by a standard Root Protection. ii) Presurvey of proposed footprints for camping pods to determine compensatory planting area (Appendix 1).	Year Round Pre-Construction
Bats	i) Disturbance through construction phases. Sensitive lighting scheme should prevent overspill of greater than 1 Lux along potential commuting corridors. ii) Loss of potential roosting sites within low suitability, mature trees.	Bat Activity March – October [inclusive]	i) Ariel inspection to fully inspect and characterise the suitability of the features and identify any evidence of roosting bats. ii) Soft fell low suitability trees. iii) Post construction Security lighting or development associated lighting should be positioned in a manner that is sympathetic to site boundaries and vegetative features. A lighting scheme should be devised, prior to works commencing onsite. iv) Provide roosting provisions within new residential dwellings and retained trees.	Pre-construction
Badger	i) Evidence to suggest populations are present in the zone of influence. ii) Potential impact on individual badgers commuting through the site during construction.	Year round	i) Pre-works check should be undertaken to ensure badgers have not become active on site. ii) Sensitive working measures (Outlined in BG18.262.4 CEMP).	Pre-construction During Construction
Hedgehog	i) Loss of suitable foraging, commuting and hibernating habitat. ii) Potential impacts to hibernating individuals	Year Round	i) A pre-works check for hedgehogs should be undertaken prior to works on site commencing. Sensitive working measures (Outlined in BG18.262.4 CEMP). ii) Creation of refugia within the woodland and scrub areas.	Pre-construction During construction

Amphibians and Reptiles [Grass snake, common toad, newts]	i) Loss of suitable terrestrial habitat for reptiles and obstruction of commuting pathways. ii) Harm, injury or death to individuals during site clearance.	Year Round	i) Ground clearance under a method statement (Outlined in BG18.262.4 CEMP). iii) Creation of hibernacula and habitat enhancement surrounding Pond 2.	Pre Construction Habitat management for perpetuity
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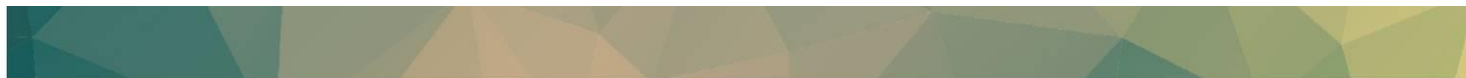
4 Design and Management Objectives

- 4.1 The application site was dominated neutral grassland and broadleaved woodland, which are considered to hold local value on a regional scale. The design plan indicates minimal loss of habitat to facilitate the development, restricted to an approximate removal of 0.2ha of species-rich, neutral grassland, in addition to 9 trees of varying maturity, of which two provide low suitability to support roosting bats. As such, habitat loss is not considered to have a significant long-standing effect on the local biodiversity.
- 4.2 The LEMP will focus on the enhancement, management and protection of retained features, including areas of grassland and mature trees along the proposed access route. It will also focus on the enhancement of the existing habitats whilst outlining steps to manage the site to create foraging and nesting habitat to support target species. The area of neutral grassland surrounding the proposed camping pods will be managed in a way to support biodiversity and extended east to increase the value of neutral grassland outside of the development site.
- 4.3 The LEMP will focus on the integration of vegetative links across the site, between areas of optimal habitat. Planting of native trees should be incorporated along the western and eastern boundaries to mitigate for the 9 felled trees whilst providing an acoustic and aesthetic barrier to the A635, which lies approximately 100m north-west of the site boundary. Additionally, planting of tussock grassland within open areas of bare ground, principally bordering Ponds 2 & 3, would be recommended to provide connectivity for reptiles and amphibians.
- 4.4 The inclusion and appropriate management of these features will result in a positive effect on biodiversity and increase the value of the site. Formalising long term management objectives secures the ecological benefits of these features. The LEMP will focus on enhancing the biodiversity value of the site by expanding the structural and botanical diversity surrounding the footprint and thereby resulting in a positive gain on the baseline conditions by following the method of works provided in Table 2 and 3.

Table 2: Management Prescriptions to achieve objectives for ecological enhancement

Management Objective	Target Species	Proposed Management and Enhancement
Objective 1: Maintain and Protect existing conservation value of retained features		
<i>Retained trees</i> Trees are to be retained bordering the proposed access track. <i>Neutral Grassland</i> Maintain the biodiversity of the site and manage encroaching invasive weed species.	Bats, Birds, Invertebrates	Trees will be protected by standard root protection measures, with protective fencing installed prior to the commencement of construction. Following the recommendations in the accompanying Arboricultural report (BG18.262.1). Safety checks to be undertaken on retained trees on a 4-yearly basis. Mow grassland once a month in the spring to deter and control fast growing weed species such as ragwort, thistles or dock in areas surrounding the camping pods. Hand weed pernicious weeds if necessary. Re sow areas of grassland damaged by repeated footfall. The remainder of the meadows should adopt a relaxed mowing regime whereby, a 1.5m buffer zone along the perimeter of the camping field should be left unmanaged as outlined in the LEMP Enhancement Plan (Appendix 1). This will provide refuge for target species and connectivity to the proposed unmanaged area to the south of the site.

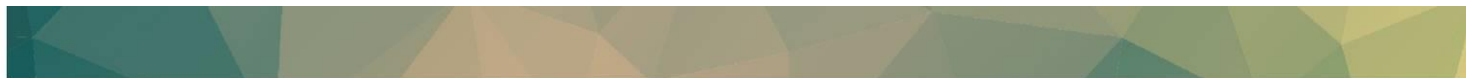
Management Objective	Target Species	Proposed Management and Enhancement
Objective 2: Creation of new habitat		
<i>Proposed specimen trees</i> Tree planting undertaken along the western and eastern boundaries to enhance structural diversity, connectivity and to provide an acoustic and aesthetic buffer between the A635 and the camping pods.	Bats, Birds, Invertebrates, Badgers	Scattered native trees of differing ages and sizes should be planted following the LEMP Enhancement Plan (Appendix 1). Fruit bearing, native species emulating the current composition will be planted along the western and eastern boundaries to provide foraging and commuting sources for target species. Suggested tree species include, apple, field maple, hazel, rowan, hawthorn or oak, details of which are provided in Appendix 2. Following planting, any dead or dying plants should be removed and replaced during the next available planting season Formative prune during winter where necessary to establish a strong central leader on trees. Trees should be assessed annually during years 3 – 5 removing and reducing side shoots. This work should be ongoing until the tree is considered to be established
<i>Proposed extended neutral grassland</i> Extension of neutral grassland beyond redline boundary to improve the baseline biodiversity value of the site and surrounding footprint.	Hedgehog, Bats, Birds, Invertebrates, Reptiles,	An EM5 meadow grass mixture (wildseeds.co.uk) will be sown along the southern boundary and to the east of the development area (Enhancement Plan, Appendix 1). (A full species composition list can be found in Appendix 2).



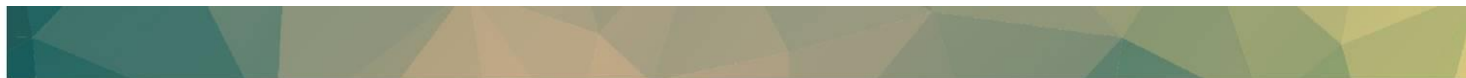
Management Objective	Target Species	Proposed Management and Enhancement
		The grassland should be established following the manufacturer's recommendations, sown in the autumn or spring. Spread by hand with an even distribution and tread in. Once established, minimal maintenance is required. Cut annually between October and February on a rotational section basis so that no more than half the area is cut at one time leaving part as an undisturbed refuge. Weeds should be controlled to prevent competition during the first five years of established growth.
<i>Proposed shade tolerant tussock grassland</i> Create connective and refuge habitat for target species.	Invertebrates, Small Mammals, Hedgehogs, Reptiles, Amphibians	An EW1 shaded woodland grass mixture (wildseeds.co.uk) will be sown within areas of existing bare ground surrounding Ponds 2 & 3 which are positioned within the shaded woodland. The area will be dug over and sown in the autumn or spring by hand and tread in. Mow plant growth regularly to 40-60mm throughout the first growing season to prevent dominating weeds. Once established, tussocky grassland requires minimal maintenance. Unwanted perennial weeds (docks, thistles etc) may need to be spot treated, and the grassland should be cut every 2-3 years to control scrub encroachment. This should be done on a rotational basis so no more than half the area is cut in any one year leaving part as undisturbed refugia.

Management Objective	Target Species	Proposed Management and Enhancement
Habitat Creation Areas. Placement of artificial refuges to enhance breeding habitat for protected species.	Bats, Birds, Reptiles, Amphibians and Hedgehog	The scheme shall provide artificial refuge for bats, birds, reptiles and hedgehog within woodland and retained mature scattered All artificial refugia should be installed under the supervision of a suitably experienced ecologist <i>Bats:</i> During construction integrated bat boxes should be installed. A mixture of 3x 2FN and 3x 1FF <i>Schwegler Bat Boxes</i> should be affixed to retained, mature trees facing a south-south easterly direction. T3, T21, T39 and 1 along the northern boundary. 2 bat boxes should be affixed to T3 and the tree within Group 2 along the northern boundary, this will enable individuals to exploit the varying climatic conditions. An additional 1FQ <i>Schwegler Hibernation Bat Box</i> should be affixed to the southern elevation of the proposed amenity block within the woodland. <i>Birds:</i> The following nest boxes [NHBS.com]: -2GR <i>Schwegler Oval Entrance Nest Box.</i> Should be attached to four of the retained, mature trees, facing an eastern or north-eastern elevation. The boxes should be positioned at a height of 3-5m to avoid risk of predation. T9, T36 & 2 along the northern and southern boundaries. 2 bird boxes should be affixed to T9 and the tree within Group 2 along the northern boundary. A cluster of boxes will enable individuals to exploit the varying climatic conditions. <i>Reptile</i> The felled logs from the site are recommended be used to create 2 reptile hibernaculum, within close proximity of Pond 3 and within unmanaged neutral grassland to the south-east of the site (Appendix 2). These locations will be free from flooding, host a variable sward structure (Following

Management Objective	Target Species	Proposed Management and Enhancement
		recommendations for additional planting), and provide suitable habitat for thermoregulation. The logs should be piled and covered with a small earth bank topped with a wildflower mix to create a small bund no more than 0.75m high. Hibernacula should measure at least 4m x 2m x 1m, with a long side with access positioned to gain a sunny elevation. <i>Hedgehog</i> 2x HH7 Hoglio Hedgehog Houses are to be positioned within established boundary features, out of prevailing wind. The houses should be covered with short grasses and leaf piles, with 2 hand-fulls of short dry grass and leaves inside the box to provide nesting materials. They should be positioned along the northern boundary within the woodland, bordered by tussocky grassland (Following recommendations for additional planting); and to the south of the site encompassed within the area of unmanaged neutral grassland and mature tree line. The houses should be re-visited after 12 months, to see if they are being used. If after 24 months they have not been occupied, relocate based on guidance from a Brindle & Green ecologist.
Sensitive lighting Scheme	Foraging and commuting bats	Artificial lighting should be limited on the elevations of the camping pods and within the area of connecting woodland between the amenity block.



Management Objective	Target Species	Proposed Management and Enhancement
		If security lighting on the buildings is required as part of the scheme, the lighting must be faced in a downward direction away from the tree lines along eastern and northern boundaries, with light overspill less than 1lux. Low level bollard lighting could be used if required along the access pathway and road, supporting low or high-pressure Sodium lamps instead of Mercury or metal halide. LED's can be used, however; white or blue light spectrums should be avoided. It would be recommended that these should be set to a timer or on a motion sensor to reduce impacts to local wildlife. Impacts on bats are higher in the April/May and September/October time periods, as such lighting times can be restricted to prevent prolonged use and light disturbance throughout and post- development. Bats emerge from their roosts and start foraging at dusk, therefore during the summer months when bats emerge later, artificial light will not be required to a large extent. During winter (November to March) bats are hibernating, so lighting times do not need to be restricted.
Objective 3: Monitor retained and created habitats. Review management Strategy		
Management Plan Review	N/A	The plan should be reviewed at 10 years, with the production of a new plan, incorporating revisions following the review of the results of the monitoring of created habitats as described below.
Newly Planted trees, hedgerow and scrub	N/A	Monitored annually until established, approximately Year 5. Manage as prescribed until Year 10 when a review will be undertaken by an ecologist



Management Objective	Target Species	Proposed Management and Enhancement
		and arboriculturist to ensure objectives have been met and the management continues to enhance the habitat for wildlife.



5 Management Schedule and Table of Action

Management to establish habitats will be undertaken following standard practice as described within the accompanying soft landscaping scheme plans. Once established at Year 2, management should follow the prescriptions described in Table 2, and detailed below (Table 3).

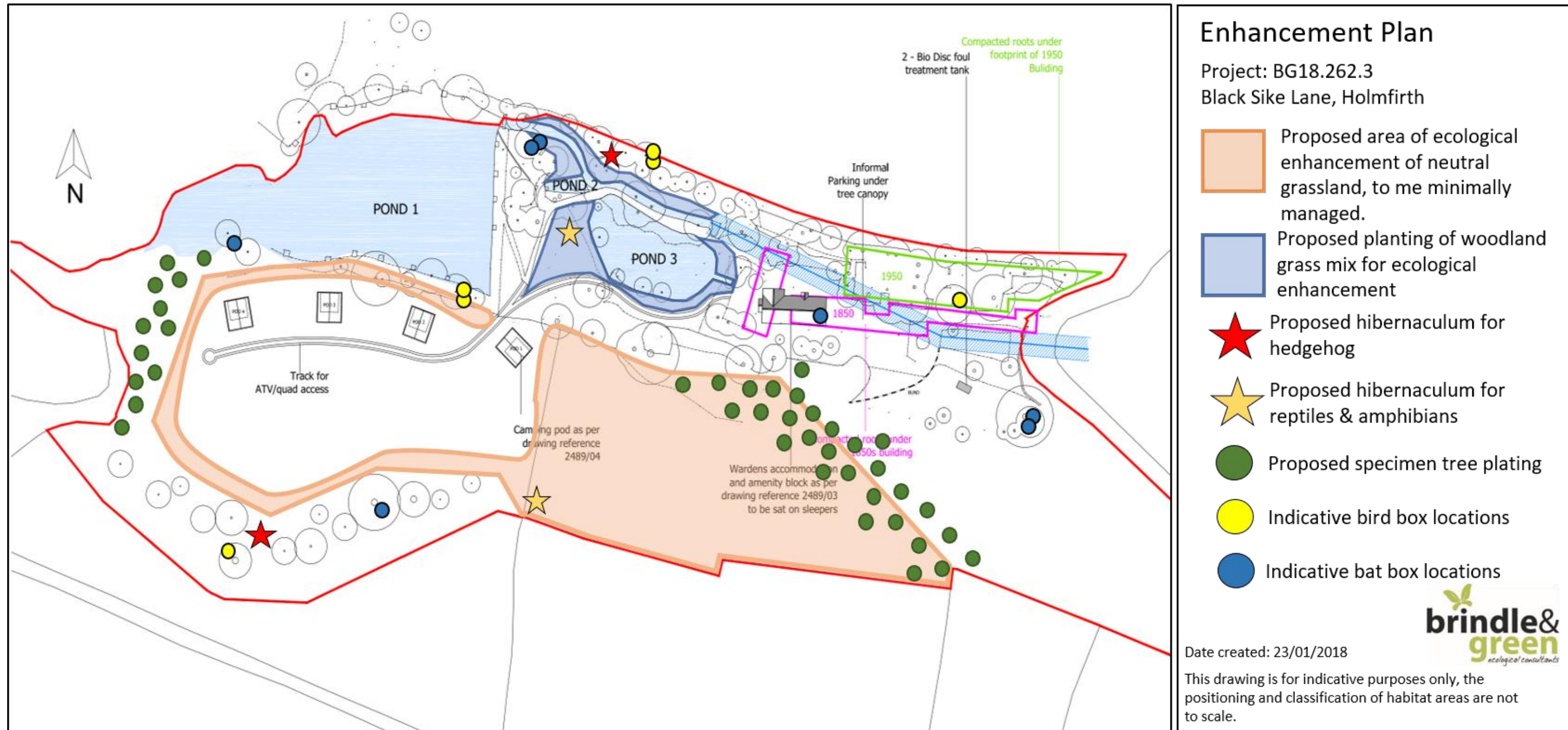
Table 3: Work Schedule

Management Prescriptions	Timing of works	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Newly planted trees, hedgerows and specimen shrubs										
Check guards and tree supports until established	Unrestricted	✓	✓	✓						
Remove stakes and tree guards once establishment is deemed complete.	Unrestricted				✓					
Weed by hand around plant base	Apr/May	✓	✓	✓	✓					
Formative prune where necessary to establish a strong central leader on trees. Trees should be assessed, removing and reducing side shoots. This work should be on going until the tree is considered to be established.	Prior to growing		✓	✓	✓	✓				
Safety checks and tree condition assessment undertaken on a 4-year rotation from establishment.	Unrestricted					✓				✓
Lateral branches on newly planted trees along the western boundary should be trimmed back by 50%.	Mar / Ap	✓								
Prune shrubs back to bud or node, by no more than 30%.	Oct- Mar	✓	✓	✓	✓	✓	✓	✓	✓	✓
Existing Trees										
Safety checks and tree condition assessment undertaken on a 4-year rotation from establishment.	Unrestricted			✓				✓		
Remove windrow arisings to habitat piles.	Unrestricted		✓	✓	✓	✓	✓	✓	✓	✓
Remove self-sown saplings and dispose.	Unrestricted		✓	✓	✓	✓	✓	✓	✓	✓
Grassland										
Spot treat or remove by hand any noxious weeds within grassland areas.	Mar - Apr		✓	✓	✓	✓	✓	✓	✓	✓
Once tussocky grassland has established, mow every 2 years to 50mm with arisings removed after 48 hours.	Autumn	✓		✓		✓		✓		✓
Mow shaded grassland twice a year, early spring and mid-Autumn.	April & Sept	✓	✓	✓	✓	✓	✓	✓	✓	✓
Repair eroded areas as required.	May-Sept	✓	✓	✓	✓	✓	✓	✓	✓	✓
Assess establishment of grassland, if germination is unsuccessful further seeding may be required.	Apr-May	✓	✓	✓	✓					
Where grasses become dominant, introduce a yellow rattle seed mix and mow re-growth in late autumn/winter to 50mm.	Oct-Nov	✓	✓	✓	✓					

6 Implementation

- 6.1 The successful landscape contractors will be responsible for providing a detailed programme of works prior to starting on site. The contract should stipulate that all landscape works will be completed within the first planting season (October to April) after the completion of any excavation works.
- 6.2 The landscape contractor's contract should include at least 12-24 months maintenance and replacement guarantee period. Ongoing checks on planted vegetation should highlight if any specimens are failing and need replacing particularly within the first 5 years, this is related to scattered trees, grassland and scrub areas.
- 6.3 The works schedule for management should be adhered to and reviewed by an ecologist after completion of the 10-year plan. If annual monitoring highlights that the management is not satisfying the management objections, the plan should be reviewed and amended at an earlier stage.

Appendix 1: Enhancement Plan



Appendix 2: Species List

Baseline Species List

Plant Species List with DAFOR Scale		
Scientific nomenclature follows Stace (2010) for vascular plant species and common names follow BSBI List of British & Irish Vascular Plants and Stoneworts. Please note that this plant species list was generated as part of a Phase 1 Habitat survey, and does not constitute a full botanical survey. Abundance was estimated using the DAFOR scale as follows: D = dominant, A = abundant, F = frequent, O = occasional, R = rare, LF = locally frequent		
Common Name	Scientific Name	Estimated Abundance (DAFOR)
Ash	<i>Fraxinus excelsior</i>	A
Beech	<i>Fagus sylvatica</i>	A
Bent Grass	<i>Agrostis sp.</i>	F
Bird's-foot Trefoil	<i>Lotus corniculatus</i>	F
Blackberry	<i>Rubus fruitcosus</i>	A
Bracken	<i>Pteridium sp.</i>	A
Bush Vetch	<i>Vicia sepium</i>	O
Cat's-ear	<i>Hypochaeris radicata</i>	O
Cock's-foot	<i>Dactylis glomerata</i>	D
Common Chickweed	<i>Stellaria media</i>	F
Common Heather	<i>Calluna vulgaris</i>	O
Common Knapweed	<i>Centaurea nigra</i>	F
Common Mouse-ear	<i>Cerastium fontanum</i>	F
Common Nettle	<i>Urtica dioica</i>	F
Compact Rush	<i>Juncus conglomeratus</i>	F
Creeping Bent	<i>Agrostis stolonifera</i>	F
Creeping Buttercup	<i>Ranunculus repens</i>	O
Creeping Soft-grass	<i>Holcus mollis</i>	F
Creeping Thistle	<i>Cirsium arvense</i>	F
Dog-rose	<i>Rosa canina</i>	F
Elder	<i>Sambucus nigra</i>	F
Foxglove	<i>Digitalis purpurea</i>	O
Goat Willow	<i>Salix caprea</i>	O
Hairy Bittercress	<i>Cardamine hirsuta</i>	F
Hart's-tongue Fern	<i>Asplenium scolopendrium</i>	F
Herb Robert	<i>Geranium robertianum</i>	O
Hogweed	<i>Heracleum sphondylium</i>	O
Holly	<i>Ilex aquifolium</i>	O
Ivy	<i>Hedera helix</i>	A
Meadow Buttercup	<i>Ranunculus arcis</i>	O
Meadow-grass	<i>Poa sp.</i>	F
Ragwort	<i>Jacobaea vulgaris</i>	O
Red Clover	<i>Trifolium pratense</i>	F

Ribwort Plantain	<i>Plantago lanceolata</i>	O
Rowan	<i>Sorbus aucuparia</i>	F
Sessile Oak	<i>Quercus petraea</i>	A
Silver Birch	<i>Betula pendula</i>	F
Sorrell	<i>Rumex acetosa</i>	O
Spear Thistle	<i>Cirsium vulgare</i>	O
Sycamore	<i>Acer pseudoplatanus</i>	A
Thistle	<i>Cirsium sp.</i>	D
Tormentil	<i>Potentilla erecta</i>	O
Tufted Hair-grass	<i>Deschampsia cespitosa</i>	D
Willowherb sp.	<i>Epilobium sp.</i>	O
Wood Sorrell	<i>Oxalis acetosella</i>	O
Yarrow	<i>Achillea millefolium</i>	O
Yellow Rattle	<i>Rhinanthus minor</i>	R
Yorkshire Fog	<i>Holcus lanatus</i>	F

Proposed Shaded Seed Grassland Mixture

EW1 – WOODLAND MIXTURE [<https://wildseed.co.uk/mixtures/view/11>]

EW1 is a good mix of woodland wildflower and grasses that will bloom in spring and early summer. The composition of species required some shade to thrive so will be ideally suited under planted areas.

Wild Flowers

%	Latin name	Common name
3	Alliaria petiolata	Garlic Mustard
1	Allium ursinum	Ramsons
1.6	Betonica officinalis - (Stachys officinalis)	Betony
1	Digitalis purpurea	Foxglove
2	Filipendula ulmaria	Meadowsweet
1	Galium album - (Galium mollugo)	Hedge Bedstraw
3	Geum urbanum	Wood Avens
2.6	Hyacinthoides non-scripta	Bluebell
0.4	Hypericum hirsutum	Hairy St John's-wort
0.2	Primula vulgaris	Primrose
1	Prunella vulgaris	Selfheal
2	Silene dioica	Red Campion
0.2	Silene flos-cuculi - (Lychnis flos-cuculi)	Ragged Robin
1	Teucrium scorodonia	Wood Sage

Grasses

%	Latin name	Common name
10	Agrostis capillaris	Common Bent (w)
2	Anthoxanthum odoratum	Sweet Vernal-grass (w)
7	Brachypodium sylvaticum	False Brome (w)
28	Cynosurus cristatus	Crested Dogstail
1	Deschampsia cespitosa	Tufted Hair-grass (w)
20	Festuca rubra	Slender-creeping Red-fescue
12	Poa nemoralis	Wood Meadow-grass

Proposed Neutral Grassland Enhancement Mix

EM5 – MEADOW MIXTURE [<https://wildseed.co.uk/mixtures/view/6>]

EM5 meadow mix contains a diverse wild flower and grass assemblage once common in unimproved flower-rich meadows. They require medium textured soils with no dominating baseline component and are often neutral to alkaline. The mix was selected based on its similarity with the current species composition recorded on site, with the aim to extend and improve the current baseline.

Wild Flowers

%	Latin name	Common name
0.5	<i>Achillea millefolium</i>	Yarrow
3	<i>Centaurea nigra</i>	Common Knapweed
1	<i>Daucus carota</i>	Wild Carrot
2.5	<i>Galium verum</i>	Lady's Bedstraw
0.3	<i>Geranium pratense</i>	Meadow Cranesbill
1.2	<i>Knautia arvensis</i>	Field Scabious
0.5	<i>Lathyrus pratensis</i>	Meadow Vetchling
0.4	<i>Leontodon hispidus</i>	Rough Hawkbit
0.5	<i>Leucanthemum vulgare</i>	Oxeye Daisy
0.5	<i>Lotus corniculatus</i>	Birdsfoot Trefoil
1	<i>Malva moschata</i>	Musk Mallow
0.5	<i>Plantago lanceolata</i>	Ribwort Plantain
0.5	<i>Plantago media</i>	Hoary Plantain
1	<i>Primula veris</i>	Cowslip
1	<i>Prunella vulgaris</i>	Selfheal
2	<i>Ranunculus acris</i>	Meadow Buttercup
1	<i>Ranunculus bulbosus</i>	Bulbous Buttercup
1.5	<i>Rhinanthus minor</i>	Yellow Rattle
1	<i>Rumex acetosa</i>	Common Sorrel
0.1	<i>Trifolium pratense</i>	Wild Red Clover

Grasses

%	Latin name	Common name
8	<i>Agrostis capillaris</i>	Common Bent
3	<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass (w)
3	<i>Briza media</i>	Quaking Grass (w)
32	<i>Cynosurus cristatus</i>	Crested Dogstail
10	<i>Festuca ovina</i>	Sheep's Fescue
20	<i>Festuca rubra</i>	Slender-creeping Red-fescue
3	<i>Phleum bertolonii</i>	Smaller Cat's-tail
1	<i>Trisetum flavescens</i>	Yellow Oat-grass (w)

Proposed Specimen Trees

Specimen Trees are proposed to be planted along the eastern and western boundaries to provide connectivity and foraging habitat for target species. Planting should be in keeping with the current species composition recorded on site, as such the following recommendations are made.

Plant Name	Age	%	Size	Max Height	Max Spread	Type
<i>Acer Campestre</i>	Immature	15	300-350cm	6m	4m	45L Pot
<i>Corylus avellana</i>	Immature	20	300-350cm	15m	9m	45L Pot
<i>Sorbus aucuparia</i>	Sapling	15	300-350cm	12m	7m	45L Pot
<i>Crataegus monogyna</i>	Sapling	10	200-250cm	14m	4m	Bare Root
<i>Malus pumila</i>	Sapling	20	200-250cm	9m	8m	Bare Root
<i>Quercus Robur</i>	Immature	20	300-350cm	30m	15m	45L Pot