



The Thomas Family & Bloor Homes Limited

Land at Newlands Farm, Old Wokingham Road, Wokingham –

Proposed SANG

LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN

December 2023

FPCR Environment and Design Ltd

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CONTENTS

1.0 INTRODUCTION 2

2.0 SITE BASELINE CONDITIONS..... 3

3.0 ECOLOGICAL PROTECTION OF RETAINED FEATURES 4

4.0 PRECAUTIONARY METHODS OF WORKING FOR PROTECTED AND SPECIES..... 5

5.0 CREATION OF NEW ECOLOGICAL FEATURES 7

6.0 ECOLOGICAL MANAGEMENT..... 10

7.0 ROLES AND RESPONSIBILITIES 19

8.0 REVIEW OF MANAGEMENT PLAN.....22

FIGURE

Figure 1: Phase 1 Habitat Plan

APPENDICES

Appendix A: SANG Framework Plan

Appendix B: SANG Typical Ponds and Scrapes Sections

1.0 INTRODUCTION

- 1.1 The following report has been prepared on behalf of the Thomas Family & Bloor Homes Limited and provides details of the proposed ecological protection, mitigation, and enhancement measures for retained and newly created habitats within a site at Newlands Farm, Wokingham (hereafter referred to as the 'Site').
- 1.2 The proposed development is for a proposed change of use of land from agricultural use to Class F2 c) outdoor sport or recreation, for use as suitable alternative natural greenspace (SANG).
- 1.3 The potential biodiversity net gain (BNG) resulting from creation of the habitats within the SANG design and the additional uplift to these habitats over and above that which is required for a SANG, has been calculated and submitted separately. They are discussed in an accompanying Technical Note¹.
- 1.4 This Landscape and Ecological Management Plan (LEMP) accompanies the BNG calculations and details the establishment and management procedures necessary for the proposed habitats to reach and be maintained in the proposed conditions for the end state (i.e. including the uplift to SANG habitats to secure the BNG credits).

¹ FPCR 2023. *Land at Newlands Farm, Old Wokingham Road, Wokingham, - Proposed SANG. Ecology Technical Note – Overall Biodiversity Net Gain Calculations.* Produced for The Thomas Family & Bloor Homes Limited.

2.0 SITE BASELINE CONDITIONS

Habitats

- 2.1 The habitats on the Site were initially assessed in April 2022 and an update assessment was conducted in May 2023.
- 2.2 The Site measures approximately 16 ha and is located between Bracknell and Wokingham in Berkshire. It is surrounded by a mixture of pine woods, grazing pasture, a golf course and fruit farms. The Site itself encompasses a number of grazing pasture field parcels and two small areas of woodland. There is a series of ditches and streams across the Site.
- 2.3 The habitats within the Site are shown on **Figure 1**. The site comprises arable land and a grazing pasture. There are ditches and treelined watercourses bounding the Site and areas of woodland including a wet woodland.
- 2.4 Details of the baseline habitats within the Site are provided in the Ecological Appraisal². The values of the baseline habitats and hedgerows are detailed in the Biodiversity Net Gain Technical Note¹.

Fauna

- 2.5 Fauna relevant to the context of this site are as follows:
- Notable mammals including hedgehog *Erinaceous europaeus* are present in the wider area.
 - There is the low potential for otter *Lutra lutra* to use the watercourses as part of a larger foraging territory;
 - The ditches on the Site could support low numbers of common and widespread amphibians such as toad *Bufo bufo*;
 - Small populations of common reptiles such as grass snake *Natrix helvetica* could be present in the grasslands and water courses;
 - Bats are likely to use the treelined water courses, hedgerows and trees for foraging and two trees with roosting potential are present;
 - Some potential for stag beetle *Lucanus cervus* to be present in the woodland; and
 - An assemblage of generalist and farmland birds is present.

² FPCR 2023. *Land at Newlands Farm, Old Wokingham Road, Wokingham – Proposed SANG. Ecological Appraisal*. Produced for The Thomas Family & Bloor Homes Limited

3.0 ECOLOGICAL PROTECTION OF RETAINED FEATURES

Habitats

- 3.1 The design for the SANG is shown in **Appendix A**.
- 3.2 The habitats of higher ecological value within the Site, namely the woodland, treelines and individual trees are to be retained. The grassland, watercourses, ditches, scrub and hedgerows are to be retained and enhanced. The arable land and small amounts of the grassland will be lost. The loss of a majority of this habitat is not considered to represent a significant loss to biodiversity.
- 3.3 Retained trees close to the access road and carpark will be protected throughout the construction period via the use of Heras fencing erected prior to construction works commencing. Three footbridges are proposed throughout the Site, whilst small pockets of tree removals are proposed to accommodate their construction, low impact methods including cellweb and RootBridges will be employed to reduce impacts to retained trees. The gentle scraping back of bunds is proposed within the RPA of woodland W2. This will be supervised by an arboriculturist in the unlikely event that surface roots are found. The footings for the secured boardwalk posts will be lined with a geotextile membrane to prevent leachate into the surrounding soils³.
- 3.4 As no construction works will be taking place within the remainder of the SANG site, protection of the retained habitats in this manner is not considered necessary.
- 3.5 The retained and created habitats will be subject to ecologically sensitive management in the long-term as set out in Section 6.

Fauna

- 3.6 Precautionary methods of working to protect breeding birds during vegetation removal, and any additional measures to protect fauna during construction of the access road and carpark and during the habitat creation are presented within Section 4.
- 3.7 The SANG design will provide habitats that will continue to allow fauna to travel through the Site and utilise the breeding, sheltering and foraging opportunities that shall be retained and created.
- 3.8 There is to be no lighting of the SANG outside of the parking and access road which will ensure no disturbance due to lighting of nocturnal fauna including otter, badger *Meles meles*, hedgehog, and bats.
- 3.9 Further enhancements for fauna relevant to the context of the Site are detailed below in Section 5.

³ FPCR 2023. *Land at Newlands Farm, Old Wokingham Road, Wokingham – Proposed SANG. Arboricultural Assessment.* Produced for The Thomas Family & Bloor Homes Limited

4.0 PRECAUTIONARY METHODS OF WORKING FOR PROTECTED SPECIES

- 4.1 This section details the precautionary measures to be put in place for the avoidance of harm to the protected and notable species that could potentially be within the Site and impacted by the habitat creation works.
- 4.2 The species that could be impacted during these works are amphibians and reptiles, breeding birds and mammals such as badger and hedgehog.

Breeding Birds

- 4.3 Loss of habitat for breeding birds is limited to the trees that require removal for the access road and the footbridge installation (as shown on the tree removal plan⁴) and the temporary loss of grassland areas suitable for ground nesting birds during the pond and scrape creation. There is also total loss of the arable habitat but this was not recorded to support any successful breeding.
- 4.4 It is recommended that the arable land remain in its current working practices until commencement of habitat creation to avoid this habitat becoming suitable for arable ground nesting birds.
- 4.5 To avoid disturbance to breeding birds it is recommended that ground and vegetation clearance will be undertaken outside of the bird-breeding season (March to August, inclusive).
- 4.6 If this is not possible, the area will be checked prior to removal of vegetation or ground works by an experienced ecologist. If active nests are found, vegetation will be left untouched and suitably buffered from works until all birds have fledged.

Amphibians and Reptiles

Precautionary Working Methods for Amphibians and Reptiles

- 4.7 Prior to any works commencing on site, contractors will be made aware via a toolbox talk of the potential presence of reptiles and amphibians in the grassland, hedgerows and ditches, of their legal protection, and of working practices to avoid harming them. They will be informed that if any reptiles or great crested newts are found when an ecologist is not in attendance, works must stop in this area immediately and advice must be sought from the ecologist.
- 4.8 Immediately prior to any clearance of ground level vegetation required for pond and scrape creation and bund removal, a fingertip search of the area will be undertaken by a suitably qualified ecologist to ensure no reptiles or amphibians are present.
- 4.9 Any logs or timber or other discarded debris that could form refugia will be moved by hand out of the area to be cleared.
- 4.10 Any tree or hedgerow root balls that require 'grubbing out' must be removed under supervision by the ecologist and must be completed during April to September to avoid hibernation period.
- 4.11 All arisings from the vegetation clearance will be taken away from the vicinity of the working area within 24 hours of the clearance works.

⁴ FPCR 2023. *Land at Newlands Farm, Old Wokingham Road, Wokingham – Proposed SANG. 10930-T-10 – 17 Tree Retention Plan.* Produced for The Thomas Family & Bloor Homes Limited

Mammals

- 4.12 As hedgehogs hibernate within piles of dead vegetation and debris, removal of such material across the site, if required during habitat creation, should be conducted outside of November to February inclusive. It is also recommended that during any habitat works materials should not be stored near areas of retained habitat, or otherwise should be hand-searched prior to removal.
- 4.13 As badger are a mobile species, a pre commencement survey for badger should be undertaken immediately prior to works being carried out to ensure there are still no active setts within the Site.
- 4.14 It is recommended that during any habitat creation methods that involve excavation (such as pond creation), any trenches or excavations are covered at the end of the working day or a means of escape is included within them (such as a provision of a sturdy ramp) to prevent mammals from falling into these excavations and becoming trapped.

5.0 CREATION OF NEW ECOLOGICAL FEATURES

Habitats

5.1 The following new habitats will be created within the SANG as shown in **Appendix A**:

- A number of native trees, to reach moderate condition;
- 1.08 ha wet woodland to reach moderate condition;
- 2.44 ha mixed native scrub, to reach good condition;
- 0.22 ha ponds with marginal vegetation in moderate condition (as per **Appendix B**); and
- 5.16 ha species rich wildflower grassland in moderate condition comprised of dry grass mix, wet grass mix and a border grass mix.

5.2 It will also enhance:

- 4.10 ha of modified grassland to 'other neutral grassland' in moderate condition;
- 0.32 ha bramble scrub to mixed scrub in good condition;
- 0.35 km of ditch habitat by taking it out of an arable context;
- 0.42 km of water course by taking it out of an arable context;
- 0.62 km of water course by removing a bund and making it not over-deep;
- 0.173 km of native hedgerow in poor condition to good condition; and
- 0.173 km of native hedgerow in moderate condition to good condition.

Other Ecological Features

5.3 The following new species-specific opportunities will be installed within the SANG as shown in **Appendix A** and **Appendix B**:

- 6 x log piles on woodland edges to provide shelter for reptiles, amphibians and hedgehogs;
- 5 x 26mm and 5 x 32mm hole bird boxes placed along the retained treelines and in woodland;
- 5 x Small open fronted nest boxes again should be placed along the retained treelines and in woodland where trees are ivy covered or in dense scrub;
- 5 x improved crevice bat boxes placed along the retained treelines and in woodland;
- 2 x insect hotels located within species rich grassland; and
- Scrapes in the wet grassland for wading bird species (**Appendix B**).

5.4 Locations of log piles, bird and bat boxes and insect hotels are indicative only and will depend on the situation on the ground and location of suitable trees, particularly in the woodland.

Bird Boxes

5.5 The bird boxes will be installed in accordance with standard best practice, such that the boxes are positioned with the entrances to the boxes facing between north and east, and where possible adjacent to areas of continuous green infrastructure. Exact bird box locations will be finalised during the installation process.

- 5.6 Bird boxes will have a non-invasive inspection in autumn or winter to check for damage and lost or damaged boxes will be replaced.

Bat Boxes

- 5.7 The bat boxes will be installed in accordance with standard best practice, such that the boxes are positioned with the entrances to the boxes facing between south and west, and where possible adjacent to areas of continuous green infrastructure. Exact bat box locations will be finalised during the installation process.
- 5.8 Bird boxes will have a non-invasive inspection in winter to check for damage and lost or damaged boxes will be replaced.

Insect Hotels

- 5.9 The bird boxes will be installed in accordance with standard best practice, in full sun at least a metre off the ground. They should be facing south or southeast.

Log Piles

- 5.10 These will be placed at the interface between woodland edge and grassland habitats, avoiding north-facing areas. The logs should be left in contact with the ground in dappled shade and built into a compact pile to maintain humidity. Stakes should be driven into the ground either side of the log pile to prevent the pile from collapsing and strong wire utilised to discourage subsequent removal or dismantling.

Ditch and Scrape Creation

- 5.11 The proposed scrapes will be mechanically dug to the specifications shown in **Appendix B**. These features will be left to vegetate naturally.

Removal of Himalayan Balsam

- 5.12 The small amounts of Himalayan balsam *Impatiens glandulifera* on the southern boundary watercourse will be removed through ongoing management.
- 5.13 This is to be removed during years one and two by hand pulling in June and July, before seeds set, and again in August / September to remove any late germinating specimens.
- 5.14 Follow up surveys, and removal where required, is to be undertaken every two years following this for any new shrubs which may appear.

Biodiversity Net Gain

- 5.15 As detailed within the Biodiversity Net Gain Technical Note¹, the minimum habitat creation required for a SANG will result in a 10.17 unit (13.15%) net gain in habitat units, a 0.34 units (10.55%) net gain in hedgerow units and a 2.32 unit (14.89%) gain in watercourse units.
- 5.16 The uplift to these habitats over and above that which is required for a SANG will result in an overall gain of 60.04 (78.5%) habitat units, 1.06 (33.08%) hedgerow units and 4.24 (27.22%) water course units.

- 5.17 This management plan is to ensure the habitats are brought to and maintained in the required conditions to achieve the uplift which secures the additional 49.87 habitat units, 0.72 hedgerow units and 1.92 water course units that are to be made available to sell.

6.0 ECOLOGICAL MANAGEMENT

- 6.1 The overarching objective for the Site is to create a useable greenspace to minimise pressure on the Thames Basin Heaths International Site. The management prescribed in this document will also ensure that habitats are enhanced and maintained above the quality required for a SANG to provide biodiversity net gain and contribute to objectives of national, regional, and local biodiversity strategies and providing new biodiverse habitats and opportunities for species foraging and breeding.
- 6.2 The following tables (**Tables 1** and **2**) provide the objectives and management details for habitat creation and subsequent management.
- 6.3 Section 7 describes the monitoring regime and success indicators for each retained and created habitat across the Site.

Habitat Objectives

- 6.4 Paragraph 5.1 and 5.2 lists the areas of each habitat type proposed to be created or enhanced. The objectives for each habitat are described in **Table 1** and management prescriptions to achieve these objectives are detailed in **Table 3**.
- 6.5 Habitat objectives and required scored for moderate condition for wet woodland are given in **Table 2**. The retained woodland would not be subject to management.

Table 1: Habitat Objectives

Feature	Objective	Indicator that objective has been achieved
Creation of 4.57 ha grassland - other neutral grassland Enhancement of 4.31 ha modified grassland to other neutral grassland	To create grassland that meets the definition of 'Other Neutral Grassland' with a condition of ' Moderate ' targeted within five years	The following five bold criteria are met: <ol style="list-style-type: none"> 1. The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges, and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward. 2. Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed. 3. Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens. 4. Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%. 5. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of undesirable species and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. 6. There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type (The exception to this is the mown pathways – these are calculated as poor condition.)

Feature	Objective	Indicator that objective has been achieved
Creation of rural trees	To create rural trees with a condition of 'Moderate' targeted, within 27 years	The following five bold criteria are met: <ol style="list-style-type: none"> More than 70% of trees are native species. Tree canopy is predominantly continuous with gaps in canopy cover making up less than 10% of total area and no individual gap being greater than 5m wide. More than 50% of trees are mature or veteran. There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain over 75% of expected canopy for their age range and height. Management regime has encouraged micro habitat sites for birds, mammals, and insects e.g., presence of deadwood, cavities or loose bark etc. Trees are immediately adjacent to other vegetation, and tree canopies are oversailing vegetation beneath.
Creation of 2.44 ha Heathland and shrub - Mixed Scrub and Enhancement of 0.32 ha bramble scrub to mixed scrub	To create mixed scrub with a condition of ' Good ' targeted, within 10 years	All the following criteria are met: <ol style="list-style-type: none"> Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover). There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species¹ make up less than 5% of ground cover. The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s). There are clearings, glades or rides present within the scrub, providing sheltered edges.
Creation of 0.22 ha pond (non-priority)	To create a non-priority non woodland pond with a condition of ' Moderate ' targeted, within three years	The following seven bold criteria are met: <ol style="list-style-type: none"> The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock. There is semi-natural habitat (i.e., moderate distinctiveness or above) for at least 10m from the pond edge. Less than 10% of the pond is covered with duckweed or filamentous algae. The pond is not artificially connected to other waterbodies, either via streams, ditches, or artificial pipework. Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps, or pipework. There is an absence of non-native plant and animal species. The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities. In non-woodland ponds, plants, be they emergent, submerged, or floating (excluding duckweeds),

Feature	Objective	Indicator that objective has been achieved
		<p>should cover at least 50% of the pond area that is less than 3m deep.</p> <p>9. The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.</p>
Enhancement of 0.346 km of native hedgerow	To enhance the existing hedgerows to good condition targeted within 5 years	<p>The following seven bold criteria are met:</p> <p>A1. >1.5m average along length</p> <p>A2. >1.5m average along length</p> <p>B1. No hedge base gap between ground and base of canopy for 90% of length (unless 'line of trees')</p> <p>B2. Hedge canopy continuity. Gaps make up <5m.</p> <p>C1. Over 1m width of undisturbed ground with perennial herbaceous vegetation for over 90% of length measured from outer edge of hedgerow and is present on one side of the hedge (at least).</p> <p>C2. Plant species indicative of nutrient enrichment of soils do not dominate.</p> <p>D1. Over 90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species.</p> <p>D2. Over 90% of the hedgerow or undisturbed ground is free of damage caused by human activities.</p>

Table 2. Indicators for Reaching Moderate Condition in Woodlands

Indicator		Good (3 points)	Mod. (2 points)	Poor (1 point)	Wet wood
1	Age distribution of trees	Three age classes present	Two age classes present	One age class present	2
2	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland ²	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland	2
3	Invasive plant species	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species >10% cover	3
4	Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel	3
5	Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	<50% of canopy trees and <50% of understory shrubs are native	3
6	Open space within woodland	10 – 20% has areas of temporary open space, unless <10ha	21- 40% has areas of temporary open space	More than 40% has areas of temporary open space	3
7	Woodland regeneration	All three classes present; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland	2
8	Tree health	Tree mortality <10%, no pests or diseases and no crown dieback	11-25% mortality and/or crown dieback or low risk pest or disease present	> 25% tree mortality and or any high-risk pest or disease present	3

Indicator		Good (3 points)	Mod. (2 points)	Poor (1 point)	Wet wood
9	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community	1
10	Woodland vertical structure	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots	2
11	Veteran trees	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland	1
12	Amount of deadwood	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/stems/stumps	25-50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/stems and stumps	< 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	2
13	Woodland disturbance	No nutrient enrichment or damaged ground evident	< 1 hectare of nutrient enrichment across woodland area and/or < 20% damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground	2
Score (out of 39)					29
Condition					Mod.
Total score >32 (33 to 39)			Good		
Total score 26 to 32			Moderate		
Total score <26 (13 to 25)			Poor		

Table 3: Habitat Management Plans

Feature	Outline habitat creation & management
<p>Creation of 4.57 ha grassland - other neutral grassland</p> <p>Enhancement of 4.31 ha modified grassland to other neutral grassland</p>	<p>Creation</p> <ul style="list-style-type: none"> • Sowing and ground preparation to be undertaken in spring or autumn. Ground nesting bird checks to be undertaken if occurring in March to September. • Creation of an herb rich neutral grassland community achieved through scarification of the existing ground and seeding with an appropriate species rich seed mix. • Additional scraping will be done to create bare areas in the existing grassland to allow seed to take. • Moderate condition achieved through management in the long term through 1-2 cuts per year, with the grassland left un-mown during the summer and any arisings removed. <p>Grass mixes are given in (10930-FPCR-XX-XX-DR-L-0008 to 0013 SANG Planting Plans)</p> <p>First year management</p> <ul style="list-style-type: none"> • Resist cutting annual weeds until mid to late summer, especially if the mixture contains yellow rattle. Then cut, remove, and compost in early August ideally. • The grassland can then be kept short by mowing through to the end of March of the following year. • Dig out any residual perennial weeds such as docks to keep cover of undesirables below 5% coverage. <p>Ongoing Management</p> <ul style="list-style-type: none"> • Meadow grassland is not cut or grazed from spring through to late July/August to give the sown species an opportunity to flower. • After flowering in July or August take a 'hay cut': cut back with a petrol strimmer or tractor mower to c.50mm. Leave the 'hay' to dry and shed seed for 1-7 days then remove from site. • Mow the re-growth through to late Autumn/winter to c.50mm and again in spring if needed.
<p>Planting of rural trees</p>	<p>Creation and Establishment</p> <ul style="list-style-type: none"> • Planting will be between end of October and March with periods of inundation or prolonged ground frost should be avoided. • Species planted as specified below • Suitable rabbit guards, fencing, or shelters will be used to protect plants from damage until established. Tree guards will be removed once the trees and shrubs are established. • Water as necessary during establishment. • Mixed planting of native tree species and cultivars. <p>Tree planting mix is given in (10930-FPCR-XX-XX-DR-L-0008 to 0013 SANG Planting Plans)</p> <p>Ongoing Management</p> <ul style="list-style-type: none"> • Subject to two visits annually, once in growing season (April – September) and once in dormant season (October – March). • Water during prolonged dry weather during the growing season (April – September). • For the first three years after planting, maintain a weed free area of at least 1m diameter around each tree/plant. Carefully apply a suitable translocated herbicide such as “Round-up” glyphosate herbicide during summer visit. Dead weed material shall be

Feature	Outline habitat creation & management
	<p>removed during the following visit to site.</p> <ul style="list-style-type: none"> • Check and tighten tree support / firm up in ground if necessary. • Once established well, remove all stakes, ties, spacers, tubes etc. and make good surfaces disturbed, filling any holes with suitable topsoil. • For the first five years all dead and dying specimens are to be replaced with a tree/plant of a different native species as those existing. This is to allow some flexibility and to avoid problems encountered with 'Same Tree Disease'. • Prune back any diseased or rotten wood (including the removal of main stems and limbs) back to sound wood. A suitably skilled and qualified arboriculturist shall carry out such pruning. • Maintain free of litter and self-seeded non-native plants.
<p>Creation of 2.44 ha Heathland and shrub - Mixed Scrub and enhancement of 0.32 ha bramble scrub to mixed scrub</p>	<p>Creation</p> <ul style="list-style-type: none"> • Planting will be done in stages, the initial round of planting will be completed during Year 1, with a further round of complimentary planting to be introduced in Year 5. This staged approach will contribute significantly to achieving the objective of a mixed age range by Year 10 and will allow for fine tuning of planting groups to ensure there is a good diversity of complimentary species. • There will be a minimum of five native shrub species used, with the different species planted at varying frequencies across the offsite compensation area. • Native scrub comprising whips (60-80cm) are to be planted at an average density of 1m centres, between November and March covering 100% of area and protected from rabbits with spiral guards, as conditions on site require. It is recommended species diversity is increased by incorporating the scrub planting mix detailed below. <p>The scrub planting mix is given in (10930-FPCR-XX-XX-DR-L-0008 to 0013 SANG Planting Plans)</p> <ul style="list-style-type: none"> • Plant in groups of 3, 5 or 7, with clusters of the same species planted together and designed to create a naturalistic pattern with 10-15% open space in the form of glades and clearings within the scrub, in order to create significant areas of edge habitats and structural diversity. • Mulch new plants where required to aid long-term soil improvement and avoid water loss. <p>First year management</p> <ul style="list-style-type: none"> • Scrub should be monitored with infill planting in gaps to replace any dead or diseased specimens (Years 1 to 2). <p>Ongoing Management</p> <ul style="list-style-type: none"> • Yearly mowing / strimming of glades and clearings in July (with late June- August acceptable) to around 50mm, removing arisings after they have dried (minimum 48 hours) to reduce soil nutrients. Once every four years cut the grassland in September to allow late flowering species to set seed. • Trimming following establishment period (from Year 5) including maintenance of a sinuous edge with a graded margin down to field layer (tapering edge from canopy height to 20cm). Trimming to take place outside of bird nesting season (March to August/early September), ideally during late winter but avoiding periods of frost. • Selective thinning / coppicing (from Year 5) to promote regeneration of seedlings and saplings and increase structural diversity. 10-15% open space should be targeted within the habitat. • Selective clearing / coppicing of scrub edge (roughly 1/3 to 1/5 every 2-3 years) down to ground to reduce dominance of species

Feature	Outline habitat creation & management
	<p>such as blackthorn and hawthorn and promote regeneration of young shrubs/herb edge (if and where required).</p> <ul style="list-style-type: none"> Felled wood should be used to create additional deadwood piles. Where required, it is recommended that mechanical pulling/cutting methods be employed. The use of fertiliser and herbicide usage should be avoided. <p>Trimming/thinning to take place outside of bird nesting season (i.e., avoiding March to August/early September), ideally during late winter but avoiding periods of frost.</p>
<p>Creation of 0.22 ha pond (non-priority)</p>	<p>Creation</p> <ul style="list-style-type: none"> Earthworks will be undertaken to create a small-contoured earth mound to encourage water retention. The pond will be designed to include a central area approximately 1.5 m deep, and marginal shelves for aquatic planting (see Appendix B). New marginal aquatic planting will be undertaken Planting should be completed subsequent to the pond being filled with water (or allowed to fill naturally with rainwater). Plant marginal/emergent plants at an average density of 4 plants/m² around the pond in same-species clusters of between 5 and 9 plants. <p>The pond edge mixture is given in (10930-FPCR-XX-XX-DR-L-0008 to 0013 SANG Planting Plans)</p> <p>First year management</p> <ul style="list-style-type: none"> Monitor and if necessary, manage water levels within the pond. Manage vegetation within the pond, ensuring 50% of open water by hand. All risings to be left on the pond edge for 48hrs before moving to a designated composting area. <p>Ongoing Management</p> <ul style="list-style-type: none"> Remove any encroaching scrub and oversailing branches from surrounding habitats that are deemed to be causing excessive shading of the pond surfaces. Limit the surface coverage of duckweed and/or filamentous algae to a maximum of 10%. Remove invasive or non-native flora and fauna.
<p>Creation of 1.08 ha wet woodland</p>	<p>Creation and Establishment</p> <ul style="list-style-type: none"> Planting will be done in stages, the initial round of planting will be completed during Year 1, with a further round of complimentary planting to be introduced in Year 5 and again in year 10. This staged approach will contribute significantly to achieving the objective of a mixed age range by Year 27 and will allow for fine tuning of planting groups to ensure there is a good diversity of complimentary species. Planting will include canopy species and understorey species Planting will be between end of October and March with periods of inundation or prolonged ground frost should be avoided. Species planted as specified below Suitable rabbit guards, fencing, or shelters will be used to protect plants from damage until established. Tree guards will be removed once the trees and shrubs are established. Water as necessary during establishment. Mixed planting of native tree species and cultivars.

Feature	Outline habitat creation & management
	<p>The wet woodland planting mix is given in (10930-FPCR-XX-XX-DR-L-0008 to 0013 SANG Planting Plans)</p> <p>Ongoing Management</p> <ul style="list-style-type: none"> • Subject to two visits annually, once in growing season (April – September) and once in dormant season (October – March). • Water during prolonged dry weather during the growing season (April – September). • Check and tighten tree support / firm up in ground if necessary. • Once established well, remove all stakes, ties, spacers, tubes etc. and make good surfaces disturbed, filling any holes with suitable topsoil. • For the first five years all dead and dying specimens are to be replaced with a tree/plant of a different native species as those existing. This is to allow some flexibility and to avoid problems encountered with ‘Same Tree Disease’. • Prune back any diseased or rotten wood (including the removal of main stems and limbs) back to sound wood. A suitably skilled and qualified arboriculturist shall carry out such pruning. • Maintain free of litter and self-seeded non-native plants. • Bramble dominance of the understorey will be monitored and controlled by brushcutting if necessary to promote ground flora growth • Leave deadwood within the woodland areas. Do not remove.
<p>Enhancement of 183m of hedgerow</p>	<p>Gapping up</p> <ul style="list-style-type: none"> • Use at least seven native species. Suggested species: <ul style="list-style-type: none"> - Common dogwood <i>Cornus sanguinea</i> - Hazel <i>Corylus avellana</i> - Hawthorn <i>Crataegus monogyna</i> - Holly <i>Ilex aquifolium</i> - Crab apple <i>Malus sylvestris</i> - Blackthorn <i>Prunus spinosa</i> - English elm <i>Ulmus procera</i> • Planting to be undertaken between the end of October and March, avoiding periods of inundation or prolonged ground frost. • Ground preparation will include the strimming and spraying of a planting strip with glyphosate herbicide at least three weeks prior to planting. • Until the new planting is established, formative pruning will be undertaken once annually to keep the hedgerow tidy and encourage a dense growth form. Weeding by hand or using glyphosate as appropriate should be undertaken around the base of the plants, three times per year. • Suitable rabbit guards, fencing, or shelters will be used to protect plants from damage until established. • Water as necessary during establishment. <p>Ongoing Management</p> <ul style="list-style-type: none"> • Subject to two visits annually, once in growing season (April – September) and once in dormant season (October – March). • Water during prolonged dry weather during the growing season (April – September).

Feature	Outline habitat creation & management
	<ul style="list-style-type: none"> • Tree guards and stakes will be reviewed and removed as necessary after 3-5 years. • For the first five years all dead and dying specimens, including both planted tree and hedgerow species specimens, are to be replaced with a tree/plant of either the same species or similar species as those existing. This is to allow some flexibility and to avoid problems encountered with 'Same Tree Disease. • Urban trees adjacent to the hedgerow will be left uncut unless damaged/diseased limbs or hedgerow sections require removal to promote overall tree health or removal is required for health and safety reasons. • Prune back any diseased or rotten wood (including the removal of main stems and limbs) back to sound wood. A suitably skilled and qualified arboriculturist shall carry out such pruning. • Trimming/cutting will be undertaken between October and February to avoid the nesting bird season. • All cut material will be removed from the site. No burning on site will occur. • Hedgerows will achieve height and width more than 1.5m. • Gap to ground and canopy will be less than 0.5m for 90% of the length. • Gaps will be less than 10% in length and no canopy gaps more than 5m. • More than 90% of the hedgerow and base will be free of non-native species. • Maintain free of litter
Log piles	Establish as specified
Insect Hotels	Should be inspected at the end of summer to remove and clean dead cells
Bird boxes	Non-invasive inspection in autumn or winter to check for damage and lost or damaged boxes will be replaced.
Bat Boxes	Non-invasive inspection in winter to check for damage and lost or damaged boxes will be replaced.
Scrapes	Establish as specified prior to sowing of grassland seed mix
Removal of Himalayan balsam	To be removed during years one and two by hand pulling in June and July, before seeds set, and again in August / September to remove any late germinating specimens. Follow up surveys, and removal where required, to be undertaken every two years following this for any new shrubs which may appear.

7.0 ROLES AND RESPONSIBILITIES

- 7.1 In order to appropriately monitor the success of the proposed habitat enhancement, the Site will be assessed against the habitat objectives set out in **Tables 1** and **2**, and the proposed UKHab habitat definition at the time of this report.
- 7.2 Monitoring will cover the pond, scrub, grassland, trees, hedgerow, ditch and water course habitats.
- 7.3 The monitoring of the project will be carried out in Years 2, 5, 10, 20 and 30.
- 7.4 The monitoring will be completed by an appropriately qualified and experienced ecologist (a suitably qualified person is a person who is sufficiently qualified to confidently identify the features required in the monitoring criteria), with results submitted to the monitoring authority in accordance with the legal agreement used to secure the scheme.
- 7.5 Monitoring visits will be undertaken at an appropriate time of year (May to August inclusive) and will involve a detailed UKHab survey of the site and condition assessment as specified within Defra 3.1 technical supplement. For each community, as a minimum, the following information will be collected:
- A comprehensive species list, along with a measure of abundance using DAFOR.
 - For the grassland habitats representative quadrat data should be recorded (to a maximum of 10 quadrats);
 - Representative photos of each habitat and feature.
 - Habitat condition assessment tables should be completed, with detailed notes on each criterion and potential constraints and opportunities, and
 - A detailed description of the habitat, noting abiotic factors such as structure, slope, aspect, management, and recreational use, and how this may influence the habitat community.
- 7.6 Results of this monitoring will be used to inform changes to this management plan. The detailed management prescriptions set out in the management plan will be altered if required following monitoring and in agreement with the management contractor, the Local Planning Authority (LPA) and any other stakeholders.
- 7.7 A report will be produced to identify compliance with the binding objectives and recommendations which will be sent to the LPA and the landowner following each monitoring period. When a recommendation is made to the landowner to ensure objectives compliance, the following monitoring survey will assess if that recommendation was followed, and the objective met.
- 7.8 Where objectives are not being adequately met, appropriate action will be put in place (such as the corrective measures detailed in **Table 4** for each habitat) to amend management prescriptions, with any refinements incorporated into the updated management plan and annual work programme.
- 7.9 Modifications made to the management plan as part of adaptive management should be added to the relevant habitat management table and included within an updated version of this document. The changes must be circulated to the land manager and monitoring authority.

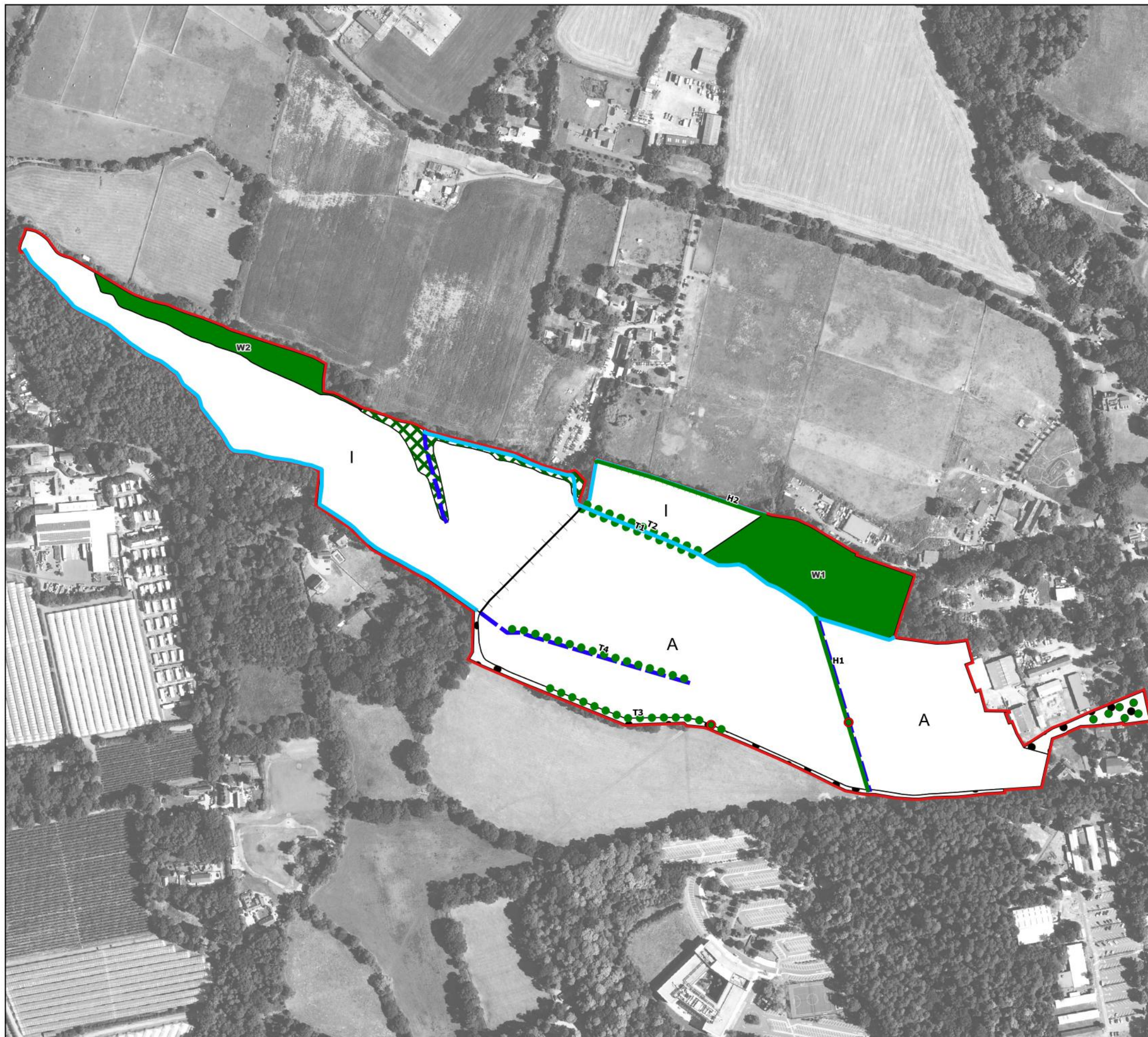
Table 4: Monitoring Triggers and Corrective Actions

Habitat Type	Monitoring Triggers
Scrub	<p><u>a) Increase shrub species diversity</u> Where monitoring shows a minimum of three shrub species are not present throughout each discrete stand, or that single species comprise over 75% of cover:</p> <ul style="list-style-type: none"> • Selective clearance of scrub edge to reduce dominance of species such as blackthorn, hawthorn and bramble. • Selective thinning of some dense stands to allow light to reach the ground and promote regeneration of seedlings and saplings. • Planting of additional shrub species as necessary. <p><u>b) Control of any undesirable or non-native invasive species</u></p> <ul style="list-style-type: none"> • Where periodic monitoring records presence of undesirable or non-native invasive species undertake mechanical removal/use herbicide as appropriate and remove all cut material from site. • Seek advice from specialist contractor as necessary.
Other neutral grassland	<p><u>a) Increase wildflower germination</u> Where monitoring shows cover of wildflowers remains below 30% by Year 7:</p> <ul style="list-style-type: none"> • Year 8, immediately after a September/October cut, rake or harrow the grassland to expose >50% bare earth. • Broadcast an 100% wildflower mix suitable for sowing into existing grass at a rate of 40kg/ha, 4g/m² (or as specified by the seed supplier). Where required, yellow rattle can be added at up to 1g/m² into this mix to improve results. Before sowing, prepare ground and manage during first year as per Table 3. From second year onwards manage as per Table 3.
Pond	<p><u>a) Monitor habitat conditions</u></p> <ul style="list-style-type: none"> • Monitor and if necessary, manage water levels within the pond to ensure some level of standing water year-round. • Manage vegetation within the pond, ensuring 50% of open water, with clearance undertaken using hand tools. All risings to be left on the pond edge for 48hrs before moving to a designated composting area. <p><u>b) Encroachment control</u></p> <ul style="list-style-type: none"> • Remove any encroaching scrub and oversailing branches from surrounding wet woodland deemed to be causing excessive shading of the pond surfaces. <p><u>c) Invasive/undesirable species management</u></p> <ul style="list-style-type: none"> • Limit the surface coverage of duckweed and/or filamentous algae to a maximum of 10% using hand tools. • Removal of invasive or non-native flora and fauna.
Hedgerows	<p><u>a) Increase species diversity</u></p> <ul style="list-style-type: none"> • Where monitoring shows seven species are not present throughout each discrete 30m section, plant additional native hedgerow species as necessary. <p><u>b) Control of any undesirable or non-native invasive species</u></p> <ul style="list-style-type: none"> • Where periodic monitoring records presence of undesirable or non-native invasive species undertake mechanical removal/use herbicide as appropriate and remove all cut material from site. • Seek advice from specialist contractor as necessary.
Trees	<p><u>a) Prevent damaging activities</u></p> <ul style="list-style-type: none"> • If the tree is showing evidence of damaging activities – consider fencing or signage to prevent this.

Habitat Type	Monitoring Triggers
Woodland	<p data-bbox="525 255 852 286"><u>a) Prevent damaging activities</u></p> <ul data-bbox="549 293 1465 356" style="list-style-type: none"><li data-bbox="549 293 1465 356">• If the woodland is showing evidence of damaging activities – consider fencing or signage to prevent this. <p data-bbox="525 362 767 394"><u>b) Increase deadwood</u></p> <ul data-bbox="549 400 1453 495" style="list-style-type: none"><li data-bbox="549 400 1453 495">• Any dead or dying trees (other than from disease) to be left in situ to create standing deadwood. Any arisings resulting from management, leave in place to create ground deadwood. <p data-bbox="525 501 1051 533"><u>c) Ensure continuation of canopy and shrub layer</u></p> <ul data-bbox="549 539 1321 571" style="list-style-type: none"><li data-bbox="549 539 1321 571">• Replace missing canopy species and shrub species as appropriate

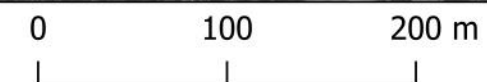
8.0 REVIEW OF MANAGEMENT PLAN

- 8.1 The management plan should run in perpetuity but for a minimum of 30 years, with the work programme fully reviewed at the end of the initial five-year period by a suitably qualified and experienced ecologist and arboriculturist.
- 8.2 Results of this review should be used to inform changes to the management plan and work programme. The management and monitoring schedule provided here should not be set in stone and will be altered if required to ensure that the habitats created within the site reach and maintain their success indicators to maximum value to nature conservation of the Site in the long term and security of the maximum number of BNG units the Site is considered capable of.



Key

- Site Boundary
- Bare ground
- Broadleaved woodland - semi-natural
- A Cultivated/disturbed land - arable
- I Improved grassland
- Scrub - dense/continuous
- Broadleaved trees
- Water Course
- Intact hedge - species-poor
- Fence
- Ditch
- Scrub - scattered line
- Tree with bat potential
- Broadleaved tree



client
The Thomas Family & Bloor Homes Limited

project
Land at Newlands Farm, Old Wokingham Road, Wokingham

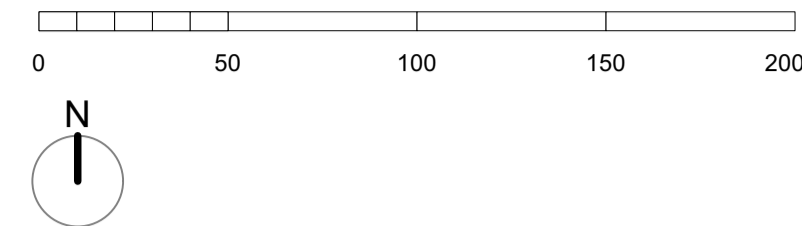
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PHASE 1 HABITAT PLAN

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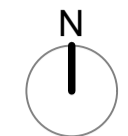
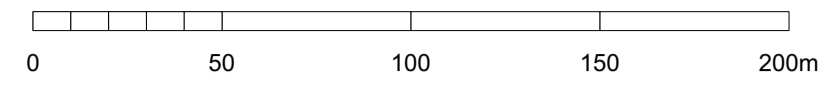
issue date
19/12/2023

Figure 1



KEY	
	Site Boundary (16.37 ha)
	Main site vehicular access point
	Existing trees
	Existing Wet woodland within site
	Wet woodland planting
	Dry woodland scrub planting
	Flower rich grassland - dry seed mix
	Flower rich grassland - wet seed mix
	Dry Woodland tree planting
	Wet Woodland tree planting
	Ponds with wetland planting (see typical detail for excavation)
	Scrapes with wet grass seed (see typical detail for excavation)
	Carpark (see detailed proposal)
	View corridor
	Floodzone
	Spoil area
	Bund removal
	Boardwalk path route - 2m wide
	Self-binding gravel / hogglin 2m wide with 1m wide mown edges
	Mown grass paths 1.5m wide
	Existing track
	Existing footbridges replaced
	Proposed new footbridges
	Public Right Of Way (PROW)
	Existing Contours
	Close Board Fence
	Post and wire with stock proof fence
	Car Park Fence Gates
	Pedestrian path East
	Paving across track
	Agriculture access
	Mown Grass path
	Areas of Existing vegetation to be removed (refer to Arboricultural Survey)
	Log Pile
	32mm Hole Bird box
	26mm Hole Bird box
	Open Fronted Bird box
	Insect Hotel
	Bat Boxes

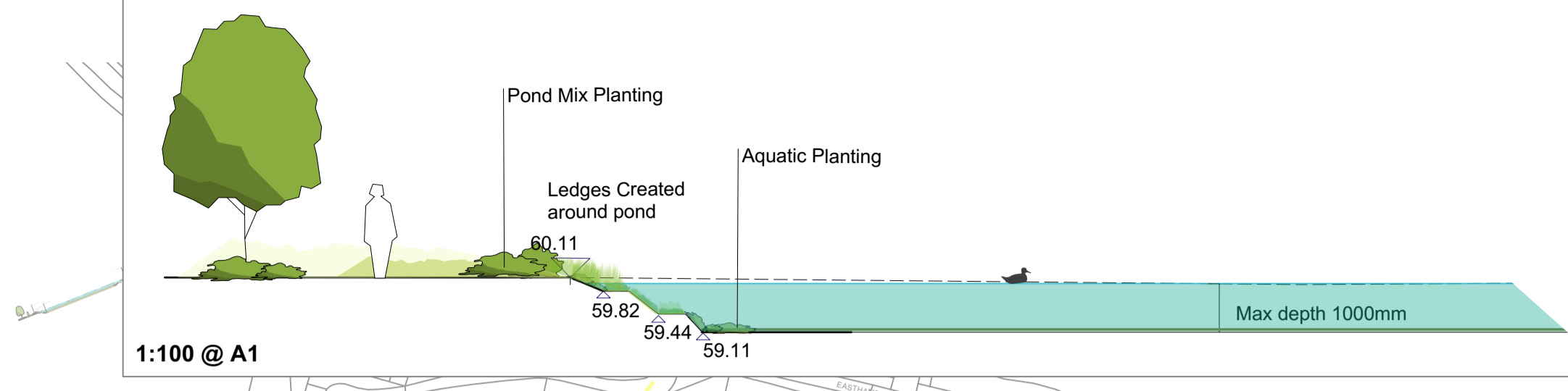
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 Ordnance Survey base mapping - supplied by client.



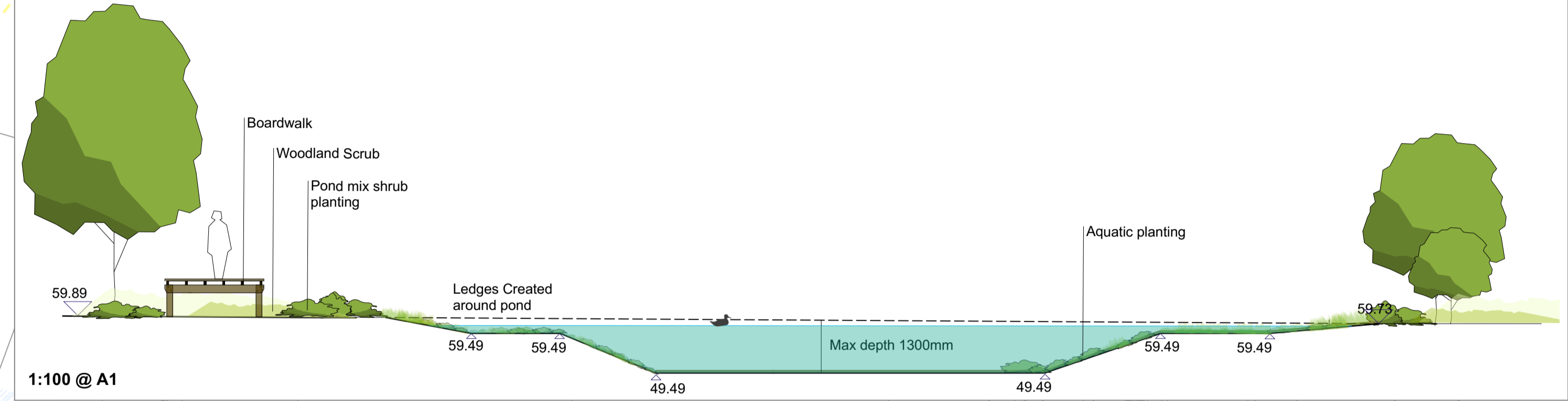
KEY

- Indicative water Level
- Proposed Ground Line
- Existing Ground Line
- Proposed Bund Cut

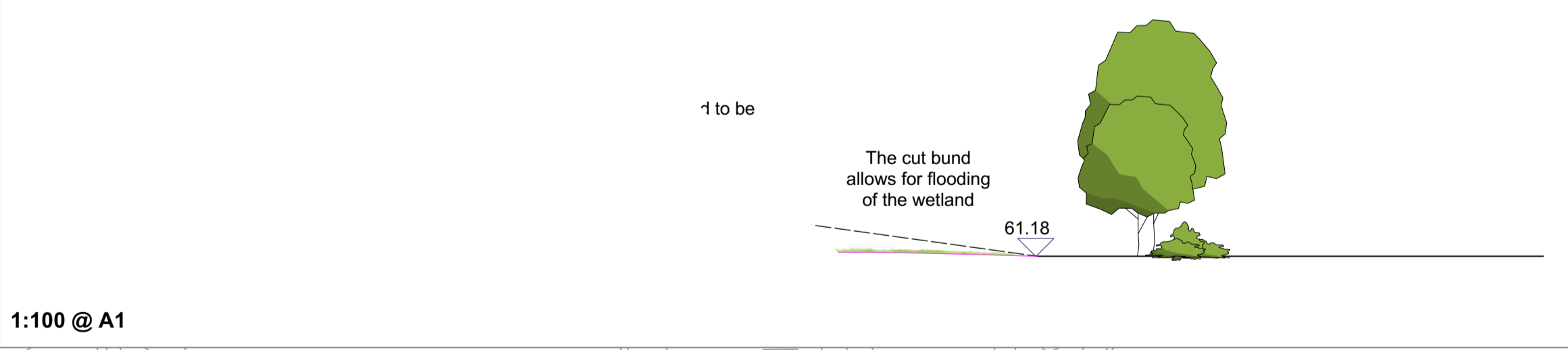
A-A Typical pond section



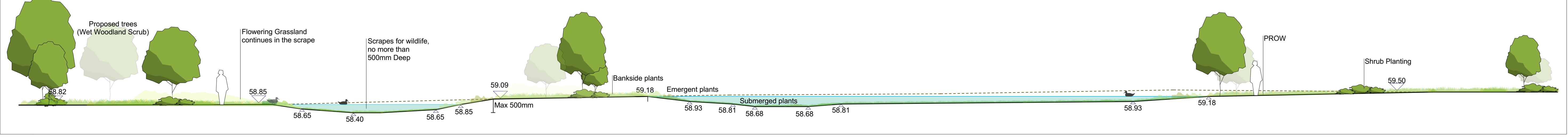
B-B Typical pond section



C-C Typical section showing removal of existing bund earthworks



D-D Typical scrape section



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