



SITE ADJACENT TO QUEEN VICTORIA HOSPITAL EAST GRINSTEAD

PART 2: HABITAT MANAGEMENT AND MONITORING PLAN (HMMP)

MACAR
PARTNERSHIPS
(QVH) LIMITED

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QUALITY ASSURANCE

This report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing (2nd Edition, December 2017).

The facts stated in this report are true to the best of our knowledge and belief, and any opinions expressed are held genuinely and in accordance with the accepted standards of the profession. ACD Environmental Ltd is a CIEEM Registered Practice.

Client:	Macar Partnerships (QVH) Limited
Site/job:	Site adjacent to Queen Victoria Hospital, East Grinstead.
Author:	Jake Cranston
Technical review:	Lisa Durrant



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1 INTRODUCTION

- 1.1. ACD Environmental Ltd was instructed to produce a Habitat Management and Monitoring Plan (HMMP) for the Land adjacent to Queen Victoria Hospital, East Grinstead, RH19 3DZ (OS Grid Reference: TQ 39793 39402). This land is hereafter referred to as the 'Approved Development Site'.
- 1.2. This report constitutes Part 2 of the Habitat Management and Monitoring Plan (HMMP), focusing on the management of habitat enhancement measures for retained features within the Approved Development Site and adjacent woodland parcels. In contrast, Part 1 of the HMMP is presented as a separate document that specifically addresses habitat creation measures on-site.
- 1.3. The Approved Development Site underwent a Biodiversity Net Gain (BNG) assessment, which included a biodiversity metric calculation using the 4.0 Biodiversity Metric¹. This assessment details the baseline condition of the habitat as well as the enhancements necessary to achieve a biodiversity net gain of **27.35%**. This HMMP outlines the long-term management strategies required to sustain the habitat enhancements essential for achieving the targeted biodiversity net gain.
- 1.4. This report is related to the granted planning permission for: "*Erection of 36 dwellings along with access from Oakfield Way along with parking and landscaping.*". Relating to planning **DM/24/2704**, granted by Mid Sussex District Council on 18th November 2025.
- 1.5. This report has been produced to address **Condition 7** of the planning permission and the S106 Sch 3 requirements. **Condition 7** states:

"If significant on-site enhancements are included within the approved Biodiversity Gain Plan, a Habitat Management and Monitoring Plan (HMMP), prepared in accordance with the approved Biodiversity Gain Plan, shall be submitted to, and approved in writing by the local authority, prior to commencement of development, including:

- a) the roles and responsibilities of the people or organisation(s) delivering the HMMP;*
- b) the planned habitat creation and enhancement works to create or improve habitat to achieve the on-site significant enhancements in accordance with the approved Biodiversity Gain Plan;*
- c) the management measures to maintain habitat in accordance with the approved Biodiversity Gain Plan for a period of 30 years from the completion of development;*
- d) the monitoring methodology in respect of the created or enhanced habitat to be submitted to the local planning authority; and*

¹ ACD Environmental (September 2023). 'UK HABS AND BNG ASSESMENT'. PDF. Malmesbury, England.
ACD Environmental

e) details of the content of monitoring reports to be submitted to the LPA including details of adaptive management which will be undertaken to ensure the aims and objectives of the Biodiversity Gain Plan are achieved.

Notice in writing shall be given to the Council when the:

o initial enhancements, as set in the HMMP, have been implemented; and

o habitat creation and enhancement works, as set out in the HMMP, have been completed after 30 years.

The created and/or enhanced habitat specified in the approved HMMP shall be managed and maintained in accordance with the approved HMMP.

Unless otherwise agreed in writing, monitoring reports shall be submitted in years 1, 2, 5, 10, 15, 20, 25, and 30 to the Council, in accordance with the methodology specified in the approved HMMP.

Reason: To satisfy the requirement of Schedule 7A, Part 1, section 9(3) of the Town and Country Planning Act 1990 that significant on-site habitat is delivered, managed, and monitored for a period of at least 30 years from completion of development.”

1.6. The S106 Sch 3 requirements share most of the above conditions as the HMMP but also states:

1.7. *“The HMMP shall include the following habitats based on the submitted post-intervention values:*

On site other woodland: mixed

On site pond – non priority

Offsite other woodland: mixed.”

1.8. This report should be read in conjunction with the On-Site HMMP², Ecological Survey Report dated January 2021³ and the Preliminary Ecological Appraisal Update dated December 2022⁴ both produced by PJC Consultancy, as well as the UK Habs and BNG Assessment, the Construction Environmental Management Plan: Biodiversity⁵ and the Soft Landscape Plan all produced by ACD Environmental⁶. In addition to the Preliminary Roost Assessment (PRA) by Arb Tech⁷

² ACD Environmental (September 2026). 'PART 1: ON-SITE HMMP'. PDF. Malmsbury, England.

³ PJC Consultancy (29th November 2019). 'Ecological Survey Report: Woodland parcel at Queen Victoria Hospital, Holtye Road, East Grinstead, RH19 3DZ'. PDF. Kent., England.

⁴ PJC Consultancy (20th January 2021). 'Preliminary Ecological Appraisal.'. PDF. Kent, England.

⁵ ACD Environmental (September 2024). 'Construction environmental Management Plan'. PDF. Malmsbury, England

⁶ ACD Environmental (June 2024). 'Soft Landscape Proposal.' PDF. Malmsbury.

⁷ ArbTech (July 2024). 'Preliminary Roost Assessment.' PDF. Chester, England.

Competence

- 1.9. This report has been written by Jake Cranston, Ecologist at ACD Environmental Ltd and Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Jake has undertaken various surveys, ranging from Habitat Surveys to Phase 2 surveys for protected species, including bats, badgers and dormice. Jake has written various reports, including Badger Technical Notes, and Landscape and Ecological Management Plans. Jake holds Natural England Class licences to survey for dormouse *Muscardinus avellanarius* and great crested newt *Triturus cristatus*. Is working on his bat licence.
- 1.10. A Technical Review of this report has been undertaken in line with ACD Environmental Ltd's Quality Assurance procedures by Lisa Durrant. Lisa is a Senior Ecologist at ACD Environmental Ltd. She has 13 years' experience in ecological consultancy and holds Natural England Class License for bats (Level 2), great crested newts *Triturus cristatus*, dormice *Muscardinus avellanarius*, and barn owl *Tyto alba*. She is a Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM).

2 AIMS AND OBJECTIVES

Aims

- 2.1. This document details the long-term management of the enhancements suggested in the BNG Assessment, required to achieve the proposed 27.35% net gain.
- 2.2. The aims of this HMMP and how this relates to specific sections of this report are as follows:
- Provide a summary of the previous ecology surveys and results in order to provide the context to subsequent recommendations (**Section 3.0**).
 - Provide details of the roles and responsibilities for future actions (**Section 4.0**).
 - Provide details of habitat enhancement and management (**Section 5.0**).
 - Provide details on Species mitigation (**Section 6.0**).
 - Provide details on monitoring and review (**Section 7.0**).
 - Provide details of a schedule of works for implementation and subsequent management, maintenance and monitoring (**Section 8.0**).
 - Provide conclusions to the points raised (**Section 9.0**).

Objectives

- 2.3. To ensure the success of the landscape and ecological design in perpetuity, the programme of maintenance and management within this report will aim to achieve the following objectives:
- Ensure features of ecological value are protected and managed in a way that ensures their ecological value is maintained.
 - Enhance habitats of ecological value.
 - Create and maintain ecological corridors for commuting wildlife across the completed development to ensure connectivity of habitats is maintained.
 - To ensure that the required protected species enhancement measures remain in place in perpetuity and are not disturbed.

3 BASELINE ECOLOGICAL CONDITIONS

- 3.1. The Approved Development Site underwent clearance in early October 2024, in accordance with a previous plan granted for **DM/21/18** and the mitigation guidance outlined in the CEMP: Biodiversity Report. However, the baseline habitats detailed in this report are characterized based on conditions observed prior to the clearance. Specifically, these conditions were documented during the Updated UK Habitat Walkover conducted on July 1, 2024, as well as the Biodiversity Net Gain (BNG) Assessment and UK Habitat Classification Survey conducted on August 16, 2024.
- 3.2. The Approved Development Site consists of c. 2.0 hectares of mixed broadleaved woodland, classified as priority deciduous woodland within the Priority Habitat Inventory⁸, with a non-priority pond adjacent the southern boundary.
- 3.3. The Approved Development Site borders north-east of East Grinstead town centre and south of the Surrey border. The wider landscape predominantly consists of residential development from southeast to southwest with the Queen Victoria Hospital neighbouring the eastern boundary. The northeastern boundary of the Approved Development Site connects to ancient woodland, designated as Ancient, Semi-Natural woodland. **Figure 1** below indicates an approximate boundary of the Approved Development Site.



Figure 1: Approximate boundary of the Approved Development Site (red). The blue boundary indicates off-site ancient woodland habitat. Map data (2025): Google. Google maps.

Designated Sites

- 3.4. The Approved Development Site is located within the 'Zone of Influence' (ZOI) of Ashdown Forest Special Area of Conservation (SAC) and Special Protection Area (SPA)⁸. The Approved Development Site is approximately 5.7km away from Ashdown Forest which is with the 400m-7km ZOI. The planning consultant report, produced by Natural England states that the development of the Approved Development Site is likely to have a significant effect on Ashdown Forest due to increased recreational pressure⁹. The council authority has local measures in place to manage potential recreational impacts; these mitigation measures take the form of contributions to Suitable Alternative Natural Greenspaces (SANG) provisions and financial payment to Strategic Access Management and Monitoring (SAMM)¹⁰.
- 3.5. The Approved Development Site is within the Zone of Influence (ZOI) for two non-statutory sites; Worth Way and Ashplatts, both Local Wildlife Sites. Under the Mid-Sussex District 2014-2031 Plan¹¹, Policy DP22 Rights of Way and other Recreational Routes, Worth Way constitutes as a Recreational Route and is protected to ensure development does not result in the loss of or adversely affect the recreational route. Mitigation for Worth Way includes ensuring that the development provides convenient, safe links to other recreational routes, and/or supporting additional routes between settlements¹¹.
- 3.6. Ashplatts is a SANG created to alleviate recreational pressure for Ashdown Forest SPA and SAC. The Approved Development falls within the 7km radius of Ashdown Forest and is c. 560m southeast of Ashplatts. Mitigation for Ashplatts will be included under the mitigation for Ashdown Forest, discussed above in paragraph 3.2.

Baseline

- 3.7. Habitats identified within the Approved Development Site are based on the updated UK Habitat Survey walkover carried out on the 1st of July 2024 and the UK Hab and BNG Assessment Survey on 16th August 2023.

⁸ Multi-Agency Geographical Information for the Countryside (2024). *MAGIC*. [Online]. Available from: <https://magic.defra.gov.uk/magicmap.aspx>

⁹ Natural England (4th December 2023) '*Planning Consultation Ref: DM.21.1842*'. PDF. Cheshire.

¹⁰ Mid-Sussex District Council (21st August 2023) '*Protecting Ashdown Forest*'. [Online]. Available from: <https://www.midsussex.gov.uk/planning-building/protecting-ashdown-forest/>

¹¹ Mid-Sussex District Council (March 2018) '*Mid Sussex District Plan 2014-2031*'. [Online]. Available from: <https://www.midsussex.gov.uk/media/2367/district-plan-adoption-version.pdf>

- w1h5, Other woodland mixed – mainly broadleaved
- 41, Pond (non-priority).

W1h5 Other woodland mixed – mainly broadleaved

- 3.8. The mixed woodland comprises of European Ash *Fraxinus excelsior*, blackthorn *Prunus spinosa*, common holly *Ilex aquifolium*, dog rose *Rosa canina*, English oak *Quercus robur*, hawthorn *Crataegus monogyna*, field maple *Acer campestre*, sycamore *Acer pseudoplatanus*, hazel *Corylus avellana* two Lawson cypress's *Chamaecyparis lawsoniana*, goat willow *Salix caprea*, one western red cedar *Thuja plicata* and yew *Taxus baccata*. The BNG assessment survey¹ references a further two species: bamboo *Poaceae sp* and bird cherry *Prunus padus*.
- 3.9. In addition, Cherry laurel *Prunus laurocerasus* was established within glades of the woodland and appears to be spreading.
- 3.10. Ground flora present within the woodland consists predominantly of bramble *Rubus fruticosus* and common nettle *Urtica dioica*, in addition to herb-Robert *Geranium robertianum*, creeping buttercup *Ranunculus repens*, false oat grass *Arrhenatherum elatium*, hedge bindweed *Calystegia sepium*, false brome *Brachypodium sylvaticum*, common ivy *Hedera helix*, wood melic *Melica uniflora*, pendulous sedge *Carex pendula*, cocksfoot *Dactylis glomerata*, tufted hair grass *Deschampsia cespitosa*, Yorkshire fog *Holcus lanatus*, male fern *Dryopteris filix-mas*, willow herb *Epilobium sp* and creeping jenny *Lysimachia nummularia*.
- 3.11. Desire lines were present within in the woodland which were found to be well used, with areas of trampling and bare ground footpaths, in addition to dirt tracks for transport to the hospital.

41 Pond (non-priority)

- 3.12. An attempt was made to survey the non-priority pond, however there was difficulty in visibility due to dense growth of vegetation. According to the UK Hab and BNG Assessment Survey, the pond is described as; "...surrounded by w1h5 woodland and so is shaded by native trees along the banks. The water is clear with low turbidity and <10% duckweed or filamentous algae on the pond surface. It does not appear fish are present in large densities, coots were seen during the time of the survey. The banks surrounding the pond were gently sloping and boggy with low vegetation. No aquaflora was present in the pond or along the banks. No artificial dams, pumps, connections to other water bodies or pipework were preset and no non-native plant or animal species were identified".

3.13. Another survey attempt was made on 1st October 2024 which found the pond in a similar state as described in the BNG Assessment Survey, with the exception of the water turbidity which appeared to be of high turbidity with silt build up. It is worth noting that access to the waterbody was limited due to the wet terrain, weather and overgrown vegetation. The overgrown vegetation also blocked vision from the majority of the pond edges. As the UK Habitat assessment took place a year ago, it is considered the habitat remains as previously described.

Fauna

Amphibians

3.14. A non-priority pond is present within the south of the Approved Development Site, which has the potential to support amphibians. The pond onsite was subjected to a Habitat Suitability Index (HSI) survey on the 11th of April 2019. A HSI survey is used to assess the potential for a habitat to support great crested newts *Triturus cristatus*; the outcome of this assessment found the pond to have 'poor' suitability for great crested newts, primarily due to poor water quality, as well as lack of suitable aquatic vegetation and waterfowl present. In addition to this an eDNA survey was carried out at the same time, with a negative result indicating that great crested newts were absent from this pond.

3.15. However, the Approved Development Site did support other amphibians, such as the common frog *Rana temporaria* and smooth newt *Lissotriton vulgaris*; four juvenile common frogs and a single juvenile smooth newt were recorded during the reptile surveys between April – August 2019.

3.16. The pond and its immediate surrounding habitat are to be retained and protected during construction. The pond does not appear to be of high quality habitat for amphibians, however the surrounding vegetation provides suitable terrestrial habitat therefore the Approved Development Site has **moderate potential** for commuting and foraging amphibians.

Bats

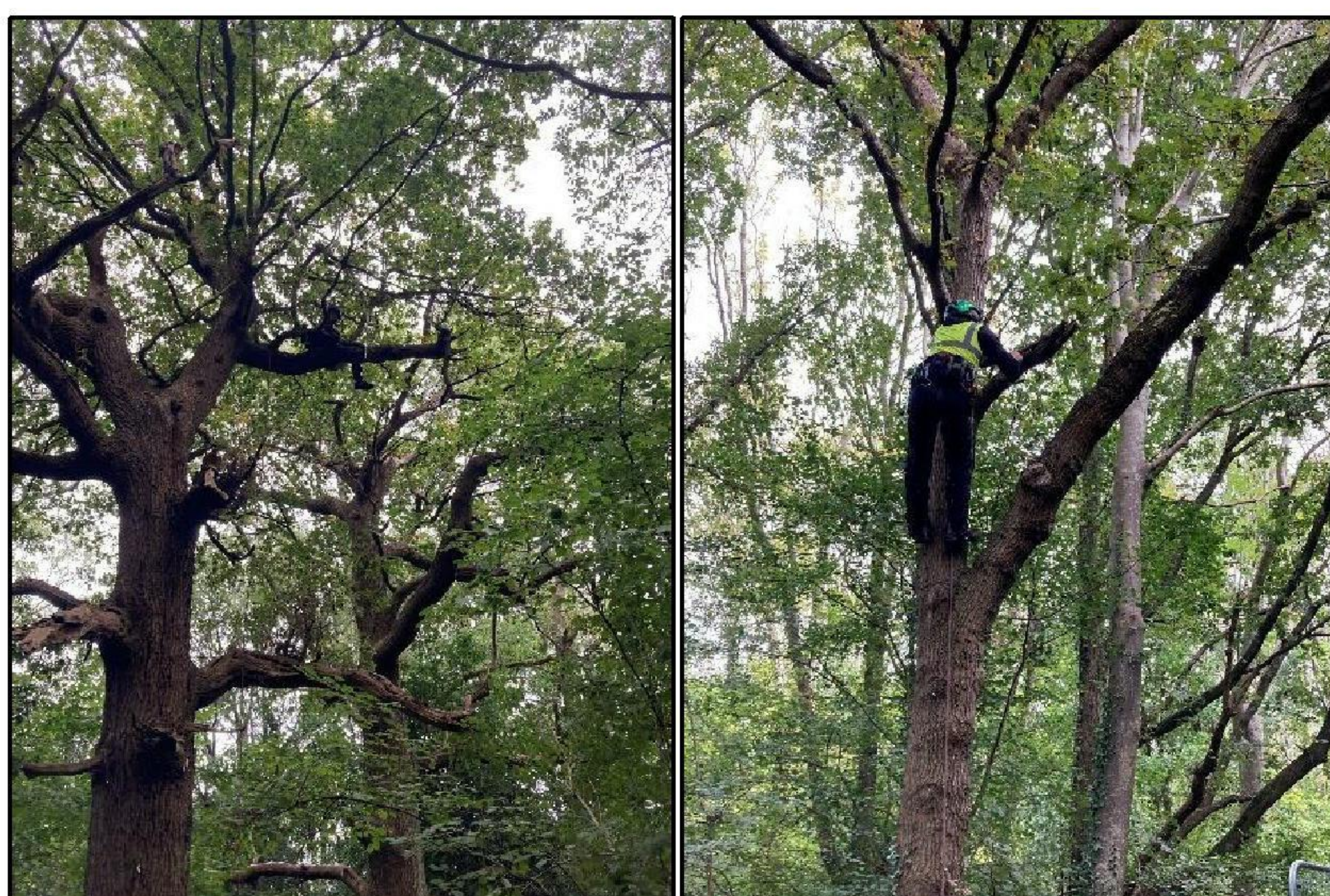
Commuting and foraging bats

3.17. The Application Site is connected to priority deciduous woodland adjacent to ancient semi-natural woodland that provides high-quality habitat for foraging and commuting bats.

3.18. The Application Site has been subject to three Preliminary Roost Assessments (PRA)^{4,7}The results from the PRA's are as follows; the PRA on 7th January 2021 concluded there were 10 mature trees with high potential for roosting bats; the PRA on 1st July 2024 concluded there were eight trees with high potential for roosting bats. An aerial inspection and endoscopic survey were carried out following the most recent PRA on three trees with high potential, the survey concluded the trees all

had shallow roosting features and were of negligible suitability for roosting bats. However, as there were still 5-7 trees that had not been inspected via aerial inspection, a further ground level tree assessment, aerial inspection and supervised soft-felling took place on 26th July 2024.

- 3.19. The ground level tree assessment, aerial inspection and supervised soft-felling resulted in approximately 50 mature trees that were ground inspected using an endoscope, torch and binoculars, 12 trees surveyed through an aerial inspection and endoscope, and four trees that were soft-felled under supervision. The trees that were soft-felled showed no evidence of bats but contained features with high potential, therefore limbs and trees were removed to prevent the uptake of roosts. The soft felling works was permitted under a previous planning application **DM/21/1842**, granted on 15th February 2023.



Photograph 1 (left): Oak with wood-pecker cavities aerial inspection.

Photograph 2 (right): Oak with dense limb wound aerial inspection.

Birds

- 3.22. The woodland provides suitable habitat for nesting birds, with many suitable opportunities within the dense canopy. During the updated walkover survey there was presence of nesting birds, as fledglings could be heard, and a nesting black bird was recorded within a forked hazel tree.

Reptiles

- 3.23. A reptile survey was undertaken by PJC Consultancy between 29th April to 1st August 2019, with a peak count of one adult slow worm *Anguis fragilis* and one sub-adult grass snake *Natrix natrix*. Woodland composition and habitat has not altered since the 2019 survey, as described in the preliminary ecological appraisal⁴ as “...comprises predominantly semi-natural deciduous woodland which for the majority is considered to be less than 50 years old. This determination was estimated using historical satellite imagery A large duck pond (P1) is present within the southern portion of the Site and a dirt access track intercepts the centre of the Site...”.
- 3.24. Hibernacula are present within the woodland in the form of dead wood log piles. However, the woodland is heavily shaded, with footpaths in frequent use by dogwalkers, pedestrians and vehicles to Queen Victoria Hospital, therefore most likely used for commuting and foraging purposes only.
- 3.25. Due the unstable features of the woodland, i.e. heavy shading and frequent pedestrian use and the results of the April 2019 reptile survey, the woodland is considered of **negligible importance** to reptiles.

Invertebrates

- 3.26. Deadwood was present within the Approved Development Site due to fallen trees within the woodland habitat as well as decaying wood surrounding the non-priority pond. This provides suitable habitat with **moderate potential** to support stag beetle and other notable invertebrate species.

Other species

- 3.27. In addition to the species above, the Approved Development Site provides suitable high-quality habitat for hedgehog *Erinaceus europaeus*.

4 ROLES AND RESPONSIBILITIES

- 4.1. This report should be read in conjunction with other environmental reports for the Site adjacent to Queen Victoria Hospital, East Grinstead.
- 4.2. The overall responsibility for the design of the scheme under The Construction (Design and Management) Regulations 2015 is with the Principal Designer.
- 4.3. The implementation of this HMMP (including habitat creation) during site preparation and construction is the collective responsibility of the appointed Project Manager, and the landowner. This collective will ensure that all appointed contractors are aware of the ecological requirements of the Approved Development Site and will distribute this HMMP to relevant parties.
- 4.4. All materials, workmanship, quality and operations should be in accordance with all relevant British Standards, Codes of Practice and legislation including relevant Health and Safety legislation.
- 4.5. Once the construction phase is complete, the maintenance and management of the habitats on the Application Site and associated funding will be the responsibility of a private management company appointed by the Developer. Once a management company is appointed, their details should be inserted here:

Name:

Company:

Telephone:

Personnel responsible for implementation of the plan:

Main contact:

Developer contact details:

Length of agreement

- 4.6. The minimal length of the initial agreement with the management company will be five years. Following the five years, management practices will be reviewed, and a new contract drawn up as necessary, to ensure the Approved Development Site is managed in line with the aims and objectives of this HMMP for a minimum of 30 years, as proposed in **Condition 7** and the S106 Sch 3 requirements. Management should continue in perpetuity.

5 HABITAT ENHANCEMENT AND MANAGEMENT

5.1. Table 1 provides the following uplift and enhancement prescriptions required to achieve the 27.35% net gain. Table 1 is an excerpt from the BNG Assessment report, for further details please refer to the BNG Assessment Report¹Error! Bookmark not defined.

Table 1: Condition uplift table for on-site and offsite habitats

Habitat parcel reference	Habitat type	Baseline condition	Baseline habitat units	Condition criteria failures	Target condition	Management intervention to achieve condition uplift	Deliverable habitat units
Onsite woodland	Other woodland; mixed	Moderate	9.92	C – invasive species (rhododendron and bamboo) F –regeneration open space at 21-40% of total area. I – No recognisable NVC plant community.	Good	Remove/manage rhododendron and bamboo, coppicing to create regeneration open space, and to encourage NVC woodland indicator species, installation of interpretation boards, and protection of future veteran trees.	0.54
Onsite pond	Pond – non-priority	Moderate	0.88	B – Semi-natural habitat of at least 10m does not surround the perimeter of the pond.	Good	Enhance extent and quality of semi-natural vegetation around the pond. De-silt and create 50% sunlight, 50% dappled shade, to encourage more diverse aquatic plants.	1.14
Offsite woodland (designated as ancient woodland)	Other woodland; mixed	Moderate	9.62	C – invasive species (rhododendron and bamboo) F –regeneration open space at 21-40% of total area. I – No recognisable NVC plant community.	Good	Remove/manage rhododendron and bamboo, coppicing to create regeneration open space, and to encourage NVC woodland indicator species, installation of interpretation boards, and protection of future veteran trees.	12.99
Offsite woodland (not designated as ancient woodland)	Other woodland; mixed	Moderate	6.76	C – invasive species (rhododendron and bamboo) F –regeneration open space at 21-40% of total area. I – No recognisable NVC plant community.	Good	Remove/manage rhododendron and bamboo, coppicing to create regeneration open space, and to encourage NVC woodland indicator species, installation of interpretation boards, and protection of future veteran trees.	8.73

Woodland habitat enhancement.

- 5.2. Table 1 indicates that the on-site woodland and the two off-site woodland parcels are all to receive the same enhancement prescriptions and management.
- 5.3. All three woodland parcels fail the same condition criteria; C invasive species presence (bamboo and rhododendron); F regeneration of open space, in this case less than 10% of open space; and I no recognisable NVC community.
- 5.4. The following enhancement management measures are to be followed in order to uplift the condition of the habitat parcels and pass the previously failed criteria (C, F and I).

Criteria C; invasive species presence.

- 5.5. During the UK Habitat Classification Survey on the 16th of August 2024, three species were identified within the woodland parcels, these species comprise of *rhododendron* species, bamboo *Bambusa* species and European horse chestnut *Aesculus hippocastanum*. As this criterion failed, there is more than 10% of invasive species present within the woodland parcels.
- 5.6. Rhododendron is a large evergreen shrub that quickly colonises glades within woodland, the species

can self-propagate and produce 3000-7000 seeds. A mixture of both physical and chemical treatment will be required to ensure complete removal of the species from the woodland.

- 5.7. Physical removal is the preferred method of management. As the species is present within a habitat of national importance such as priority deciduous woodland and ancient woodland, heavy machinery is not permitted to prevent negative impacts of these habitats. Only hand tools such as chainsaws and brush-cutters are permitted.
- 5.8. Rhododendron is to be cleared down to ground level using hand tools. Following clearance, a winch is to be used to remove the root ball and prevent any further new growth¹². All debris from the removed specimen is to be removed off site and disposed of to a registered waste carrier or authorised landfill site¹³.
- 5.9. If the root ball is not able to be removed by physical measures, then a chemical measure is to follow. Chemical measures will be in the form of herbicide plugs as opposed to sprayed herbicide, this is to ensure accurate treatment and prevent chemical contamination in the woodland.
- 5.10. Bamboo requires similar removal methods to rhododendron, physical removal of the specimen and its root system. In cases where bamboo is well established, the root system can be as deep as 1m, to prevent any trenches forming and trapping wildlife, all areas where bamboo and been removed should be filled in after removal. In cases where bamboo is too mature for complete removal, the specimens will need to be cut back repeatedly for 5 years, to prevent leaves from growing, depleting photosynthesis and eventually depleting the specimen. Chemical application is not advised according to Royal Horticultural Society¹⁴ and invasive species specialists¹⁵, as the method in which bamboo grows (rhizomes) makes chemical application very difficult and not an efficient method of eradication.
- 5.11. All invasive species removal and chemical application must be carried out by a trained professional.
- 5.12. Horse chestnut, although a non-native species, it is not an invasive species and is listed as a 'vulnerable' species on the International Union for Conservation Nature (IUCN) Red List¹⁶. The species has undergone a dramatic decline, as of 2019 it now listed as vulnerable to extinction,

¹² Invasive weed solutions (2024) '*Rhododendron Removal and Control*'. Online. Available from: <https://invasiveweedsolutions.co.uk/invasive-weeds/non-native/rhododendron/>

¹³ Gov.UK (February 2024). '*How to stop invasive non-native plants that can harm the environment in England*'. Available from: <https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants#:~:text=other%20invasive%20plants,-,Treat%20invasive%20non%2Dnative%20plants,disposing%20of%20them%20off%20site>

¹⁴ Royal Horticulture Society (2024) '*Bamboo Control*'. Online. Available from <https://www.rhs.org.uk/plants/types/grasses/bamboo-control>

¹⁵ Inspectas Land Remediation (2024). '*Bamboo removal and control*'. Online. Available from: https://inspectaslr.co.uk/bamboo/?gad_source=1&gclid=CjwKCAjwpbi4BhByEiwAMC8JnZAg0TLNn4CsNPLrMT873gYdEA4Mc8YyzkbTqalGBNSIsaA7F8CMGxoCvokQAvD_BwE

¹⁶

therefore horse chestnut trees are to be retained and protected.

F; regeneration open space at 21-40% of total area (scoring 'moderate' condition).

- 5.13. The habitat parcels are described as having temporary open space only in the form of footpaths and desire lines. To increase open space within the canopy and allow for regeneration of age classes, coppicing is the recommended enhancement.
- 5.14. Coppicing involves the periodic cutting of shrubs and trees to ground level, encouraging them to sprout new stems. The periodic cutting rejuvenates trees encouraging a longer life span as well as providing different age classes within the woodland and extended food resource periods for wildlife.
- 5.15. Optimal coppicing season is between November-February when the trees are dormant and prior to budding and bird nesting season.
- 5.16. Species that are present within the woodland parcels and can be coppiced include oak, hazel, sweet chestnut and field maple. However, the recommended species to be coppiced in these woodland parcels are hazel and sweet chestnut as both react well to coppicing.
- 5.17. To coppice a woodland, the woodland should be divided into equal areas, a minimum of 0.25ha if possible, to prevent the coppiced area from being over-shaded. A coppiced area is known as coupes. Coupes are to be coppiced on a rotational cycle, one coupe coppiced per year. The off-site ancient woodland measures approximately 1.045 ha and the priority off-site woodland at 0.735ha. Therefore, there should be a total 4 coupes within the ancient woodland and 3 coupes within the priority woodland, both off-site woodland parcels.
- 5.18. Once coppiced, tree guards are to be implemented to prevent browsing of new shoots.
- 5.19. In addition to coppicing, another method of increasing open space is the removal of ash species that show signs of ash dieback *Hymenoscyphus pseudoalbidus*. Ash is a colonisation species, often growing close to each other, therefore clearing of diseased ashes will create natural glades within the woodland¹⁷.
- 5.20. Once trees with ash dieback have been removed, ash trees should be assessed on a five year basis, this is to identify ash trees that may be building up a tolerance.
- 5.21. If the coppicing and removal of ash does not provide enable light to penetrate the floor, woodland thinning is a third method of creating glades. Woodland thinning refers to the removal of stunted trees that are growing neighbouring mature trees that overshadow the stunted tree, this method can

¹⁷ R.J Mitchell et al. (2014). 'Ash dieback in the UK: A review of the ecological and conservation implications and potential management option'. Biological Conservation 175 (95-109).

create deadwood piles in the woodland and sunline access to the woodland flora.

5.22. I; No recognisable National Vegetation Classification (NVC) community.

- 5.23. The on-site and off-site woodland are categorised as w1h5 lowland deciduous woodland mixed – mainly broadleaved.
- 5.24. The woodland parcels floral community consist predominantly of bramble and common nettle with glades of the woodland frequently colonised by rhododendron. Although there were other locally occurring species listed in paragraph 3.9 these species were isolated to areas along the footpaths.
- 5.25. As the predominant floral species within the woodlands are bramble and common nettle, the woodland has failed the criteria for NVC community present.
- 5.26. The UK Habitat Classification for w1h5 deciduous mixed woodland aligns with the NVC W10 Woodland community characterized by oak trees, bracken *Pteridium aquilinum*, and bramble. Key NVC floral indicative species of optimal woodland health include bluebells *Hyacinthoides non-scripta* and wood anemones *Anemone nemorosa* as prominent spring flowers. Throughout the year, common plants include brambles, bracken, and honeysuckle *Lonicera periclymenum*. Other species present in the NVC W10 community consist of climbing corydalis *Ceratocarpus claviculata*, common foxglove *Digitalis purpurea*, hairy wood rush *Luzula pilosa*, red campion *Silene dioica*, woundwort *Solidago virgaurea* and greater stitchwort *Stellaria holostea*¹⁸.
- 5.27. The NVC indicator species mentioned above represent the ideal plant community for these woodland areas to enhance their condition and meet criteria 'I'. To achieve this, seed mixes containing these species are necessary for overseeding the woodland floor. A recommended seed mix is Emorsgate Seeds' 'EW1 Woodland Mixture'¹⁹.
- 5.28. Proper ground preparation is crucial for the successful establishment of seeds. Optimal seeding locations include glades and open areas that allow light to reach the ground. Leaf litter, bramble, and common nettle should be cleared to expose fresh soil. Once the topsoil is prepared, seeds should be sown in overlapping sections without covering them. The ideal time for sowing is from autumn to early spring.
- 5.29. To support the establishment of flowering ground species, management of nettle and bramble is essential in the open areas where seeds have been sown. Coppiced areas are particularly

¹⁸ Joint Nature Conservation Committee (2004). 'National Vegetation Classification, field guide to woodland'. Online PDF. Available from: <https://data.incc.gov.uk/data/673dc337-e58f-4f6b-ac7b-717001983c2e/JNCC-NVC-FieldGuideWoodland-2004.pdf>

¹⁹ Emorsgate Seeds (2024). 'EW1 Woodland Mixture'. Online. Available from: <https://wildseed.co.uk/product/mixtures/complete-mixtures/special-habitat-mixtures/woodland-mixture/>

advantageous for seeding, as they allow for greater sunlight penetration, promoting growth.

- 5.30. Opportune areas of seeding are coppiced areas which will enable a higher increase of sunlight penetration.
- 5.31. Seeded areas are to be checked and managed on an annual basis to prevent bramble and common nettle dominating and returning to previous condition. Areas of bramble should be encouraged and strategically managed to benefit dormice and other species.
- 5.32. Throughout the woodland, along paths bramble can be managed to help prevent disturbance.

Non-priority pond

- 5.33. The non-priority pond is classified as 'moderate' condition under BNG Assessment and UK Habitat Classification Survey, failing criteria B; "There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond edge for its entire perimeter". The pond was assessed as having only 4 meters of woodland surrounding the pond, however in all surveys conducted on the body of water, access was limited and difficult to ascertain the size of the land surrounds the perimeter.
- 5.34. To improve the waterbody condition, enhancements comprise of removing overhanging tree branches that shade the water. This should focus on the southern edge to maximize sunlight penetration, ideally leaving only 20% of the pond shaded. Increasing sunlight will promote the growth of aquatic plants and benefit amphibians and invertebrates that have preference for warmer temperatures. Additionally, removing these overhanging branches will help prevent silt buildup caused by decaying leaves and debris, which can acidify the pond water.
- 5.35. During the latest survey conducted on October 1, 2024, the pond exhibited high turbidity, likely due to silt accumulation. Beyond trimming branches, the pond also requires desilting. The existing silt reduces oxygen levels, hindering aquatic species diversity. This desilting process is to take place during autumn, when most invertebrates and amphibians have migrated to their terrestrial habitats.
- 5.36. Desilting should be performed using a fine mesh dipping net that allows small creatures to pass through while effectively removing silt. The net must be checked for invertebrates before removing the silt. After extraction, the silt should be placed in piles 2-3 meters from the pond's edge and left for 24 hours to allow any remaining invertebrates to escape. The silt piles should be cleared after this period to prevent nutrient dumping, which can promote the growth of invasive species like common nettle.
- 5.37. The removal of overhanging tree branches will not only enhance the quality of the pond and its surrounding habitat but will also facilitate a more accurate assessment of the land area surrounding

the non-priority pond.

6 SPECIES MITIGATION

General measures

- 6.1. Care must be taken during enhancement groundworks to ensure wildlife is not harmed. In the unlikely event that any protected species is found when an ecologist is not in attendance, works must stop, the protected species must not be handled or disturbed and ACD Environmental will be contacted in the first instance.
- 6.2. The following good practice measures will also be adopted within the construction site:
- Small loose objects of litter (e.g. plastic bottles, food packets etc.) should be removed regularly;
 - Avoidance of large piles of debris;
 - Any temporarily exposed ditch, will have a means of escape for wildlife.
 - To prevent seed dispersal into the soil, invasive species removal debris should be placed in a bag and positioned on a raised platform.

Fauna

Amphibians

- 6.3. Amphibians have been recorded within the Approved Development Site, although in limited quantities. The site exhibits moderate potential for supporting both foraging and commuting amphibians.
- 6.4. Works on the non-priority pond are scheduled for autumn (September and October), a period when froglets have emerged from the pond but before the onset of hibernation season.



Bats

Sensitive lighting strategy

6.6. Any impact as a result of the construction phase lighting will be temporary in nature and the following good practice measures will be adopted.

- No additional artificial lighting will be permitted after dark in either woodland parcels (off-site woodland and retained on-site woodland) and non-priority pond.
- Where lighting is required, lighting will be installed to avoid illuminating upwards towards tree canopy;
- Lighting required for enhancement work will be turned off overnight; and
- The lighting specification must be 'warm white' light (~2700-3000K, >550nm peak wavelength) with no UV component to avoid the most disruptive wavelengths to bats during the demolition or construction, the advice of an ecologist should be sought.

Occupational lighting

6.7. The Institution of Lighting Professionals and the Bat Conservation Trust²⁰ have produced a guidance note that provides advice on reducing artificial lighting in new developments. The following measures should be implemented within the Approved Development Site in order to avoid impacts on bats within the retained woodland that surrounds the priority pond:

²⁰ Bat Conservation Trust and Institute Lighting Professionals (August 2023) Guidance Note – Bats and Artificial Lighting at Night. Institute Lighting Professionals. Page 1-71.

- Installing external lighting only where there is a significant need; allowing some unit areas, dimming and part-night lighting where lighting intensity is reduced during the darkest time of the night;
- Motion-sensors coupled to one-minute timers on external lighting such as in private driveways;
- Using luminaries with warm white, narrow spectrum lights with no UV content and peak wavelength over 55nm, recessed where possible and mounted horizontally with no upward tilt; and
- Lighting is to be directed away from the retained tree line, created hedgerows, trees and artificial wildlife habitats.

Birds

- 6.8. The retained woodland and off-site woodland provide quality habitat for nesting and foraging birds.
- 6.9. To ensure no birds are impacted by the enhancement work to take place, all coppicing works is to take place in November-February when the trees are dormant and outside of the accepted bird nesting season.
- 6.10. If coppicing is required to take place during bird nesting season, it must first be thoroughly checked by a suitably qualified Ecological Clerk of Works (ECoW) prior to any work starting. If a nest is identified, the ECoW will establish a suitably sized buffer according to species around the nest with high visibility tape. No works will be permitted within the buffer, which must remain in place and undisturbed until the ECoW has confirmed that the nest is no longer in use. If it is not possible to fully access the vegetation for checking, the ECoW will supervise the clearance work, ensuring a suitable methodology is adhered to. All coppice work and vegetation removal are to be undertaken using hand tools only. If a nest is identified in the absence of the ECoW, a suitably qualified ecologist will be contacted to advise immediately, and work must stop until the ECoW has attended and assessed the nest and provided suitable instruction.

Invertebrates

- 6.11. Both on-site and off-site woodlands, along with the non-priority pond, provide valuable foraging habitat for a diverse array of aquatic and terrestrial invertebrates.
- 6.12. To support terrestrial invertebrate populations, coppicing and the removal of invasive species will be conducted during the winter months, when invertebrate activity is reduced, and pollinators are in hibernation.
- 6.13. Regarding aquatic species, the silt within the non-priority pond will be removed using a fine mesh net to facilitate the passage of aquatic organisms. Furthermore, the silt piles will be left in place for

24 hours to allow any remaining creatures to escape.

Artificial Enhancements

Artificial enhancements are to be implemented within the Approved Development Site and are discussed in detail in HMMP PART 1.

There are artificial enhancements to be located within the retained on-site woodland that surrounds the non-priority pond provide an increase in opportunities for roosting bats and nesting birds. Artificial enhancements within the retained on-site woodland that surrounds the priority pond are as follows:

Bat Boxes

- 6.14. Schwegler 2F Bat Boxes are to be installed on the trees of the retained on-site woodland within the Approved Development Site. The bat boxes will be positioned on trees facing different aspects to provide a variety of microclimates to encourage uptake, with preference to south/southeastern facing. The boxes are to be positioned between 4-6m above the ground.
- 6.15. No artificial light is to be directed towards the bat boxes.

Bird boxes

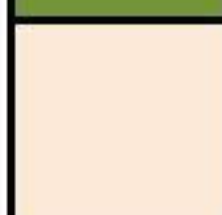
- 6.16. Two types of bird boxes are to be installed on retained trees in the on-site woodland within Approved Development Site: Vivara Pro Seville Bird Box and Vivara Pro Barcelona Bird Box.
- 6.17. Vivara Pro Seville Bird Box is a nesting bird box suitable for blue tits *Cyanistes caeruleus*, tree sparrows *Passer montanus*, house sparrow, great tit *Parus major* and many more small passerine species. Five of these bird boxes are to be positioned on various retained trees within the Approved Development Site, at 3-5m above ground level between north to east aspects.
- 6.18. The Vivara Pro Barcelona Bird Box is an artificial enhancement for a range of birds including but not limited to wrens *Troglodytidae*, European robins *Erithacus rubecula*, spotted flycatchers *Muscicapa striata*, pied *Motacilla alba* and grey wagtails *Motacilla cinerea*, song thrushes *Turdus philomelos* and blackbirds. As a blackbird nest has been recorded in the updated walkover survey, this enhancement will provide further nesting opportunities for species known to nest in the woodland. A total of four of these bird boxes are to be incorporated across the Approved Development Site, positioned a minimum of 3m above ground level, ideally near undergrowth such as ivy to provide cover for the bird box.
- 6.19. Locations of the artificial enhancements within the Approved Development Site are shown within the Soft Landscape Proposal as seen in **Appendix 4**.

7 MONITORING

- 7.1. Upon completion of the construction phase, the Approved Development Site will be inspected by an ecologist to confirm the development has adhered to the HMMP. Where discrepancies are identified, these are to be reported to the Developer and Mid Sussex District Council. The discrepancies will be corrected under the supervision of the ecologist where required. Discrepancies can include missing bird and bat boxes, tree failure etc.
- 7.2. The Approved development site will be maintained, managed and monitored for a period of 30 years according to the S106 Agreement Schedule 3. The HMMP will be reviewed by the District Council to confirm all habitats, both on site and off-site Biodiversity Areas have been completed to a satisfactory condition, following this, a BNG Certification of Practical Completion will be issued, the date of BNG Certification is known as Covenant Start Date. After certification, the Approved Development site will be monitored on the two year anniversary of the Covenant Start date, followed by five year anniversary, ten year anniversary, twenty year anniversary and thirty year anniversary. by an ecologist and will be amended as necessary.
- 7.3. Relevant data from the surveys will be sent to the following organisations where necessary:
- Mid Sussex District Council;
 - Local Records Centre;
 - Relevant national recording scheme; and
 - ACD Environmental Ltd (if required).

8 SCHEDULE OF WORKS

- 8.1. The work schedule for monitoring, maintenance and management activities are set out within **Table 2**. The works schedule below may be subject to changes in timings subject to the construction phase schedule. In the instance that any changes in timings are required, the Developer and/or the appointed management company is to contact an ecologist at ACD Environmental Ltd to confirm agreement to any amendments.
- 8.2. The colour coding within **Table 2** is as follows:

	Optimal months
	Sub-optimal months (may be acceptable if appropriate mitigation/supervision undertaken)
	Unsuitable months

- 8.3. Where ECoW presence is required the relevant species/species group consideration is demonstrated as follows:

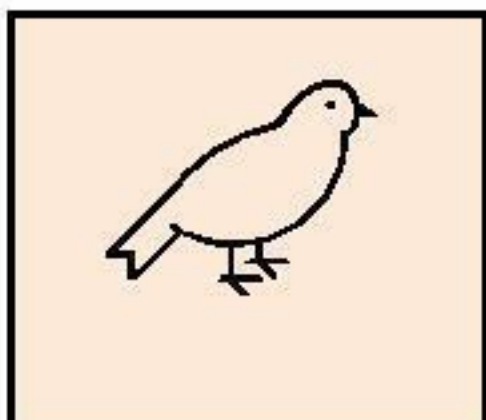
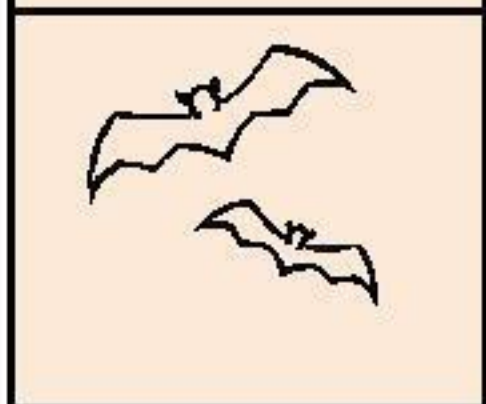
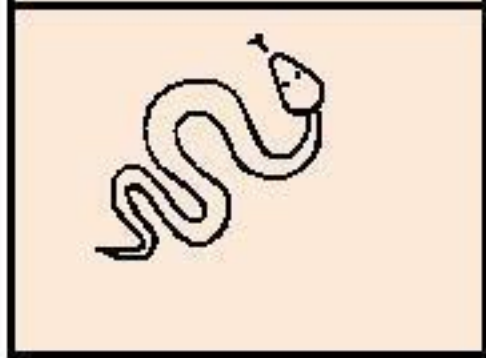
	Nesting birds
	Roosting bats
	Reptiles

Table 2: Work schedule for management, maintenance and monitoring schedules.

Action		J	F	M	A	M	J	J	A	S	O	N	D
IMPLEMENTATION OF ENHANCEMENTS													
	Copping of off-site and on-site woodland												
	Removal of nettle and bramble for seeding of NVC community seed mix.												
	Removal of invasive species (rhododendron and bamboo)												
	Removal of overhanging limbs within priority pond												
	De-silting of priority pond												
	Removal of ash trees with ash dieback.												
POST COMPLETION - YEAR 1													
Year 1	Post completion survey to be undertaken by an ecologist. Results used to feedback into HMMP as required and to rectify any issues.												
	Year 1 monitoring survey undertaken by an ecologist. Results used to feedback into HMMP as required and to rectify any issues.												
	Annual check for invasive species												
	Removal of invasive species												
	Coppice one of seven coupes, others are to remain un-coppiced on a rotational cycle.												
	Management of bramble and nettle within open spaces and glades												
	Re-seeding coupes and open space areas.												
POST COMPLETION - YEAR 2 ONWARDS													
2-3 years	Annual check and removal of invasive species (rhododendron and bamboo)												
	Rotational coppice cycle, second coupe of seven coupes. Removal of tree guards in previous coupe.												

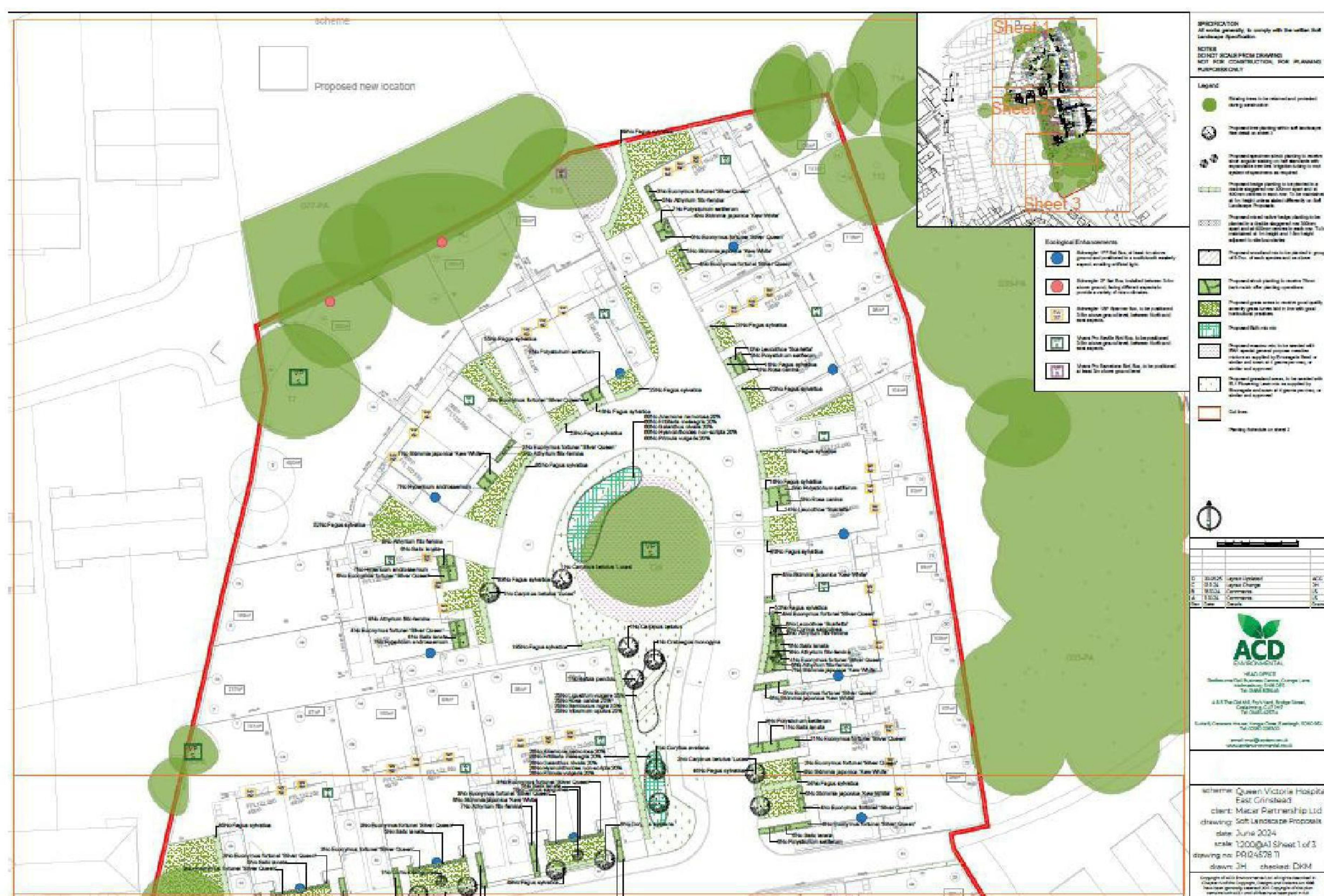
	Management of bramble and nettle within open spaces and glades													
	Review of priority pond to check silt build up.													
	Annual check of ash dieback and removal of diseased trees.													
5 years	Site visit by an ecologist and five-year review of HMMP undertaken. Results provided to Mid Sussex Borough Council, Local Records Centre and Developer as required. HMMP updated and monitoring continued in line with HMMP.													
POST COMPLETION – 25 YEARS														
Annual	Rotational coppice cycle, one of rotational couple cycle. removal of tree guards in previous coupes.													
	Review of priority pond to check silt build up.													
	Annual check of ash dieback and removal of diseased trees.													
5 years	Five-year review of HMMP undertaken. Results provided to Mid Sussex District Council, Local Records Centre and Developer as required. HMMP updated and monitoring continued in line with HMMP.													

9 CONCLUSIONS

- 9.1. This HMMP has been produced to fulfil S106 Sch 3 requirements and **Condition 7** relating to planning ref **DM/24/2704**, for the planning consent for the Approved Development Site.
- 9.2. The Developer and Site Manager will be responsible for ensuring that the habitats are enhanced and managed as described within this report. Once the construction phase is complete, the maintenance and management of the habitats on the Approved Development Site will be the responsibility of a private management company appointed by the Developer.
- 9.3. This HMMP sets out the ongoing maintenance, management and monitoring programme to be undertaken at the Approved Development Site post-completion.
- 9.4. With implementation of the measures outlined within this report, it is considered that the ecologically valuable habitats within the Approved Development Site will be maintained in a favourable condition and enhancements will provide foraging and nesting opportunities for a variety of wildlife.

APPENDIX 1: SOFT LANDSCAPE PROPOSAL









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