

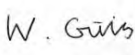
HABITAT MANAGEMENT AND MONITORING PLAN

JUNE 2025

Sandy Brow
Perimeter Road
Knowsley
L33 3AN

U R B A N
G R E E N

QUALITY MANAGEMENT

Project Title:	Habitat Management and Monitoring Plan				
Document Type:	HMMP	Issue No.:	01 (DRAFT)		
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Project Details

Project Type:	Battery Energy Storage System
Project:	Sandy Brow
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Author Organisation:	Urban Green
Developer:	Balance Power Ltd
Developer Address:	
Responsible Person:	
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**Are any Irreplaceable
Habitats presents
onsite?**

Yes: ☐ No: ☒

Phasing Strategy:

No phasing

DRAFT

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1 Project Background

1.1 Roles and responsibilities

1.1.1.1 NOTE: This document is currently in draft format. The following section is to be completed by the relevant parties once the document becomes live.

Ecologist or Other Professional Responsible for HMMP				
Name or Initials		Sarah Pendle		
Organisation		Urban Green		
Responsibility	Start Date:	TBC	End Date:	TBC
The author of the report is Sarah Pendle, Senior Biodiversity Net Gain Consultant, MSc. The person who will be responsible for the implementation of the HMMP and the continued monitoring is still TBC.				
Statement of Competency				
Sarah has experience providing consulting services in Biodiversity Net Gain for a range of development schemes across the UK, including residential and commercial schemes. Sarah is a technically competent and experienced person, as defined in British Standard BS8683 - Suitably qualified person – definition in BS8683:2020.				

Landowner or Land Manager			
Name or Initials		TBC	
Organisation		TBC	
Responsibility	Start Date:	TBC	End Date: TBC
Summarise the relevant responsibilities of the landowner (or land manager if appropriate) in the production and, or, implementation of this HMMP			
Statement of Competency			
Demonstrate management and monitoring competency and, or, relevant site knowledge and skills through relevant training, qualifications or experience, or a combination of these.			
Management Organisation(s) Responsible for Implementing the HMMP			
Name or Initials		TBC Add N/A if works being completed by the landowner or land manager	
Organisation		TBC	
Responsibility	Start Date:	TBC	End Date: TBC
Summarise the relevant responsibilities of the Management Organisation(s) in the production and, or, implementation of this HMMP.			
Statement of Competency			
Demonstrate the knowledge, skills and, or, experience to manage the habitats to achieve the BNG requirements, through relevant training, qualifications, experience, or combination of these.			

LPA or Responsible Body for Reviewing HMMP			
Name or Initials		TBC	
Organisation		TBC	
Responsibility	Start Date:	TBC	End Date: TBC
Summarise the agreed relevant responsibilities of the LPA or Responsible Body in the review, auditing and, or, long-term involvement in the implementation of this HMMP (if applicable)			

1.2 Summary of Management Plan

1.2.1 Timescales for Actions

- 1.2.1.1 This management plan will cover a period of 30 years once the development onsite has been completed.

1.2.2 Monitoring Requirements

- 1.2.2.1 Monitoring must be carried out by a suitably qualified ecologist on Years 1, 2, 3, 4, 5, 10, 15, 20, 25 and 30.

1.2.3 Funding

- 1.2.3.1 The management and continued monitoring of this scheme will be funded by Balance Power Ltd.

1.2.4 Legal Agreement

- 1.2.4.1 The significant onsite gains included within this management plan will be secured either through an S106 or equivalent planning condition.

1.3 Scope

- 1.3.1.1 Urban Green has been instructed by Balance Power Ltd to complete a Habitat Management and Monitoring Plan (HMMP) for the land at Sandy Brow in Knowsley, Liverpool (hereafter referred to as 'the site').
- 1.3.1.2 The site is currently a grazing pasture for cattle, predominantly comprising marshy grassland. The boundary for the site can be found in Appendix 1.
- 1.3.1.3 The proposals include the development of a battery storage site, with power grid infrastructure and associated hard landscaping.
- 1.3.1.4 There is no phasing strategy proposed for the development.

1.4 Site Context

- 1.4.1.1 The sites are located at National Grid Reference SJ 44170 98325 and comprise a total area of approximately 3.1ha (see Appendix 1).
- 1.4.1.2 The site is located in the rural outskirts of the greater Liverpool built-up area, ~2.2km north of Knowsley. The site is bounded west by Perimeter Road, immediately beyond which lies an extensive retail/industrial estate. Expansive rural land dominates the wider landscape to the north, east, and south of site – mostly agricultural land, and notably Knowsley Park & Safari to the south (see Appendix 2).
- 1.4.1.3 The site is predominantly comprised of marshy grassland grazing pasture, with a small area of scrub and a ditch to the south-west. Young, scattered trees are also present within the grassland.

1.5 Purpose of Report

- 1.5.1.1 The purpose of this management plan is to provide a schedule for the management of habitats on site for a 30-year period, ensure that existing and proposed habitats are suitably maintained and ensure good establishment and continued improvement of habitat condition.

2 Baseline Environmental Data

2.1 Desk Study

- 2.1.1.1 A desk study for relevant environmental data was completed for the site and has been summarised in Table 1.

Table 1 – Desk Study Sources of Information

Environmental Information	Data Source	Results
Local Planning Authority	Local Planning Authorities (April 2024) Boundaries UL - https://geoportal.statistics.gov.uk/datasets/992de91fo65148e786870aec2359d427/explore	The site is within the Knowsley Council Local Planning Authority.
National Character Area	National Character Area Profiles – https://nationalcharacterareas.co.uk/	The site falls within National Character Area 60: Merseyside Conurbation.
Agricultural Land Status	Natural England (https://publications.naturalengland.org.uk/category/5954148537204736)	According to Natural England's Agricultural Land Classification map for the north-west region, the site is currently classified as Grade 3 – Moderate to good quality agricultural land capable of producing moderate crop yields.
Soils and Substrates	Soilscapes Viewer, LandIS (https://www.landis.org.uk/soilscapes/)	The soil on site is likely to be freely draining slightly acid soils, with a loamy texture and moderate fertility. Based on the species present onsite, the soil is expected to be of medium fertility, slightly acidic, and wet, with a moderate peat content. The planting scheme in the landscape proposals has been chosen to suit this soil type. Therefore, further soil testing has not been deemed necessary.
Flood Risk Information	Flood Map for Planning (https://flood-map-for-planning.service.gov.uk/)	The site lies within Flood Zone 1; therefore, it has a low probability of flooding.
Landscape Character and Designations	MAGiC website (www.magic.gov.uk) Preliminary Ecological Appraisal (Urban Green, 2023a)	The site falls within the Green Belt allocation. In addition, Acornfield Plantation Local Nature Reserve/Local Wildlife Site is located 400m from the site and Charley Wood Local Wildlife Site is located 10m from the site.
Public Access	FootPathMap (https://footpathmap.co.uk/)	The track present onsite is identified as a public right of way.

2.2 Preliminary Ecological Appraisal Summary

- 2.2.1.1 An initial preliminary ecological appraisal (PEA) was conducted on the site in 2023 by Urban Green. This constituted a desk-based study and a field survey. A further ecological walkover was then carried out in April 2025 to confirm the validity of the previous PEA.
- 2.2.1.2 Key information obtained in the PEA is summarised in Table 2; full details can be found within the PEA (Urban Green, 2023) and Ecological Walkover Results (Urban Green, 2025a).

Table 2 – Summary of the PEA (2023) & Ecological Walkover Results (Urban Green, 2025a).

Site Aspect	Summary
Current Site Use and Adjacent Site Use	The site is a marshy grassland in effective disuse. Adjacent land has been used historically for livestock, which occasionally use the site.
Potential Impacts on Designated Sites	No potential impacts on designated sites nearby to the site are anticipated to occur due to the proposed development. The site is located at a sufficient distance from nearby designated sites, and the proposed development activities have been considered.
Habitats	The site comprised predominantly marshy, mossy grassland. Brief plantation woodlands and ditches bordered aspects of the site.
Ecological Constraints	The following potential ecological constraints were identified during the assessment: • Potential for reptiles. • Suitable commuting and foraging habitat for bats. • Potential for ground-nesting and wintering birds • Suitable habitats for badgers, hedgehog and amphibians. • Potential occasional presence of water vole, red squirrel
Recommended Ecological Mitigation	The following mitigation measures are recommended to minimise potential impacts due to the proposed development: • Precautionary Working Methods during the construction phase for amphibians, badgers, hedgehog, water vole, and red squirrel, reptiles. • If any vegetation requires removal, it should be completed outside of the breeding bird season (March to September, inclusive). If this is not feasible, a Nesting Bird Check is to be completed by a qualified ecologist within 48 hours before removal is completed.
Recommended Further Surveys and Reports	The following ecological surveys and reports are recommended to further assess the sites suitability for protected/notable fauna and/or flora: • Reptiles • Foraging and Commuting Bats • Wintering Birds • Water Voles
Recommended Ecological Enhancements	The National Planning Policy Framework (NPPF) (2021) highlights the requirement for planning policies and decisions to conserve and enhance the natural environment. The Liverpool City Region Ecological Network highlights opportunities to enhance the undisturbed Nature Improvement Area. The proposed development provides the opportunity to enhance the site and ecological enhancements have been recommended.

2.3 Ecological Surveys

2.3.1.1 Based on the recommended further surveys identified within the PEA (2023), the following surveys were carried out on the site in 2024:

- Bat activity surveys
- Reptile surveys
- Wintering bird surveys
- Water vole surveys

2.3.1.2 The results of each survey are summarised in Table 3 below.

Table 3 – Summary of the Ecological Survey Results (Urban Green, 2024a – 2024d)

Species Survey	Summary
Bat Activity Surveys	• A suite of night-time bat walkover and automated static deployment surveys were undertaken at the site during the survey season of 2024. • The site was found to support a low level of bat activity overall. The eastern reaches of the site, nearby to several confirmed off-site bat roosts, were found to support the majority of bat activity recorded on site. • Four bat species were recorded utilising the site extent. Bat activity was dominated by common pipistrelle (<i>Pipistrellus pipistrellus</i>), with occasional occurrences of soprano pipistrelle (<i>Pipistrellus pygmaeus</i>) and rare occurrences of Myotis sp., and noctule (<i>Nyctalus noctula</i>). • Recommendations included a sensitive lighting scheme to mitigate indirect impact, provision of a small number (~2-3) of roost boxes suitable for common pipistrelle, and an invertebrate-friendly planting scheme.
Reptile Surveys	• Presence/likely absence surveys were undertaken between May and September 2024. • Though the habitat on site was deemed suitable to support reptiles, no reptiles were recorded during the surveys. • No further surveys or ecological guidance for this group was required.
Wintering Bird Surveys	• The proposed development site is located within and immediately adjacent to areas identified as Pink-footed Goose Main Roost areas by Lancashire Environmental Records Network. Therefore, presence/likely absence surveys were undertaken between September and April 2023/24. • No Pink-footed Geese were recorded from within the survey area, and only limited use by common and widespread species recorded within the area. • No further ecological guidance or survey was required with respect to wintering birds.
Water Vole Surveys	• Kirkby Brook located along the southern site boundary was deemed suitable to support water vole (<i>Arvicola amphibius</i>). Therefore, presence/likely absence surveys were undertaken in June 2024 and August 2024. • No evidence of water vole was recorded during either survey; therefore, water vole were deemed absent from the site.

2.4 Biodiversity Net Gain Assessment

2.4.1.1 The Biodiversity Net Gain Assessment was completed on this site by Urban Green in May 2025 (Urban Green, 2025b).

2.4.2 Methodology

2.4.2.1 The Biodiversity Net Gain Assessment and Report follows the user guidance produced by Department for Environment, Food & Rural Affairs (2024) and the good practice methodology as detailed within the *Biodiversity Net Gain: Good Practice Principles for Development* (Baker, et al., 2019).

2.4.2.2 The BNG calculation was undertaken utilising The Statutory Biodiversity Metric from Department for Environment, Food & Rural Affairs, using data obtained from the field surveys.

2.4.2.3 The calculation was performed by a technically competent and experienced person as detailed in British Standard BS8683 - Suitably qualified person – definition in BS8683:2020.

2.4.3 Baseline Habitat Assessment

2.4.3.1 The habitats present onsite prior to development have been summarised in the tables below.

2.4.3.2 Photos of all existing, pre-development habitats can be found within Appendix 3. Maps showing the pre-development habitats and definitions for primary and secondary codes can be found in Appendices 4 and 5.

2.4.3.3 The baseline habitats present are summarised in the tables below.

Table 4 – Baseline Area Habitats

Habitat Type and Parcel Reference	Priority Habitat	Total Area (ha)	Condition	Total Units
1) Other neutral grassland	No	2.74	Poor	12.58
2) Other neutral grassland	No	0.18	Poor	0.83
3) Mixed scrub	No	0.06	Poor	0.28
4) Rural tree	No	0.01	Moderate	0.07
5) Artificial unvegetated, unsealed surface	No	0.09	N/A	0
Total	-	3.07	-	13.77

Table 5 – Baseline Watercourse Habitats

Habitat Type and Parcel Reference	Priority Habitat	Total Length (km)	Condition	Total Units
1) Ditches	No	0.06	Poor	0.27

2.4.4 Post-Development Habitat Assessment

- 2.4.4.1 Post-development habitats are subject to the same condition assessments as baseline habitats, with the addition of temporal and difficulty multipliers within the Statutory Biodiversity Metric.
- 2.4.4.2 The proposed landscape plan was provided by Urban Green (2025c) and can be found in Appendix 6. Using this, the existing habitats that will be retained, lost and enhanced have been identified (Appendix 7).
- 2.4.4.3 The landscape layout has been converted into a post-development habitat map (Appendix 8).

2.4.5 Post-Development Habitat Summary

Table 6 - Post Development Biodiversity Net Gain Calculation

	On-site baseline	Habitat Unit Change				On-site post development	Net change in Biodiversity	
		Retained	Lost	Enhanced	Created		Habitat units	%
Area Habitat Units	13.77	0.04	12.24	1.49	12.76	16.04	+2.27	+16.50
Linear Hedgerow Units	0	0	0	0	3.84	3.84	+3.84	N/A
Watercourse Units	0.27	0.27	0	0	1.61	1.88	+1.61	+>100

- 2.4.5.1 As illustrated in Table 6, the current landscape proposals for the development of the site produce a net gain of 2.27 units (16.50%) for area habitats, a net gain of 3.84 units for linear hedgerow habitats, and a net gain of 1.61 units (>100%) for linear river habitats. No percentage has been calculated for hedgerow habitats as the baseline was zero. In addition, the trading rules were satisfied by the landscape proposals.
- 2.4.5.2 In addition, the trading rules have been satisfied by the proposals for all habitats. Consequently, the development meets all local and national planning policy.

3 Habitat Management

3.1 Management Responsibilities

- 3.1.1.1 The detailed maintenance requirements outlined in this section must be followed at all times. Any deviations from the management plan must be highlighted to the site owners or management company.
- 3.1.1.2 The organisation implementing this plan will be a management company with the necessary certificates of competence to implement landscape management operation on site.
- 3.1.1.3 The managing organisation will ensure that all site management complies with good practice standards and all relevant health and safety procedures.
- 3.1.1.4 The managing organisation will also ensure that measures outlined to avoid pollution incidents, comply with protected species and habitats legislation, and ensure overall environmental protection are enforced.
- 3.1.1.5 Any transference of responsibility of this plan should be undertaken with the appropriate appointment of a competent organisation capable of delivering the management detailed within the document.

3.2 Habitats Covered

- 3.2.1.1 This management plan covers all proposed habitats which provide significant onsite enhancements, as assessed within the Statutory Biodiversity Metric. These include:
 - habitats of medium or higher distinctiveness in the biodiversity metric;
 - habitats of low distinctiveness which create a large number of biodiversity units relative to the biodiversity value of the site before development;
 - habitat creation or enhancement where distinctiveness or condition is increased relative to that of the habitat before development;
 - areas of habitat creation or enhancement which are significant in area relative to the size of the development.
- 3.2.1.2 Habitats that do not provide significant on-site enhancements do not require detailed management regimes. However, many of these habitats still perform important functions and should receive some ecologically driven management.
- 3.2.1.3 The management of the sustainable drainage feature has been covered within the management prescriptions for the bioswale as it will be created and planted with the same species mix, and the bioswales will flow into it.
- 3.2.1.4 Habitats that have not provided significant onsite enhancements, and basic management measures are summarised in Table 7.

Table 7 – Habitats that do not provide significant onsite enhancements

Habitat Type	Justification	Management Measures
Developed Land; Sealed Surface	Developed land; sealed surface is a very low distinctiveness habitat and contributes no units to the overall post-development unit value of the site.	- Regularly monitor tarmacked areas and resurface/fill holes where necessary. - Replace any loose paving stones. - Clear any vegetation that begins to colonise these areas.
Sustainable Drainage System	The sustainable drainage feature is a low distinctiveness habitat and will only contribute 0.07 units (0.04%) of the overall post-development unit value for the site.	- Monitor for any invasive species and remove by hand or through a qualified professional. - Remove any rubbish or debris. - The surrounding habitat will be managed following the management prescriptions for the other neutral grassland (see Section 3.8.2).

3.3 Retained Habitats

- 3.3.1.1 Some of the habitats that originally existed on the site will be retained and enhanced as part of the development. These habitats should be protected during the development works, prior to enhancement works proceeding. A Habitat Retention Map can be found in Appendix 7.
- 3.3.1.2 Appropriate protection measures for the retained (and enhanced) habitats have been detailed in Table 8.

Table 8 – Retained Habitats and Protection Measures

Habitat Type	Protection Measures
Other Neutral Grassland	- Install fencing around grassland where possible, and avoid driving heavy machinery into these areas. - Use grass protection mats or ground protection meshes.
Rural Trees	- Install fencing around the root zone to keep vehicles and workers away from trees. - Do not drive heavy machinery over the root zone. - Use permeable pavers in walkways or patios that allow rainwater to percolate into the soil beneath. - Do not wash equipment or dump chemicals over the roots. - Water during and after construction whenever there is less than one inch of rainfall in a week.
Ditch	- Install protective fencing a minimum of 5m from the bank top during construction and do not disturb soil or vegetation within this area. - Identify any drains that run into the ditch and block off during construction to prevent polluted water (runoff) from entering streams. - Immediately remove any debris that enters streams.

3.4 Enhanced and Created Habitats

- 3.4.1.1 This section sets which habitats are proposed to be enhanced and created, which provide significant onsite enhancements, and their target condition within the targeted time period. Habitats to be enhanced/created are summarised in Table 9.

Table 9 – Proposed Habitat Enhancement/Creation

Habitat Type	Proposed Condition	Time to Target Condition (years)
Enhanced Habitats		
Other neutral grassland	Good	15
Created Habitats		
Other neutral grassland	Good	10
Other woodland; broadleaved	Poor	5
Mixed scrub	Moderate	5
Rural tree	Moderate	27
Species-rich native hedgerow	Good	12
Ditches	Poor	1

3.5 General Measures

- 3.5.1.1 Habitat creation on site will follow details set out in the Detailed Planting Plan (Urban Green, 2025d). The following general measures shall be met to ensure successful habitat creation and succession on site.
- All planting is to follow guidance set out in the relevant British Standard or Horticultural Trades Association documents and carried out by a competent person.
 - Planting is to remain undamaged, with healthy and vigorous growth, and is to be planted upright and well balanced. Trees and shrubs are to be of good shape and without elongated shoots, grown in a suitable environment and hardened off before being delivered to the site.
 - All planting is to be true to name and free from pests, diseases, discoloration, weeds, fungus, and physiological disorders upon planting.
 - If plants/trees are unobtainable alternatives are to be agreed with the Ecologist/Landscape Architect in writing prior to ordering.
 - After planting ensure that the full depth of topsoil is wetted. Apply water evenly and without damaging or displacing plants or soil. Continue to water as necessary to ensure the successful establishment and continued thriving of planting.
 - No tree/shrub/hedgerow works shall be completed during nesting bird season (March to September inclusive). If works are required within the nesting bird season, a check must be undertaken of all affected trees by a suitably qualified ecologist.

	Optimal timing for habitat creation
	Unsuitable for habitat creation

3.6 Habitat Enhancement Measures

3.6.1 Grassland - Other Neutral Grassland

- 3.6.1.1 The parcel of other neutral grassland to the south-west of the site, and a strip of existing grassland along the southern boundary will be retained and enhanced to good condition.
- 3.6.1.2 The enhancements proposed involve cutting back the existing grassland and reseeding the area with the Wet Wildflower Meadow Seed Mix from Habitat Aid. This grassland mix contains a mix of 30% wildflowers and 70% native grasses, which are well suited to wet, neutral soils of low to medium fertility. In addition, the Himalayan balsam (*Impatiens glandulifera*) present within the grassland, particularly to the south-west, should be eradicated and controlled.

Table 10 – Habitat Enhancement Activities for Existing Other Neutral Grassland

Habitat Enhancement Activity	Further Details	Indicative Timing of Operation											
		J	F	M	A	M	J	J	A	S	O	N	D
Ground Preparation	- Remove weeds and Himalayan balsam before flowering either by hand, strimming or through repeated cultivation. Collect all cuttings and allow to rot before removing. - Herbicides can be used where necessary (e.g. glyphosate herbicide) though applying near the watercourse.												
	- Cut existing vegetation to <50mm and remove any cuttings. Create bare ground through harrowing or scarifying. - Plough or dig to a depth of 150mm to bury the surface vegetation, harrow or rake to produce a medium tilth, and roll or tread, to produce a firm surface.												
Sowing	Seed with Wet Wildflower Meadow Seed Mix from Habitat Aid at a rate of 40kg/ha by hand or using appropriate lightweight machinery, and roll or tread once all seeds are sown. For best results, sow in late summer (August to October) or alternatively in spring (late March to May).												
Establishment	If there is little/no rain, water with a light spray to avoid dislodging seeds.												
	Cut in the first autumn after sowing to reduce competition for wildflowers.												

	Optimal timing for habitat creation
	Unsuitable for habitat creation

3.7 Habitat Creation Measures

3.7.1 Grassland - Other Neutral Grassland

3.7.1.1 New areas of other neutral grassland will be created onsite and will be sown with the Wet Wildflower Meadow Seed Mix from Habitat Aid.

Table 11 – Habitat Creation Activities for Other Neutral Grassland

Habitat Creation Activity	Further Details	Indicative Timing of Operation											
		J	F	M	A	M	J	J	A	S	O	N	D
Ground Preparation	Soil testing to ensure soil is of low fertility (<15 mg/l of phosphorus, <120 mg/l of potassium and low available nitrogen), with pH 5.5-7.5.												
	If necessary, reduce fertility through stripping topsoil, inversion ploughing or spreading with nutrient-poor soil.												
	Remove weeds either by hand, strimming or through repeated cultivation. Collect all cuttings and allow to rot before removing.												
	Plough or dig to a depth of 150mm to bury the surface vegetation, harrow or rake to produce a medium tilth, and roll or tread, to produce a firm surface.												
Sowing	Seed with Wet Wildflower Meadow Seed Mix from Habitat Aid at a rate of 40kg/ha by hand or using appropriate lightweight machinery, and roll or tread once all seeds are sown. For best results, sow in late summer (August to October) or alternatively in spring (late March to May).												
Establishment	If there is little/no rain, water with a light spray to avoid dislodging seeds.												
	Cut in the first autumn after sowing to reduce competition for wildflowers.												

3.7.2 Woodland and Forest – Other Woodland; Broadleaved

- 3.7.2.1 Two parcels of woodland will be created onsite along the eastern and western boundaries of the site, to provide screening from adjacent developments. The woodland will comprise a mix of native tree and shrub species, such as hawthorn (*Crataegus monogyna*), silver birch (*Betula pendula*), hazel (*Corylus avellana*) and blackthorn (*Prunus spinosa*). Larger, individual trees will also be planted within the woodland parcels – species will include whitebeam (*Sorbus aria*), hornbeam (*Carpinus betulus*) and alder (*Alnus glutinosa*).

Table 12 – Habitat Creation Activities for Woodland

Habitat Creation Activity	Further Details	Indicative Timing of Operation											
		J	F	M	A	M	J	J	A	S	O	N	D
Ground Preparation	Remove weeds by hand or use herbicides where necessary (avoid glyphosate).												
	<u>Native Tree and Shrub Mix</u> - Fork soil to break up and compacted areas and create pits at 1m centres, in groups of 3-5 of the same species. - Complete just prior to planting to avoid soil becoming waterlogged or dried out.												
	<u>Individual Trees</u> - Dig a square hole the same depth as the tree's rootball but three times as wide. Loosen the soil around the sides and base of the hole. Avoid planting during hot/dry, wet or freezing conditions. - Retain the topsoil and mix with compost.												
Planting	<u>Native Tree and Shrub Mix</u> - Plant whips into pits and backfill with topsoil (ideally collected from site) which will be combined with a general-purpose slow-release fertiliser and Tree Planting and Mulching Compost. - Avoid freezing or waterlogged conditions. - Secure trees with stakes and protected with tree guards.												
	<u>Individual Trees</u> Soak the roots of the tree for 2 hours before planting.												

	- Place tree into centre of hole, spread roots and fill hole with soil mixture, compacting once full to secure tree. - For trees >1.5m in height, add a stake on the side that will be facing the wind and tether the tree to it. - Water the soil generously.											
Establishment	Water daily for the first two weeks, then weekly for the first year while the tree has its leaves. Tear off any suckers that appear and readjust the tether to the stake to avoid damage to the trunk. Stakes can be removed after 3 years.											

3.7.3 Heathland and Shrub – Mixed Scrub

3.7.3.1 A parcel of mixed scrub is proposed to the south-west of the site. This scrub will be created using a Native Shrub Mix containing a mix of native shrub species, such as hawthorn, elder (*Sambucus nigra*), blackthorn, hazel, and bramble (*Rubus fruticosus* agg.).

Table 13 – Habitat Creation Activities for Mixed Scrub

Habitat Creation Activity	Further Details	Indicative Timing of Operation											
		J	F	M	A	M	J	J	A	S	O	N	D
Ground Preparation	Remove weeds by hand, or use herbicides where necessary (e.g. glyphosate free herbicide).												
	- Fork soil to break up and compacted areas and create pits with approximately 2/m² spacing and in groups of 3-5 of the same species. - Complete just prior to planting to avoid soil becoming waterlogged or dried out.												
Planting	- Plant whips into pits and backfill with topsoil (ideally collected from site) which will be combined with a general-purpose slow-release fertiliser and Tree Planting and Mulching Compost. - Avoid freezing or waterlogged conditions. - Secure trees with stakes and protected with tree guards.												

3.7.5 Hedgerow – Species-Rich Native Hedgerow

- 3.7.5.1 Two new lengths of hedgerow will be created along the peripheries of the site, totalling 432m. The hedgerows will comprise at least five native species; therefore, they have been classified as species rich. Species will include hawthorn, wild privet (*Ligustrum vulgare*), hazel, holly and guelder rose (*Viburnum opulus*).

Table 15 – Habitat Creation Activities for Species-Rich Native Hedgerow

Habitat Creation Activity	Further Details	Indicative Timing of Operation											
		J	F	M	A	M	J	J	A	S	O	N	D
Ground Preparation	Remove weeds by hand, or use herbicides where necessary (e.g. glyphosate free herbicide), and then cultivate the soil.												
Planting	- Avoid freezing or waterlogged conditions. - Plant using slot-planting or T-notch planting depending on the soil type. - Plant in double staggered rows, with approx. 40cm between rows, and between 4-6 plants per liner metre, in groups of five of the same species. - Secure whips with spiral guards and/or bamboo canes (if provided) - Apply mulch to base of plants to prevent weed establishment.												
Establishment	Hand removal of any weeds that establish at the base of the plants.												

3.7.6 Ditches

- 3.7.6.1 The ditches will be mechanically dug, and then the banks will be seeded with the Wet Wildflower Meadow Seed Mix from Habitat Aid following the other neutral grassland habitat creation measures within Section 3.7.1.

	Optimal timing for management
	Unsuitable for management

3.8 Management Prescriptions

3.8.1.1 This section includes detailed management techniques and annual schedule of works for each habitat that will be present within the proposed development, including retained, enhanced and created habitats. These management prescriptions should be followed for the next 30 years to ensure all habitats achieve their existing/proposed condition.

3.8.2 Grassland - Other Neutral Grassland

3.8.2.1 The enhanced and newly created grassland should be managed following the detailed management techniques are described within Table 16, along with the corresponding condition criteria

Table 16 - Management Objectives for Other Neutral Grassland

Condition Criteria	Management Action	Timing of Management Action (Year)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
A. The grassland is a good representation of the habitat type it is identified as based on its UKHab description	- Mowing regime as described under criterion B - Remove arisings shortly after mowing to prevent nutrient enrichment of soils and the likelihood of a handful of species dominating. Avoid use of any fertiliser or herbicides.	Annually												
B. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm)	Initial cut in summer, ideally mid-August, and remove cuttings.	Year 1												
	Continue to keep short through mowing until March of Year 2.	Years 1 and 2												
	Due to the location of this grassland, it is expected to receive regular management and to fail this criterion. However, if possible mowing should be limited to three cuts a year.	Annually from Year 2												

Condition Criteria	Management Action	Timing of Management Action (Year)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
	Take a hay cut in summer to ~50mm, and leave arisings in situ to dry and shed seed for one week then remove entirely.													
	Cut again in autumn (and spring if needed) and remove arisings.	Annually from Year 2												
C. Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Visual assessment of bare ground cover. If exceeding 5%, carry out management action.	Annually from Year 2												
	Seed areas of bare ground with Wet Wildflower Meadow Seed Mix from Habitat Aid at a rate of 40kg/ha.	As required												
D. Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	Manual removal of bracken and scrub regeneration upon discovery.	As required												
E. Combined cover of species indicative of sub-optimal condition and physical damage account for less than 5% of total area.	Mowing regime as described under criterion B, with removal of arisings following.	Annually												
	- Continuously monitor for invasive, non-native species and weeds (see Appendix 9). - Where safe and appropriate to do so, remove by hand immediately. If necessary, application of herbicide should be carried out by an experienced contractor.	As required												

Condition Criteria	Management Action	Timing of Management Action (Year)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
F. There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type	Random quadrat sampling using 1m² quadrats. Ten quadrat samples should be taken and average species richness per m² calculated	Annually from Year 5												
	Re-seeding of areas with a species richness of <10 species per m² by overseeding with Wet Wildflower Meadow Seed Mix from Habitat Aid at a rate of 40kg/ha.	As required												

3.8.3 Woodland and Forest – Other Woodland; Broadleaved

3.8.3.1 The newly planted woodland should be managed following the detailed management techniques are described within Table 17, along with the corresponding condition criteria.

3.8.3.2 No management activities to take place during nesting season (March to September inclusive).

Table 17 - Management Objectives for Other Woodland; Broadleaved

Condition Criteria	Management Action	Timing of Management Action (Years)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
A. Age distribution of trees – Two age classes present D. Number of native species – Five or more native species E. Cover of native tree and shrub species - >80% native	- Supplementary planting of native tree and shrub whips where gaps in the canopy are present or existing trees fail. Prioritise native species consistent with the existing species composition. - Felling or hand removal of any non-native species that establish, depending on maturity.	As required, from Year 1												
B. Wild, domestic, and feral herbivore damage – Evidence of browsing pressure in <40% of woodland	- Continuously monitor for herbivores and resulting browsing damage. - Installation of deer fencing / rabbit guards or other protection if deemed necessary.	As required, from Year 1												
C. Invasive plant species – No invasive species present	- Continuously monitor for invasive, non-native species and weeds (see Appendix 9). - Where safe and appropriate to do so, remove by hand immediately. If necessary, application of herbicide should be carried out by an experienced contractor.	As required, from Year 1												

Condition Criteria	Management Action	Timing of Management Action (Years)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
F. Open space within woodland - <10% or >40% has temporary open space	Monitoring for, and removal of, aggressive, non-native species, particularly cherry laurel and rhododendron (<i>Rhododendron</i> spp.).	As required, from Year 1												
G. Woodland regeneration – No classes or coppice regrowth	Thinning of dense young growth through beating up, ensuring at least 2m spacing around trees. Leave areas of bare ground to allow natural colonisation.	Years 1, 5, 10, 20 & 30												
H. Tree health - 11% to 25% mortality and/or crown dieback	Consistent monitoring of woodland to assess presence of disease/crown die back.	As required, from Year 1												
	Undertake regular arboricultural inspections to identify any structural risks, pests, diseases or other health issues.	Every 3 years												
	Carryout appropriate tree works or removal of diseased specimens where suitable and necessary, by a qualified professional.	As required, from Year 1												
I. Vegetation and ground flora – No recognisable NVC plant community at ground layer	This criterion is not expected to achieve beyond poor condition as there are no recognisable NVC plant species proposed within the planting mix and they are unlikely to establish due to the urban location of the woodland.	N/A												
J. Woodland vertical structure – Two storeys	Selective thinning of stands and light trimming to aid succession of canopy species, though limit frequency.	From Year 10												
K. Veteran trees – No veteran trees	This criterion is not expected to achieve beyond poor condition as the trees present are early-mature. However, trees can be encouraged to	N/A												

Condition Criteria	Management Action	Timing of Management Action (Years)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
	achieve veteran status through annual monitoring of tree health and undertake arboricultural works where necessary.													
L. Amount of deadwood - Less than 25% of all survey plots within the woodland parcel have deadwood	- Retain non-diseased pruned material following management into brash piles and hibernacula. - Retain non-diseased standing deadwood including branches and whole trees (where safe to do so).	As required, from Year 1												
M. Woodland disturbance - Less than 1 hectare in total of nutrient enrichment across woodland area	- Avoid use of herbicide within woodland and remove any aggressive weeds from ground layer. - Avoid any damaging management practices and use of heavy machinery within woodland. - Continuously monitor for invasive, non-native species and weeds (see Appendix 9).	As required, from Year 1												

3.8.4 Heathland and Shrub - Mixed Scrub

3.8.4.1 The enhanced and newly created scrub habitats should be managed following the detailed management techniques are described within Table 18, along with the corresponding condition criteria.

3.8.4.2 No management activities to take place during nesting season (March to September inclusive).

Table 18 - Management Objectives for Mixed Scrub

Condition Criteria	Management Action	Timing of Management Action (Year)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
A. The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description.	Replace lost plants with others of the same species, size and quality to ensure diversity is maintained – follow planting process in Section 3.6.4.	Annually												
B. Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	- This criterion is not expected to be achieved. - However, where appropriate allow natural seeding and establishment of new shrubs.	Annually from Year 4												
C. There is an absence of invasive non-native species and species indicative of sub-optimal condition make up less than 5% of ground cover.	- Continuously monitor for invasive, non-native species and weeds (see Appendix 9). - Where safe and appropriate to do so, remove following methodology in Section 3.6.2.	As required												
	Hand removal of any scrub or tree species indicative of suboptimal condition, such as cherry laurel (<i>Prunus laurocerasus</i>), snowberry (<i>Symphoricarpos</i> spp.), and cotoneaster (<i>Cotoneaster</i> spp.).	As required												
D. The scrub has a well-developed edge with scattered scrub and	Maintain a buffer of at least 2m in the adjacent grassland where there is no mowing or	Annually												

Condition Criteria	Management Action	Timing of Management Action (Year)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
tall grassland and/or herbs present between the scrub and adjacent habitat(s).	management to allow succession of natural vegetation.													
E. There are clearings, glades or rides present within the scrub, providing sheltered edges.	This criterion will not be achieved due to dense planting of scrub of screening purposes.	N/A												

3.8.5 Individual Trees – Rural Trees

3.8.5.1 The newly planted rural trees should be managed following the detailed management techniques are described within Table 19, along with the corresponding condition criteria.

3.8.5.2 No management activities to take place during nesting season (March to September inclusive).

Table 19 - Management Objectives for Individual Trees

Condition Criteria	Management Action	Timing of Management Action (Year)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
A. The tree is a native species (or at least 70% within a block)	Replacement planting for failed trees using same species (according to planting scheme within landscapes).	Root ball - As required												
	Hand removal of any non-native saplings establishing	As required												
B. The tree canopy is predominantly continuous	Undertake regular arboricultural inspections to identify any structural risks, pests, diseases or other health issues.	Annually												
C. The tree is mature or veteran	- Pruning of damaged or diseased trees to ensure tree canopy is balanced and consistent with the natural structure for the species. All pruning works must be carried out by a qualified professional. - Limit the use of damaging management practices e.g., herbicide use and unnecessary pruning. - Avoid undertaking management activities on all trees in a single month period to retain important resources for wildlife. Instead, rotate management across plots.	As required												
D. There is little or no evidence of an adverse impact on tree health by anthropogenic activities and no current regular pruning regime so the trees retain >75% of expected canopy														

Condition Criteria	Management Action	Timing of Management Action (Year)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
	Water twice a month during warmer months.	Annually during warmer months or as needed in periods of hot weather												
	Once trees reach semi-maturity, appropriate corrective surgery may be necessary and should be completed by a qualified professional	Annually from Year 10 onwards												
E. Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark	Young trees are unlikely to achieve this criterion within 30 years. - However, if any micro-habitat features, such as ivy, loose bark and deadwood, form leave them in place where it is safe and appropriate.	As required												
F. More than 20% of the tree canopy area is oversailing vegetation beneath	Mulch forming 1m radius around tree, to control weeds. Use organic mulches (leaf litter, rotted hay or grass clippings, manure, wood chips), at a depth of 75mm.	Annually Years 1 to 3												
	- Leave a 2m unmanaged buffer zone around any trees planted over vegetation to allow natural succession of surrounding vegetation. - Avoid use of herbicides within this zone.	As required												
	- Continuously monitor for invasive, non-native species and weeds (see Appendix 9). - Where safe and appropriate to do so, remove by hand immediately. If necessary, application of herbicide should be carried out by an experienced contractor.	As required												

3.8.6 Hedgerow – Species-Rich Native Hedgerow

3.8.6.1 The newly planted hedgerows should be managed following the detailed management techniques are described within Table 20, along with the corresponding condition criteria.

3.8.6.2 No management activities to take place during nesting season (March to September inclusive).

Table 20 - Management Objectives for Species-Rich Native Hedgerow

Condition Criteria	Management Action	Timing of Management Action (Year)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
A1. Height >1.5m average along length. A2. Width >1.5m average along length. B1. Gap between ground and base of canopy <0.5 m for >90% of length.	- Prune hedge once a year shaping the hedge to be slightly narrower at the top compared to the base, to allow light to reach lower sections of the hedge. - Prune using secateurs or strimmer.	Annually												
B2. Gaps make up <10% of total length and no canopy gaps >5 m	Replace any failed plants with new whips, following planting outlined within landscape designs.	As required												
C1. >1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: - measured from outer edge of hedgerow, and - is present on one side of the hedge (at least).	- Leave a 1m buffer zone around the base of the hedge which is free from management activity e.g. weeding, mowing - Limit use of fertilisers in this area to ensure habitat isn't dominated by a handful of species	Annually												
C2. Plant species indicative of nutrient enrichment of soils	No use of fertilisers to prevent nutrient enrichment, allow for a higher diversity of flora and prevent a few species dominating	Annually												

3.8.7 Ditch - Ditches

3.8.7.1 The retained and created ditches should be managed following the detailed management techniques are described within Table 21, along with the corresponding condition criteria.

Table 21 - Management Objectives for Enhanced Ditch

Condition Criteria	Management Action	Timing of Management Action (Year)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
A. The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution	This criterion fails due to eutrophication of water from adjacent, offsite farmland	N/A												
B. A range of emergent, submerged and floating leaved plants are present D. A fringe of aquatic marginal vegetation is present along more than 75% of the ditch	Appropriate maintenance of adjacent scrub habitat (see Section 3.7.4).	As required												
C. There is less than 10% cover of filamentous algae and or duckweed <i>Lemna</i> spp.	- This criterion fails as filamentous algae is always likely to be present due to eutrophication of water from adjacent, offsite farmland - Though where possible, remove duckweed and filamentous algae by hand using a pond net or a rake	As required												
E. Physical damage is evident along less than 5% of the ditch	Damage is not expected to occur; however, regularly monitor for signs of damage and remediate where required.	As required												
F. Sufficient water levels are maintained	This criterion will always pass due to water depth of ditch.	N/A												

Condition Criteria	Management Action	Timing of Management Action (Year)	Indicative Timing of Operation											
			J	F	M	A	M	J	J	A	S	O	N	D
G. Less than 10% of the ditch is heavily shaded	Pruning of tree canopies and cutting back of scrub habitat which is encroaching upon and shading the pond	As required												
H. There is an absence of non-native plant and animal species	- The retained ditch fails this criterion due to the presence of invasive Himalayan balsam and Japanese knotweed. However, this should be eradicated where possible. - Continuous monitoring for, and removal of, invasive, non-native species and weeds (see Appendix 9) - Where safe and appropriate to do so, remove following methodology in Section 3.6.3.	As required												

4 Habitat Monitoring

4.1 Monitoring Schedule

- 4.1.1.1 Following completion of habitat creation and initial enhancement works, habitats should be monitored to ensure that they are on track to achieve their predicted condition.
- 4.1.1.2 Monitoring should be carried out on Years 1, 2, 3, 4, 5, 10, 15, 20, 25 and 30.
- 4.1.1.3 All monitoring should be completed within the optimal botanical survey period (May to October) by a suitably qualified ecologist, using appropriate measures to assess the habitat against the Statutory Biodiversity Metric Condition Assessments (DEFRA 2024b) (e.g., photography, quadrat sampling, etc).

4.2 Monitoring Reports

- 4.2.1.1 Following completion of habitat creation and initial enhancement works, a monitoring report should be prepared and submitted to the Local Planning Authority or Responsible Body on the years detailed in Section 4.1.
- 4.2.1.2 Monitoring results inform necessary management changes to promote achieving BNG targets stated in the Statutory Biodiversity Metric and HMMP, allowing an adaptive management system to be followed.
- 4.2.1.3 For any habitats which aren't achieving their proposed condition within the target time period, reasons for failure and proposed remediation measures should also be recorded.

4.2.2 Individual Trees – Rural Trees (Retained)

4.2.2.1 Table 22 details the habitat condition criteria for the retained tree and provides space to record the score for each year at which monitoring should take place. The habitat should be retained in its current **moderate condition**.

Table 22 – Monitoring Results for Individual Trees

Condition Criteria	Target Condition Score	Year											Comments / Remediation Measures
		0	1	2	3	4	5	10	15	20	25	30	
A. The tree is a native species (or at least 70% within a block)	Pass												This criterion is automatically passed as the tree is native.
B. The tree canopy is predominantly continuous	Pass												This criterion is automatically passed by all individual trees.
C. The tree is mature or veteran	Fail												
D. There is little or no evidence of an adverse impact on tree health by anthropogenic activities	Pass												
E. Natural ecological niches present	Fail												
F. More than 20% of the tree canopy area is oversailing vegetation beneath	Pass												
Overall Condition	Moderate												

4.2.3 Grassland – Other Neutral Grassland (Enhanced)

4.2.3.1 Table 23 details the habitat condition criteria for the enhanced other neutral grassland parcels and provides space to record the score for each year at which monitoring should take place. The proposed overall condition score for this habitat is **good**, with a final time to target condition of **15 years**.

Table 23 – Monitoring Results for Other Neutral Grassland

Condition Criteria	Target Condition Score	Year											Comments / Remediation Measures
		0	1	2	3	4	5	10	15	20	25	30	
A. The grassland is a good representation based on its UKHab description.	Pass												
B. Sward height is varied	Pass												
C. Cover of bare ground is between 1% and 5%	Pass												
D. Cover of bracken >20% and cover of scrub >5%	Pass												
E. Species indicative of sub-optimal condition and physical damage accounts for > 5% of total area	Pass												
F. There are 10 or more vascular plant species per m ² including forbs that are characteristic of the habitat type	Pass												
Overall Condition	Good												

4.2.4 Grassland – Other Neutral Grassland (Created)

4.2.4.1 Table 24 details the habitat condition criteria for the created other neutral grassland parcels and provides space to record the score for each year at which monitoring should take place. The proposed overall condition score for this habitat is **good**, with a final time to target condition of **10 years**.

Table 24 – Monitoring Results for Other Neutral Grassland

Condition Criteria	Target Condition Score	Year											Comments / Remediation Measures
		0	1	2	3	4	5	10	15	20	25	30	
A. The grassland is a good representation based on its UKHab description.	Pass												
B. Sward height is varied	Pass												
C. Cover of bare ground is between 1% and 5%	Pass												
D. Cover of bracken >20% and cover of scrub >5%	Pass												
E. Species indicative of sub-optimal condition and physical damage accounts for > 5% of total area	Pass												
F. There are 10 or more vascular plant species per m ² including forbs that are characteristic of the habitat type	Pass												
Overall Condition	Good												

4.2.5 Woodland and Forest – Other Woodland; Broadleaved

4.2.5.1 Table 25 details the habitat condition criteria for the created woodland and provides space to record the score for each year at which monitoring should take place. The proposed overall condition score for this habitat is **poor**, with a final time to target condition of **5 years**.

Table 25 – Monitoring Results for Other Woodland; Broadleaved

Condition Criteria	Target Condition Score	Year											Comments / Remediation Measures
		0	1	2	3	4	5	10	15	20	25	30	
A. Age distribution of trees	Moderate (2 points)												Trees will be planted at two age classes.
B. Wild, domestic and feral herbivore damage	Moderate (2 points)												
C. Invasive plant species	Good (3 points)												
D. Number of native tree species	Good (3 points)												
E. Cover of native tree and shrub species	Good (3 points)												
F. Open space within woodland	Poor (1 point)												
G. Woodland regeneration	Poor (1 point)												
H. Tree health	Good (3 points)												

I. Vegetation and ground flora	Poor (1 point)												No ground flora mix is proposed and tree/shrub growth will be dense, heavily shading ground layer.
J. Woodland vertical structure	Moderate (2 points)												
K. Veteran trees	Poor (1 point)												Newly planted trees are not expected to achieve veteran status within the 30-year period.
L. Amount of deadwood	Poor (1 point)												
M. Woodland disturbance	Moderate (2 points)												
Overall Condition	Poor (25 points)												

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4.2.6 Heathland and Shrub - Mixed Scrub

4.2.6.1 Table 26 details the habitat condition criteria for the created mixed scrub and provides space to record the score for each year at which monitoring should take place. The proposed overall condition score for this habitat is **moderate**, with a final time to target condition of **5 years**.

Table 26 – Monitoring Results for Mixed Scrub

Condition Criteria	Target Condition Score	Year											Comments / Remediation Measures
		0	1	2	3	4	5	10	15	20	25	30	
A. The parcel represents a good example of its habitat type	Pass												
B. Seedlings, saplings, young shrubs and mature shrubs are all present	Fail												
C. There is an absence of invasive non-native species/ >5% species indicative of sub-optimal condition	Pass												
D. The scrub has a well-developed edge	Pass												
E. There are clearings, glades or rides present	Fail												Scrub will be densely planted for screening purposes.
Overall Condition	Moderate												

4.2.7 Individual Trees – Rural Trees

4.2.7.1 Table 27 details the habitat condition criteria for the newly planted trees and provides space to record the score for each year at which monitoring should take place. The proposed overall condition score for this habitat is **moderate**, with a final time to target condition of **27 years**.

Table 27 – Monitoring Results for Individual Trees

Condition Criteria	Target Condition Score	Year											Comments / Remediation Measures
		0	1	2	3	4	5	10	15	20	25	30	
A. The tree is a native species (or at least 70% within a block)	Pass												All trees are native
B. The tree canopy is predominantly continuous	Pass												This criterion is automatically passed by all individual trees.
C. The tree is mature or veteran	Fail												This tree is not expected to reach maturity within 30 years.
D. There is little or no evidence of an adverse impact on tree health by anthropogenic activities	Fail												These criteria are expected to fail as this tree will be managed for aesthetic and safety purposes due to its location.
E. Natural ecological niches present	Fail												
F. More than 20% of the tree canopy area is oversailing vegetation beneath	Pass												
Overall Condition	Moderate												

4.2.8 Hedgerow – Species-Rich Native Hedgerow

4.2.8.1 Table 28 details the habitat condition criteria for the newly planted trees and provides space to record the score for each year at which monitoring should take place. The proposed overall condition score for this habitat is **moderate**, with a final time to target condition of **27 years**.

Table 28 – Monitoring Results for Species-Rich Native Hedgerow

Condition Criteria	Target Condition Score	Year											Comments / Remediation Measures
		0	1	2	3	4	5	10	15	20	25	30	
A1. Height: >1.5 m average along length	Pass												
A2. Width: >1.5 m average along length	Fail												
B1. Gap between ground and base of canopy <0.5 m for >90% of length	Pass												
B2. Gaps make up <10% of total length. No canopy gaps >5m	Pass												
C1. >1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length	Fail												Both hedgerows are partially bordering woodland/tree habitats.
C2. Undesirable species <20% cover of the area of undisturbed ground	Pass												

D1. >90% of hedgerow and undisturbed ground is free from Invasive Non-native species	Pass												
D2. Current damage: >90% of the hedgerow or undisturbed ground is free of damage caused by human activities	Pass												
Overall Condition	Good												

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4.2.9 Ditches – Ditch (Retained)

4.2.9.1 Table 29 details the habitat condition criteria for the retained ditch and provides space to record the score for each year at which monitoring should take place. The habitat should be retained in its current **poor condition**.

Table 29 – Monitoring Results for Ditch

Condition Criteria	Target Condition Score	Year											Comments
		0	1	2	3	4	5	10	15	20	25	30	
A. The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution	Fail												The ditch is impacted by eutrophication due to run-off from adjacent farmland.
B. A range of emergent, submerged and floating leaved plants are present	Pass												
C. There is less than 10% cover of filamentous algae and or duckweed <i>Lemna</i> spp.	Fail												The ditch is impacted by eutrophication due to run-off from adjacent farmland.
D. A fringe of aquatic marginal vegetation is present along more than 75% of the ditch	Pass												

E. Physical damage is evident along less than 5% of the ditch	Pass												
F. Sufficient water levels are maintained	Pass												
G. Less than 10% of the ditch is heavily shaded	Pass												
H. There is an absence of non-native plant and animal species	Fail												Japanese knotweed and Himalayan balsam are present within the ditch; however, these should be eradicated if possible.
Overall Condition	Poor												

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4.2.10 Ditches – Ditch (Created)

4.2.10.1 Table 30 details the habitat condition criteria for the newly created ditches and provides space to record the score for each year at which monitoring should take place. The proposed overall condition score for this habitat is **poor**, with a final time to target condition of **1 year**.

Table 30 – Monitoring Results for Ditch

Condition Criteria	Target Condition Score	Year											Comments
		0	1	2	3	4	5	10	15	20	25	30	
A. The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution	Fail												The ditch is impacted by eutrophication due to run-off from adjacent farmland.
B. A range of emergent, submerged and floating leaved plants are present	Fail												The ditch will be planted with a wet meadow mix only.
C. There is less than 10% cover of filamentous algae and or duckweed <i>Lemna</i> spp.	Fail												The ditch is impacted by eutrophication due to run-off from adjacent farmland.
D. A fringe of aquatic marginal vegetation is present along more than 75% of the ditch	Pass												

E. Physical damage is evident along less than 5% of the ditch	Pass												
F. Sufficient water levels are maintained	Pass												
G. Less than 10% of the ditch is heavily shaded	Pass												
H. There is an absence of non-native plant and animal species	Pass												
Overall Condition	Poor												

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5 References

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APPENDIX 1 - SITE CONTEXT MAP

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Legend: Red Line Boundary	1 Kilometers	N URBANGREEN A: Ground Floor, The Tower, Deva City Office Park, Trinity Way, Manchester M3 7BF T: +44 (0) 161 312 3131 weareurbangreen.co.uk
Client: Balance Power	Issue: 01	Figure: 01
Project: Sandy Brow	Scale @ A4 1:12,000	
Title: Site Context	Approved by: CL	Checked by: SP
Drawing Ref: UG_2142_SITE_CONTEXT	Author: CL	Date: 01/04/2025

APPENDIX 2 - DESIGNATED SITES MAP

U R B A N
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U R B A N
G R E E N

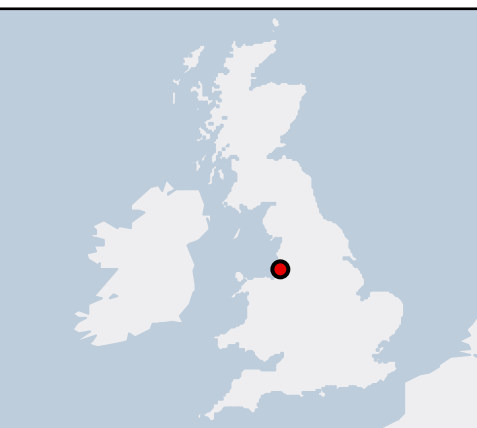
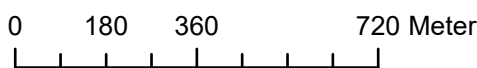
Legend

Red Line Boundary

2km Buffer

Local Nature Reserves (England) © Natural England

N



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Client: Balance Power		
Project: Sandy Brow		
Title: Designated Sites Results		
Issue: 01		Figure: 00
Drawn: CL	Checked: SP	Approved: SP
Project: UG2142	Scale @ A3: 1:15,000	Date: 01/04/2025
Dwg No: UG_2142_ECO_DS_01		Revision: 01

APPENDIX 3 - PHOTOGRAPHS OF THE SITE

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Photograph 1 – Modified grassland with scattered rush



Photograph 2 – Lady's thumb localised to wetter patch of modified grassland



Photograph 3 – Mixed scrub



Photograph 4 – Himalayan balsam within mixed scrub



Photograph 5 – Individual birch tree within grassland



Photograph 6 – Ditch with surrounding dense scrub vegetation

APPENDIX 4 - BASELINE HABITAT MAP

U R B A N
G R E E N



U R B A N
G R E E N

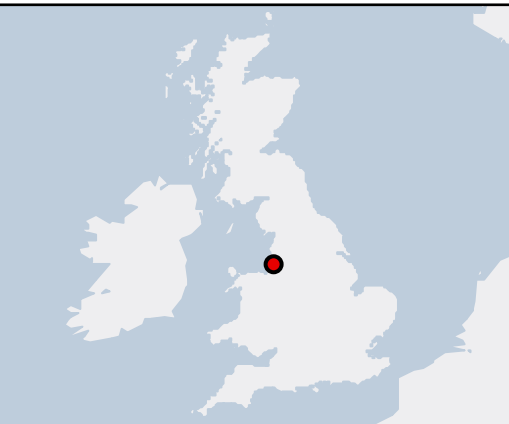
Legend

- Red Line Boundary
- Rivers and streams
- Mixed scrub
- Artificial unvegetated
- Other neutral grassland
- Rural Tree
- Target note
 - TN1 - Himalayan balsam
 - TN2 - Japanese knotweed

N



0 15 30 60 Meters



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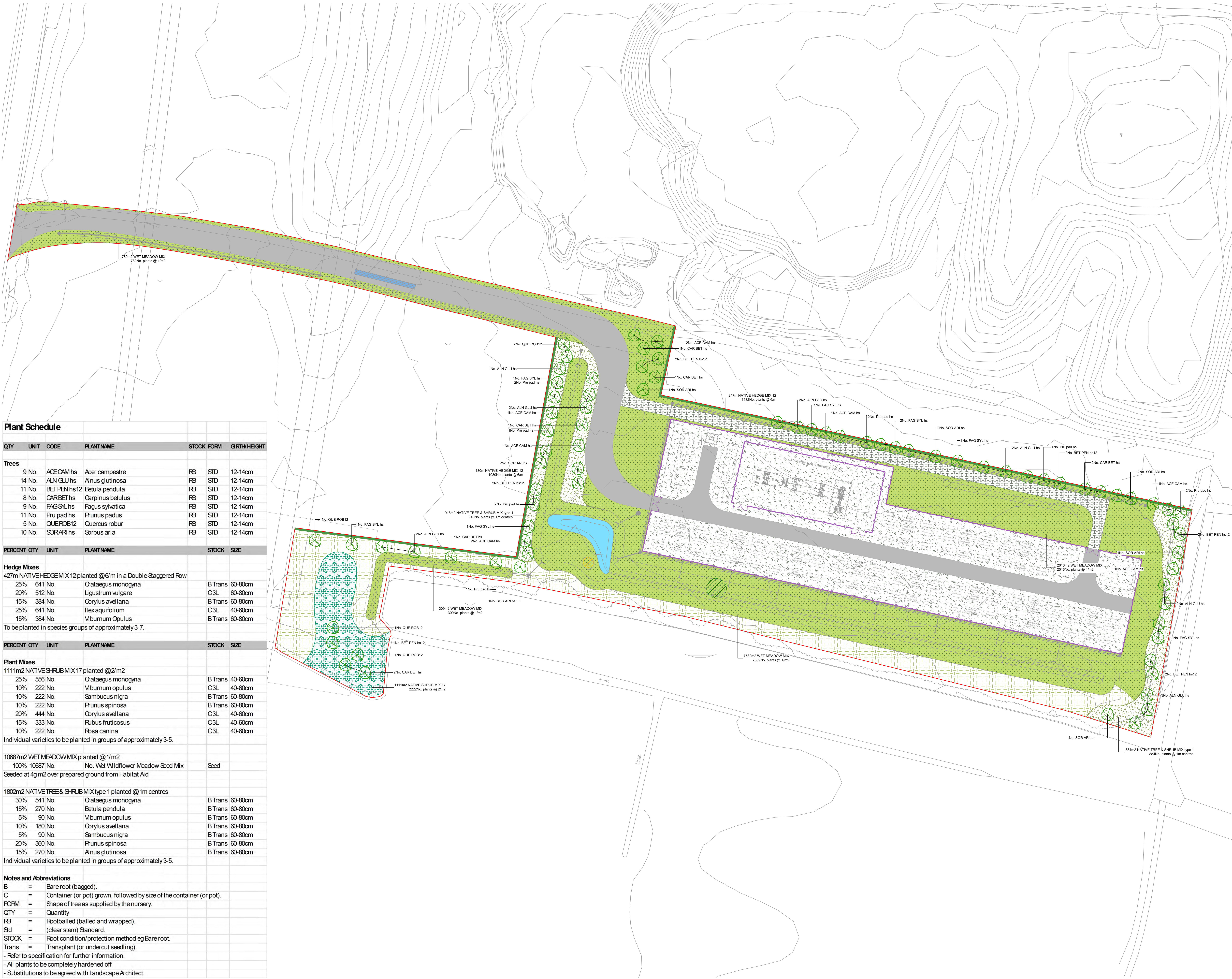
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Project:		Sandy Brow	
Title:		UKHAB Habitat Map	
Issue: 01		Figure: 00	
Drawn: CL	Checked: TM	Approved: BG	
Project: UG2142	Scale @ A3: 1:1500	Date: 17/04/2025	
Dwg No: UG_2142_ECO_HM_01		Revision: 01	

APPENDIX 5 - PRIMARY AND SECONDARY CODES

Primary Code	Definition
g3c	Other neutral grassland
h3h	Mixed scrub
r2b	Rivers and streams
u1c	Artificial unvegetated, unsealed surface
Secondary code	Definition
14	Scattered rushes
101	Cattle grazed
503	Wet
524	Invasive non-native species
839	Track

APPENDIX 6 - PROPOSED LANDSCAPE PLAN

U R B A N
G R E E N



Plant Schedule

QTY	UNIT	CODE	PLANTNAME	STOCK	FORM	GRTH/HEIGHT
Trees						
9 No.	ACE	C4M	Acer campestre	FB	STD	12-14cm
14 No.	ALN	GLU	Alnus glutinosa	FB	STD	12-14cm
11 No.	BET	PEN	Betula pendula	FB	STD	12-14cm
8 No.	CAR	BET	Carpinus betulus	FB	STD	12-14cm
9 No.	FAG	SYL	Fagus sylvatica	FB	STD	12-14cm
11 No.	Pru	pad	Prunus padus	FB	STD	12-14cm
5 No.	QUE	ROB	Quercus robur	FB	STD	12-14cm
10 No.	SOR	ARI	Sorbus aria	FB	STD	12-14cm

PERCENT	QTY	UNIT	PLANTNAME	STOCK	SIZE
Hedge Mixes					
427m NATIVE HEDGE MIX 12 planted @6m in a Double Staggered Row					
25%	641 No.		Crataegus monogyna	B Trans	60-80cm
20%	512 No.		Ligustrum vulgare	C3L	60-80cm
15%	384 No.		Corylus avellana	B Trans	60-80cm
25%	641 No.		Ilex aquifolium	C3L	40-60cm
15%	384 No.		Viburnum Opulus	B Trans	60-80cm

To be planted in species groups of approximately 3-7.

PERCENT	QTY	UNIT	PLANTNAME	STOCK	SIZE
Plant Mixes					
1111m2 NATIVE SHRUB MIX 17 planted @2/m2					
25%	556 No.		Crataegus monogyna	B Trans	40-60cm
10%	222 No.		Viburnum opulus	C3L	40-60cm
10%	222 No.		Sambucus nigra	B Trans	60-80cm
10%	222 No.		Prunus spinosa	B Trans	60-80cm
20%	444 No.		Corylus avellana	C3L	40-60cm
15%	333 No.		Rubus fruticosus	C3L	40-60cm
10%	222 No.		Rosa canina	C3L	40-60cm

Individual varieties to be planted in groups of approximately 3-5.

10687m2 WET MEADOW MIX planted @1/m2					
100%	10687 No.		No. Wet Wildflower Meadow Seed Mix	Seed	

Seeded at 4g m2 over prepared ground from Habitat Aid

1802m2 NATIVE TREE & SHRUB MIX type 1 planted @1m centres					
30%	541 No.		Crataegus monogyna	B Trans	60-80cm
15%	270 No.		Betula pendula	B Trans	60-80cm
5%	90 No.		Viburnum opulus	B Trans	60-80cm
10%	180 No.		Corylus avellana	B Trans	60-80cm
5%	90 No.		Sambucus nigra	B Trans	60-80cm
20%	360 No.		Prunus spinosa	B Trans	60-80cm
15%	270 No.		Alnus glutinosa	B Trans	60-80cm

Individual varieties to be planted in groups of approximately 3-5.

Notes and Abbreviations

- B = Bare root (bagged).
- C = Container (or pot) grown, followed by size of the container (or pot).
- FORM = Shape of tree as supplied by the nursery.
- QTY = Quantity
- FB = Rootballed (balled and wrapped).
- Std = (clear stem) Standard.
- STOCK = Root condition/protection method eg Bare root.
- Trans = Transplant (or undercut seedling).
- Refer to specification for further information.
- All plants to be completely hardened off
- Substitutions to be agreed with Landscape Architect.

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Graphical representations of equipment on this drawing have been co-ordinated, but are approximations only. Please refer to the specifications and / or details for actual sizes and / or specific contractor construction information.

Notes:-

KEY

- Application Site Red Line Boundary
- Hard Landscape
 - Vehicular Asphalt Surface
To engineer specification & recommendation
 - Natural Looking Surface Material
To appropriate specification
 - Permeable Paving
To appropriate specification
 - 2.4m High Security Fence
Green colour
- Soft Landscape
 - Existing Tree and Shrub Planting
To be retained and enhanced
 - Native Tree
Heavy standard tree
 - Existing Tree
To be removed
 - Existing Tree
To be retained
 - Native Woodland Mix Planting
Shrubs and tree whips
 - Proposed Wet Wildflower Meadow
 - Proposed Native Hedge Planting
 - Proposed Native Shrub Planting
 - Existing Grassland
To be retained and enhanced

P07	20/06/25	UPDATED TO COMMENTS	TH	SW
P06	03/06/25	UPDATED TO COMMENTS	MA	SW
P05	29/05/25	UPDATED TO COMMENTS	MA	SW
P04	21/05/25	LAYOUT UPDATE	MA	SW
P03	07/05/25	BNG UPDATE	SA	ME
P02	14/04/25	SECOND ISSUE	SW	ME
P01	15/09/23	FIRST ISSUE	TH	ME
REV.	DATE	DESCRIPTION	DRAWN	CHK'D



A: Ground Floor, The Tower,
Deva City Office Park, Trinity Way,
Manchester M3 7BF

T: +44 (0) 161 312 3131

weareurbangreen.co.uk

Client:	BALANCE POWER		
Project:	SANDY BROW LANE, KIRKBY		
Title:	GENERAL ARRANGEMENT PLAN		
Issue:	PLANNING		
Drawn:	TH	Checked:	SA
		Approved:	ME
Project:	UG2142	Scale @ A0:	1:500
		Date:	15/09/23
Dwg No:	UG_2142_LAN_GA_DRW_01	Revision:	P07

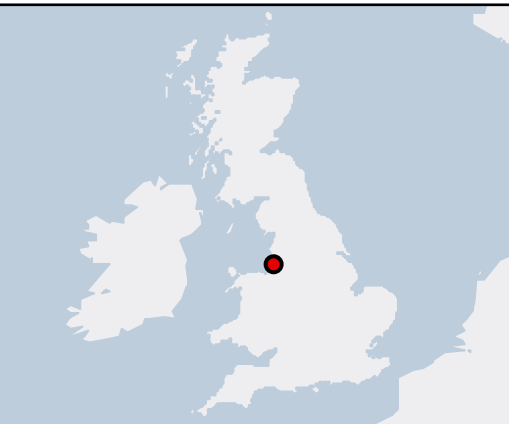
APPENDIX 7 - HABITAT RETENTION PLAN



U R B A N
G R E E N

Legend

- Red Line Boundary
- Lost
- Retained

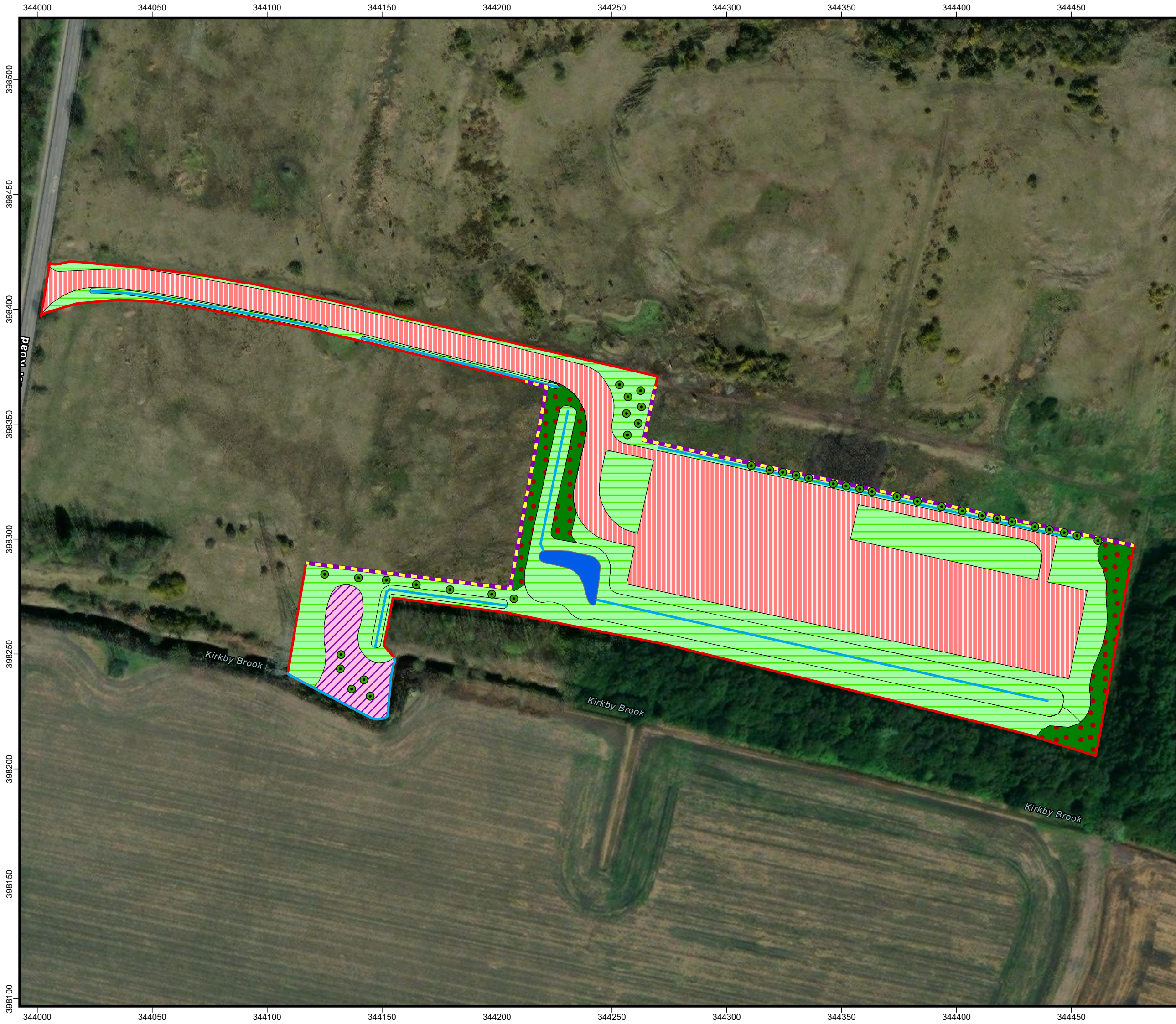


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Client:		Balance Power	
Project:		Sandy Brow	
Title:		Habitat Retention	
Issue: 01		Figure: 00	
Drawn: CL	Checked: TM	Approved: BG	
Project: UG2142	Scale @ A3: 1:1500	Date: 12/05/2025	
Dwg No: UG_2142_BNG_HR_01		Revision: 01	

APPENDIX 8 - POST- DEVELOPMENT HABITAT MAP

U R B A N
G R E E N



U R B A N
G R E E N

Legend

- Red Line Boundary

Ditch

Native hedgerow

Developed land sealed surface

Mixed scrub

Other broadleaved woodland

Other neutral grassland

SUDs

Tree
- N



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Client:	Balance Power	
Project:	Sandy Brow	
Title:	Post Development UKHAB Habitat Map	
Issue:	01	Figure: 00
Drawn:	CL	Checked: TM
Approved:	BG	
Project:	UG2142	Date: 12/05/2025
Scale @ A3:	1:1500	
Dwg No:	UG_2142_BNG_PDHM_01	Revision: 01

APPENDIX 9 - INVASIVE AND NON-NATIVE SPECIES

- 5.1.1.1 An invasive, non-native species is a species that is present outside of its native range but has established populations after accidental or intentional introduction to a geographical region. These species have negative ecological impacts on the environments in which they are present by outcompeting native flora and fauna for resources, facilitating the spread of disease, and interrupting natural food webs.
- 5.1.1.2 Schedule 9 of the Wildlife and Countryside Act 1981 and the Invasive Alien Species (Enforcement and Permitting) Order 2019 list the species within the UK which are considered invasive and are damaging to biodiversity. It is the legal responsibility of the landowner to control populations of invasive species and prevent their growth and spread.
- 5.1.1.3 Himalayan balsam and Japanese knotweed were present on site and the appropriate management techniques should be followed to eradicate this from site and prevent regeneration. It should be noted that some invasive non-native plants are very fast spreading and therefore the potential for these species to be introduced to the site at a later date cannot be ruled out.
- 5.1.1.4 The table below details common invasive, non-native species listed on Schedule 9 and the Invasive Alien Species Order 2019 and how to identify them. If any are identified onsite, a professional management company that specialises in invasive species should be contacted immediately.

Common name (scientific name)	Identification		
Himalayan balsam (<i>Impatiens glandulifera</i>)	• Green or red stems • Serrated oval leaves growing in a whorl round the stem • Bright pink flowers		

Giant Hogweed	• Up to 4m in height • Large white flower clusters • Green stem with purple blotches • Large compound leaves with serrated edges, up to 1.5m across			
Japanese knotweed (<i>Fallopia japonica</i>)	• Bamboo like stems with purple flecks • Large, shovel shaped leaved • Cream/white clustered flowers			
Rhododendron (<i>Rhododendron</i> spp.)	• Woody stems • Oval, dark green, glossy leaves • Dense clusters of flowers of various colours			

Montbretia (<i>Crocasmia x crocosmiiflora</i>)	• Low growing plant • Long, thin, light green leaves • Bright orange flowers		
Cotoneaster (<i>Cotoneaster</i> spp.)	• Genus of flowering plants • Dense, shrubby growth • Small, shiny, dark green leaves • Small white or pink berries with red berries in autumn		
Variegated yellow archangel (<i>Lamium galeobdolon</i> subsp. <i>Argentatum</i>)	• Low growth which forms carpets on the ground • Opposite, variegated leaves • Small, round, yellow flowers		