NATURAL ENGLAND

Department for Environment Food & Rural Affairs

Habitat Management and Monitoring Plan

Site Name:	Novartis Site Horsham Phase 1&2
Date:	26/02/2026
Version:	FV02

Author:

Greengage

Client:

Template Version 1.0 November 2023

Contents

Version Control

Version	Issue Status	Prepared by / Date	Approved by / Date
FV01	Draft	Fern Oscroft 19.05.2025	Francesca Thorley / 05.06.25 and Georgia Alfreds 09.07.25

Document Details

Authorship Details
Author: Greengage Environmental Ltd 9 Holyrood Street, London, SE1 2EL

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1. Project Background

Site Overview PB-B01	
Project type	Mixed on-site and off-site. See Biodiversity Gain Plan for further details on off-site compensation.
Development Name and Address	Former Novartis Site, Parsonage Road, Horsham, West Susses, RH12 5AA
BNG Project Name and Address	Phase 1&2, Former Novartis Site, Parsonage Road.
Author Organisation	Greengage Environmental Ltd
Landowner	Lovell Homes
Land Manager	To Be Confirmed (TBC)
Responsible person/organisation for creating or enhancing the habitat	TBC
Period covered by this management plan	TBC
Planning authority	Horsham District Council
Planning reference (if applicable)	DC/25/0629
BNG register reference (if applicable)	Not Applicable (N/A)
Central OS grid reference	TQ 17809 31816
Metric revision/title	552979_SBM_V0.8
Are any Irreplaceable Habitats present onsite	Yes: ☐ No: ☒

Summary of Management Plan

Habitats to be Retained, Created and Enhanced PB-B02

Proposed habitat creation includes; 1.6629 hectares (ha) of 'Developed land; sealed surface', 0.4122 ha of 'Vegetated garden', 0.3583 ha of 'Urban tree' (equivalent to 88 small trees), 0.0569 ha of 'Rain garden', 0.1548 ha of 'Other neutral grassland', 0.3387ha of introduced shrub. The development seeks to retain 0.3216 ha of 'Urban trees' (equivalent to 7 large and 4 medium trees).

Timescales for Actions PB-B03

At the time of writing, key timescales of the development and habitat creation have not been confirmed. However, key timescales for habitat creation are as follows:

- June to July (year of creation) - Purchase of grass mix
- July to August (year of creation) – Topsoil strip
- August (year of creation) - Scarify
- August to September (year of creation) - Overseeding/sowing
- November to March (year of creation) – Planting of individual trees, hedgerow shrubs, and ornamental plants
- March and/or September (following year) - Cutting for grasslands
- November to February (following year) – Hedgerow first cut
- October to March (onwards) – Hedgerow planting to fill gaps, replacement tree planting, cutting of hedgerow every three years.
- Spring (three to four years post-creation) - grassland mix overseeding/sowing
- Annually – maintenance and monitoring visits for all habitats.

Monitoring Requirements PB-B04

Post-construction review to ensure that habitats have been/ are being created.

Yearly monitoring reviews by a Suitably Qualified Ecologist (SQE) for the first 1-5 years, and then every 5 years thereafter for the remainder of the 30 year-period. Monitoring checks to be undertaken between May – June during the peak botanical season.

Required Consents and Licences PB-B05

No need for consents and licences identified at this time.

Funding PB-B06

Funding to be provided by the landowner to secure the deliverance of the HMMP.

Legal Agreement PB-B07

None known at this time

Site Boundary Plan PB-F01

NOVARTIS PHASE 1&2

Red Line Boundary

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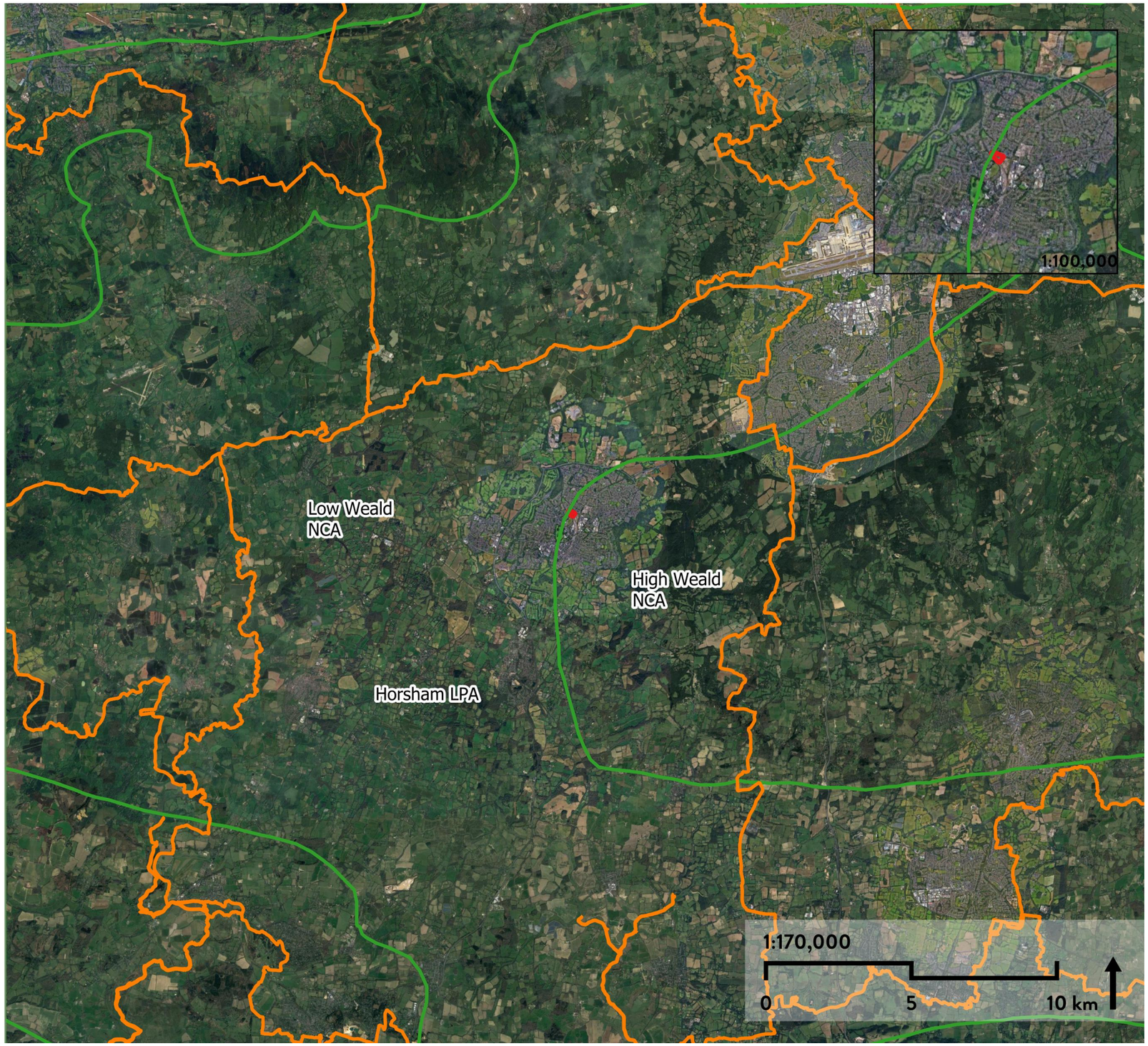
Site Context Plan PB-F02

FORMER NOVARTIS SITE PHASE 1&2

- Site Location
- Local Plannnig Authority (LPA)
- National Character Area (NCA)



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Phasing strategy

Will the proposed work measures be delivered in phases? PB-B08	**Yes: ☐ No: ☐**
The development will be delivered in phases. Phasing strategy TBC currently.	

Roles and Responsibilities

Ecologist or Other Professional Responsible for HMMP PB-B09				
Name or Initials		Fern Oscroft / Jess Coles		
Organisation		Greengage Environmental Ltd		
Responsibility	Start Date:	May 2025 (TBC)	End Date:	May 2055 (TBC)
The production of the HMMP for the on-site habitat retention, creation, and enhancement. Monitoring of the site post-enhancement, production of monitoring reports, and recommendation of remedial actions going forward.				
Statement of Competency				
Jess Cole, Senior Consultant, has a BSc degree in Ecology (Hons) and is an Associate member of CIEEM. Jess holds a Natural England Great Crested Newt Licence and has over seven years' experience in ecological survey and assessment. Fern Oscroft, Consultant, has an undergraduate degree in Conservation Biology (BSc Hons) and is a Qualifying member of CIEEM. Fern has four years' experience in the commercial sector. Fern's experience spans terrestrial environments, with PEA and Biodiversity Net Gain (BNG) being a particular interest.				

Landowner or Land Manager PB-B10	
Name or Initials	Will McKay
Organisation	Lovell Homes

Responsibility	Start Date:	May 2025 (TBC)	End Date:	May 2055 (TBC)
Responsible for the implementation of the habitat retention, creation, and enhancement, and the HMMP. Responsible for the onboarding of a land-manager for the onwards management of the habitats and implementation of the HMMP once the development if functional. Collection and storage of monitoring reports. Responsible for the organisation and ensuring delivery of the off-site compensation require to achieve 10% Biodiversity Net Gain.				
Statement of Competency				
The landowner is to commission/appoint management organisation for the implementation and management of the habitats, as guided by this HMMP.				

Management Organisation(s) Responsible for Implementing the HMMP PB-B11				
Name or Initials		TBC – Lovell Homes to appoint		
Organisation		TBC – Lovell Homes to appoint		
Responsibility	Start Date:	May 2025 (TBC)	End Date:	May 2055 (TBC)
Implementation of the HMMP and habitat management for the lifetime of the HMMP. Implementation of any remedial actions required to achieve proposed habitats.				
Statement of Competency				
TBC – Landowner to appoint				

LPA or Responsible Body for Reviewing HMMP PB-B12				
Name or Initials		TBC		
Organisation		Horsham District Council		
Responsibility	Start Date:	May 2025 (TBC)	End Date:	May 2055 (TBC)
TBC				

Land Use Summary

Overview of Baseline Site Use PB-B13

The site extends to 2.63 hectares (ha) and comprised 'Developed land; sealed surface', 'Introduced shrub', 'Vacant or derelict land', 'Modified grassland', 'Other neutral grassland', 'Bramble scrub', 'Willow scrub', 'Ornamental lake or pond', 'Other woodland; mixed', 'Urban tree' and 'Native hedgerow', as identified from site walkovers undertaken in November 2024 and February 2025, as part of the Preliminary Ecological Appraisal (PEA)[1] and Biodiversity Net Gain Assessment (BNGA)[2], alongside information from previous reports by Hampshire County Council[3] and Ecology & Habitat Management Ltd[4]

At present, the site comprises a vacant building but is not currently managed.

Overview of Proposed Site Use PB-B14

The proposed development proposes to deliver 43 units of residential housing, as well as three flat blocks, one of which will be within the footprint of the existing building on-site. Eleven trees will be retained post-development. The initial soft landscaping within the Public Open Space, as per the plans produced by Fabrik in March 2025[5,6,7], will include vegetated garden associated with the 43 residential units, and the creation of 'Other neutral grassland', 'Introduced shrub', 'Rain garden', 88 small 'Urban trees', 'Vegetated gardens', and 'Native hedgerow'.

The landscaping and habitat creation will be implemented by Lovell Homes, and managed by an independent land manager, to be appointed by Lovell Homes.

Site Context Photos PB-F03

[1] Greengage Environmental Ltd (2024) Preliminary Ecological Appraisal (Report reference: 552977oh08Nov24FV03_PEA)
[2] Greengage Environmental Ltd (2025) Biodiversity Net Gain Assessment (Report reference: 552977fo03Jan25_FV02_BNGA)
[3] *Hampshire County Council. (2019); Ecological Appraisal & Phase II Protected Species Surveys.*
[4] *Ecology & habitat management Ltd. (2023); Preliminary Ecological Assessment, Reptile Survey & Bat Survey Report Phase 1.*

[5] Fabrik (2025) Landscape General Arrangement Plan. Drawing No: D3438-FAB-00-XX-DR-L-1001 Landscape General Arrangement Plans Sheet 1 of 3_DRAFT PL01
[6] Fabrik (2025) Landscape General Arrangement Plan. Drawing No: D3438-FAB-00-XX-DR-L-1002 Landscape General Arrangement Plans Sheet 2 of 3_DRAFT PL01
[7] Fabrik (2025) Landscape General Arrangement Plan. Drawing No: D3438-FAB-00-XX-DR-L-1003 Landscape General Arrangement Plans Sheet 3 of 3_DRAFT PL01

Site Baseline, Environmental Information and Associated Impacts Checklist PB-T01

Baseline and Environmental Information	Prompts for when these may be relevant. This is not an exhaustive list. Use your professional judgement	Check box if	Document Reference or Reason if not included
Statutory / Non-statutory Designated Sites	Will your proposals lead to direct or indirect effects on designated sites?	☒	Data Search of biological records (including statutory and non-statutory sites) received from Sussex Biodiversity Record Centre in November 2024. These records were analysed as part the Preliminary Ecological Appraisal produced by Greengage in December 2024[8] and have been considered throughout the site-design process.
Protected and Notable Species	Does the presence or proximity of specific species on or near your site present any constraints or opportunities to project design or management?	☒	Data Search of biological records received from Sussex Biodiversity Record Centre in November 2024. These records were analysed as part the Preliminary Ecological Appraisal[8] and have been considered throughout the site-design process. Further details of the data search results are outlined in the “Biological Records" section below.
Invasive Non-Native Species (INNS)	Are any INNS present onsite that could affect the proposals?	☒	INNS plants were noted to be present within the site. *Rhododendron sp*, *Cotoneaster sp.* and pygmy weed (*Crassula helmsii*). Further details of the data search results are outlined in the “Biological Records" section below.
Biological Records Plan - Sites and Species	Does the presence of designated sites or specific species on or near the site present any constraints or opportunities to proposals?	☒	Data Search of biological records received from Sussex Biodiversity Record Centre in November 2024. These records were analysed as part the Preliminary Ecological Appraisal[8] and have been considered throughout the site-design process. Further details of the data search results are outlined in the “Biological Records" section below.
Baseline Habitats Survey	Is this current and important HMMP information located in a separate document? If so, provide details on where it is located.	☒	A baseline habitat survey was carried out as part of the Biodiversity Net Gain Assessment (BNGA) produced by Greengage in March 2025[9].
Public Access	Has public access, or proposals to allow public access, influenced your management prescriptions? If so, how?	☒	The site currently does not have public access but will do so in the future due to the nature of the development being residential. This has influenced certain conditions and habitat types considered to be achievable at the site. These conditions and reasoning for conditions are detailed in the Greengage (2025) Biodiversity Net Gain report[9]. They may require certain management techniques, such as protection or remedial actions, to ensure these conditions and habitat types are met. These are detailed within this HMMP.

[8] Greengage Environmental Ltd (2024) Preliminary Ecological Appraisal. Report reference: 552979jh06Dec24FV03_PEA.
[9] Greengage Environmental Ltd (2025) Biodiversity Net Gain Assessment. Report reference: 552977fo11Mar25FV01_BNGA.

Climate	Are local climate conditions and, or, climate change likely to impact the target habitat retention, creation or enhancement?	☒	The site is not within a Climate Change Vulnerability Zone, identified through desktop search of the MAGIC website[10]. Therefore, the habitats at the site are unlikely to be vulnerable to climate change. The site is located within the Sussex region, of which Met Office predicts climate changes over the next 30 years. Met Office predictions include warmer, wetter winters and hotter, drier summers, with an increase in the frequency and intensity of extremes of weather. The habitats within the proposed site comprise grassland, trees, and woodland of native origin, with some introduced shrub planting. The management of the habitats as a result of the project interventions may need additional effort in support of climate change impacts, such as additional irrigation efforts and consideration of species selection. These have been included within the HMMP.
Geology and Topography	Any geological or topographical constraints or opportunities?	☐	Not included. Following a review of the British Geological Survey database, the bedrock geology consists of 'Upper Tunbridge Wells Sand', a sandstone and mudstone sedimentary rock formed between 139.4 and 133.9 million years ago during the Cretaceous period. Sandstone is often permeable and therefore is unlikely to contribute to increased flood risks in this area. There are no SSSIs designated for geology on the site or within 2km of the site. The topology of the site is considered flat, therefore is not expected to drastically influence habitat creation with only small variations in elevation across the site's extent. Topological works in relations to proposed habitat creation is not anticipated.
Agricultural Land Status	Does the site support any land favourable for agricultural management? Could this affect the proposals?	☐	Not included. No agricultural land present within the development site boundary as the site is located within an inner urban location.
Soils and Substrates	Do soils and substrates present any constraints or opportunities?	☐	Not included. Following a review of the United Kingdom Soil Observatory database, the site has been identified as containing a soilscape of 'unclassified'. Therefore, no further information can be detailed within this document. No soil analysis survey has been performed for the soil present onsite. This has been deemed appropriate, with the soil types present onsite not being considered a limitation. This is due to the habitats proposed to be created and enhanced onsite already established onsite or present within the immediate local area.
Contaminated Land	If there is any contaminated land, will this present any constraints?	☐	Not included. No reports of contaminated land identified within the documents for the site.
Hydrology and Drainage	Will the site hydrology present any constraints or opportunities?	☐	Not included. There are no watercourses within 1km of the site. The site is within an urban setting, and therefore it is expected that drainage will be consistent with the surrounding area – i.e. using man-made drainage systems. Additionally, SuDS have been included within the site design to aid flood alleviation.

[10] MAGIC, (2019). Interactive Map. (Partnership project involving six government organisations: Defra (Department for Environment, Food and Rural Affairs); English Heritage; Natural England; Environment Agency; Forestry Commission; Department for Communities and Local Government). Available at: www.magic.gov.uk.

Flood Risk Zones	Is the site within a flood risk zone? Will that present any site management risks?	☐	Not included. The site location, and areas surrounding are not included within Flood Risk Management Priorities as per West Sussex County Council Local Flood Risk Management Strategy[11]. The highest flood risk at the site is from surface water, with is currently having a 'Low' chance of yearly flooding, raising to 'Medium' in 2040-2060. The development plans include SuDS to manage flood risk and surface runoff. Therefore, due to the 'Low' risk within the site, it is not deemed that this should be included within the HMMP.
Landscape Character and Designations	Does the landscape character of the site present any constraints or opportunities?	☐	The site is located within the High Weald National Character Area (NCA) which encompasses the ridged and faulted sandstone core of the Kent and Sussex Weald. It is an area of ancient countryside and one of the best surviving medieval landscapes in northern Europe. The High Weald Area of Outstanding Natural Beauty (AONB) covers 78 per cent of the NCA. The High Weald consists of a mixture of fields, small woodlands and farmsteads connected by historic routeways, tracks and paths. Wild flower meadows are now rare but prominent medieval patterns of small pasture fields enclosed by thick hedgerows and shaws (narrow woodlands) remain fundamental to the character of the landscape. However, due to the inner urban location of the site, this is not considered to present constraints to the development and therefore had not been included.
Historic Land Use	Does the historic land use present any constraints or opportunities?	☐	The site was historically a commercial office building, with landscaped courtyard and surrounding grounds maintained for amenity value. The site is currently disused and has been unmanaged for some time. The site is not registered for archaeological features, world heritage sites, or other historical designations.
Historic Environment and Earth Heritage	Are there any historic environment designations? What are the implications for your plan?	☐	Not included. There are no statutory or non-statutory historic designations within 2km of the site.
Other – please specify	Any other details - for example underground services or overhead powerlines, which may impact habitat management.	☐	N/A

[11] West Sussex County Council (2013) Local Flood Risk Management Strategy.

2. Baseline and Environmental Information

Biological Records

Designated Sites (BI-T01)

Site Name	Designation	Distance from Project Site	Potential Impact from Project
Statutory Sites			
Warnham	Local Nature Reserve (LNR)	665m northwest	Negligible
Arun Valley	RAMSAR, Special Protection Area (SPA), Special Area of Conservation (SAC)	18.25km southwest	Negative
Non-Statutory Sites			
Warnham Mill Pond	Local Wildlife Site (LWS)	665m northwest	Negligible
Leechpool & Owlbeech Woods	LWS	1.51km east	Negligible
Denne Road Cemetery	LWS	1.53km south	Negligible
Chesworth Farm	LWS	1.64km south	Negligible

Summary of Designated Sites (BI-B01)

Warnham LNR comprises over 400 species of plants, and 100 species of bird, within grassland meadow, ancient woodland, and conifer and mixed broadleaved plantation.

Warnham Mill Pond LWS is also designated under the above-mentioned LNR. The site comprises a pond fed by two brooks. Surrounding the pond is wet woodland, comprising alder (*Alnus glutinosa*) and willow (*Salix sp.*), and tall swamp vegetation.

Arun Valley RAMSAR, SPA, and SAC consists of the floodplain of the River Arun, and comprises inland water bodies, bogs and marshes, humid grassland, and broad-leaved deciduous woodland. The site is designated as an SAC due to the presence of Ramshorn snail (*Anisus vorticulus*) and is outstanding for wintering waterfowl.

Natural England highlighted developments which may cause further abstraction to the Sussex North Water Supply Zone could affect a number of designated sites including Arun Valley Ramsar, SAC, SPA. As a result, the client will be required to supply a water neutrality statement with the planning application which:

- *"Confirms that there would be no increase in water consumption, for example, through a combination of water efficiency, water recycling and offsetting measures; and*
- *includes a water budget showing details of the baseline and proposed water consumption, any mitigation measures proposed and mechanisms to secure them in advance of occupation/use."*

Therefore, the development may have a negative impact on Arun Valley RAMSAR.

Constraints and Opportunities for Project (BI-B02)

Other than the increased demand in water supply (Negative impact on Arun Valley RAMSAR), it is determined that the development is reasonably unlikely to directly impact upon the flora and fauna of Arun Valley RAMSAR, SPA, and SAC.

The Water Neutrality Statement may pose a constraint to the development, including how the water may be used within the site. Limitations on water usage may pose a constraint to the establishment of the planting within the site, where irrigation may be required.

However, to offset this impact, irrigation can be carried out using stored rainwater collected within the site, where possible.

Protected and Notable Species (BI-T02)

Species	Dates	Conservation Status	Distance of Closest Record	Potential Impact from Project
Amphibians	2014 to 2024	Wildlife and Countryside Act 1981 (as amended) (WCA) Schedule 5	700 metres (m) northwest	Negligible
Bats (Common pipistrelle (*Pipistrellus pipistrellus*), Soprano pipistrelle (*Pipistrellus pygmaeus*), Serotine (*Eptesicus serotinus*), Natterer's bat (*Myotis nattereri*), Leisler's bat (*Nyctalus leisleri*), Noctule bat (*Nyctalus noctule*), Nathusius's pipistrelle (*Pipistrellus nathusii*), Brown long-eared bat (*Plecotus auritus*), Daubenton's bat (*Myotis daubentonii*), Unidentified pipistrelle bat species (*Pipistrellus spp*.), Unidentified bat species (*Chiroptera spp*.) and Whiskered bat (*Myotis mystacinus*)).	2014 to 2024	WCA Schedule 5	700m northwest	Positive
Birds (Red kite (*Milvus milvus), and Merlin (Falco columbarius)).*	2014 to 2024	WCA	390m south	Positive
Invertebrates	2014 to 2024	WCA	100m north	Positive
Mammal (Hedgehog (*Erinaceus europaeus*),	2014 to 2024	WCA	15m north	Positive
Mammal (Harvest mouse (*Micromys minutus*), Hazel dormouse (*Muscardinus avellanarius*), and Polecat (*Mustela putorius*).		WCA	680m northwest	Negligible
Plants (Bluebell (*Hyacinthoides non-scripta*))	2014 to 2024	WCA	700m northwest	Negligible
Reptiles	2014 to 2024	WCA Schedule 5	700m northwest	Negative

(Slow-worm (*Anguis fragilis*), Common lizard (*Zootoca vivipara*), and Grass snake (*Natrix helvetica*))				

Summary of Protected and Notable Species (BI-B03)

The table above provides a summary of the taxon within 2km of the site. However, none of these records were within the site boundary. The information has been provided by Local Biological Records Centre, which is Sussex Biodiversity Records Centre (SxBRC), which is detailed within the PEA[8]. Records received from the GLNP displayed in Figure BI-F01 below.

In addition, data from specific protected species surveys undertaken on the Application Site has also been used in Table BI-T02 above. These include:

- Preliminary Roost Assessment[12];
- Potential Roost Feature (PRF) Inspection[13];and
- Reptile survey.

Constraints and Opportunities for Project (BI-B04)

As per the Greengage Preliminary Ecological Appraisal[14] the site was determined to have the following suitability for protected species:

- Low suitability for badgers;
- Moderate suitability for foraging and commuting bats;
- Low suitability for roosting bats;
- Moderate suitability for nesting birds;
- High suitability for invertebrates;
- Confirmed presence slow worm and common lizard on site;
- Low suitability for hedgehogs; and
- Confirmed presence cotoneaster (C*otoneaster sp.*), in patches across the site, rhododendron (*Rhododendron sp.*) in on location toward the northeast of the site, and pygmy weed (*Crassula helmsii*) within the pond on site.

These posed constraints associated with the site and mitigation recommendations included:

- One bat emergence survey of the former Novartis building undertaken between May to August;
- Internal inspection of the former Novartis building including roof cavity, enclosed courtyard, and basement;
- One Night-time Bat Walkover (NBW) each season (Spring - April/May; Summer - June/July/August; Autumn - September/October);
- Static monitoring for five consecutive nights per month between April- October;
- PRF tree climb inspection of five trees (T037, T039, T040, and T041, T042);

[12] Greengage Environmental Ltd (2024) Preliminary Roost Assessment. Report reference: 552979lm25Mar25FV01_PRA
[13] Greengage Environmental Ltd (2025) Potential Roof Feature Inspection. Report reference: 552979in13Feb25FV01_PRFInspection
[14] Greengage Environmental Ltd (2024) Preliminary Ecological Appraisal. Report reference: 552979jh06Dec24FV03_PEA

- Endoscope immediately prior to soft felling for PRF-I trees (T04 and T038);
- Further reptile survey and establishment of receptor site for possible translocation;
- Six survey breeding bird surveys March to early July, alongside an additional nocturnal survey to be undertaken between midnight and dawn in May;
- Three invertebrate surveys of the site between May and July;
- Sensitive removal of invasive cotoneaster, rhododendron, and buddleia; and
- ECoW on areas of scrub habitats to mitigate harm to hedgehogs.

Enhancement and compensation opportunities for the site for nature include:

- Sustainable Urban Drainage;
- Biodiverse roofs on all available flat roof areas;
- Vertical greening / green walls where possible;
- Marginal planting along railway corridor;
- Wildlife-friendly/pollinator rich planting, night scented plant species, including native tree planting; and
- Bat boxes;
- Bird nest boxes for a range of species e.g. house sparrow, swift and generalist species;
- Retention of peregrine falcon nesting opportunities on former Novartis building roof;
- Invertebrate habitat features e.g. habitat panels, solitary bee hives and stag beetle loggeries;
- Hibernacula creation for reptiles; and
- Hedgehog highways.

Biological Records Plan - Species (BI-F01)

NOVARTIS PHASE 1&2

- Site Boundary
- 1km
- 2km
- Bats
- Birds
- Amphibians
- Invertebrates
- Terrestrial Mammals (excluding bats)
- Reptiles

Greengage

Baseline Habitats Survey

Ecologist responsible for baseline surveys (BI-T03)	
Name or Initials	Luke Measey
Organisation	Greengage Environmental Ltd
Survey Date	November 2024 and February 2025

Statement of Competency

Luke Measey, who performed the site walkover, has an undergraduate degree in Ecology and Environmental Management BSc (Hons). He holds a Natural England Level 1 Class Survey Licence for Great Crested Newt and Natural England Level 1 Class Survey Licence for bats. Luke has five years' experience in ecological survey and assessment.

The habitat baseline and associated reports were reviewed and verified by:

Francesca Thorley, who has an undergraduate degree in Geography (BSc Hons) and a Master's degree in Biodiversity and Conservation (MSc), holds a Natural England Great Crested Newt Licence, is Certified to undertake River Condition Assessments and is an Associated Member of CIEEM. Francesca has over six years' experience in the commercial sector.

Alexandra Wadia, who has a BSc (Hons) in Biology, and a MSc in Ecology & Environmental Management, and is a Full member of CIEEM. Alexandra holds a Natural England Great Crested Newt Licence and has over eight years' experience in ecological survey, assessment and reporting.

Survey conditions and limitations

The PEA was undertaken during a sub-optimal time of year (early November) which is outside of the recognised optimal season (April - September inclusive). Whilst this has meant that not all species that may be present within the habitats would be present at the time of the UKHab survey and therefore recorded, key indicator species were still present to categorise the habitats found on the site at the time of the site walkover. Therefore, it is not considered a significant constraint as key indicator species were present to be able to correctly identify the habitats present on the site.

The site walkover was undertaken outside of the breeding bird season; therefore, it would be unlikely to see evidence of currently active nesting birds during the site walkover.

The data collated during the desk study is mainly derived from records submitted by members of the public and ad hoc surveys undertaken by volunteers. Therefore, it should not be taken as a definitive list of the protected species and other species of conservation concern that occur in the local area.

At the time of the initial site walkover in November 2024 there was no access to the internal courtyard of the former Novartis building, with habitats unable to be classified within this area. As a result, a second survey in February 2025 was conducted to assess habitats in this area.

Habitat Degradation

Are there any signs or evidence that the baseline habitats have been purposefully degraded since 30th January 2020? (BI-B05)
There was no sign of habitat degradation at the time of the baseline habitat surveys, no works had commenced on site, and no current site management was being undertaken.
If habitats have been purposefully degraded, provide details of how this has been accounted for (BI-B06)
N/A

Baseline Habitat Descriptions and Condition

Habitats (BI-T04)

Parcel Refs	Habitat Type and Code	Irreplaceable	Priority	Description and Condition Justification	Condition	Area (ha)
U1	Urban – Developed land; sealed surface	No	No	All buildings and hardstanding within the red line boundary. No condition assessment required due to habitat type.	N/A	0.9067
U2	Urban – Introduced shrub	No	No	All areas of non-native and ornamental shrub planting within the site. No condition assessment required due to habitat type.	N/A	0.0154
U3	Urban – Vacant or derelict land	No	No	Successional vegetation upon urban land, comprising of ephemeral and ruderal vegetation, with scattered scrub and scattered trees across its extent. Growing medium included shallow soils, cracked concrete and building materials, intact concrete and established soils. The habitat parcel scored 'Moderate' due to achieving Criterion A "Vegetation structure is varied…" and Criterion B "The habitat parcel contains different plant species that are beneficial to wildlife…". The habitat parcel failed Criterion C due to the presence of Buddleja.	Moderate	0.1997
U4 and U5	Urban – Vacant or derelict land	No	No	Description as above. The habitat parcels scored 'Poor' due to achieving Criterion A only. The poor floral species diversity and presence of *Buddleja* within the habitat parcels meant these failed Criteria B and C.	Poor	0.4297
G1	Grassland – Modified grassland	No	No	The southern half of the courtyard within the former Novartis building consisted of modified grassland. Dominant species include common bent (*Agrostis capillaris*), frequent species include willow (*Salix* sp.), Yorkshire fog (*Holcus lanatus*), germander speedwell (*Veronica chamaedrys*) and pendulous sedge (*Carex pendula*), occasional species include bramble (*Rubus fruticosus*) and dandelions (*Taraxacum agg.*). Rare species include creeping buttercup (*Ranunculus repens*), common ragwort (*Jacobaea vulgaris*), *leucanthemum* x *superbum*, cat's-ear (*Hypochaeris radicata*), ribwort plantain (*Plantago lanceolata*) and buddleia. The habitat parcel scoring 'Good' did so due to achieving Essential Criterion A "There are 6-8 vascular plant species per m^2…", Criterion B "Sward height is varied…", Criterion D "Physical damage is evident in less than 5% grassland area…", Criterion E "Cover of bare ground is between 1% and 10%...", Criterion E "Cover of bare ground is between 1% and 10%...", Criterion F "Cover of bracken is less than 20%", and Criterion E "There is an absence of invasive non-native plant species…".	Good	0.0107
G2 and G6	Grassland – Modified grassland	No	No	An area of modified grassland (G2) was located in the northwest corner of the site, containing scattered scrub and scattered young self-seeded trees. The grass contained a variety of plant species between six to eight per m^2 and was considered a good representation of the habitat apart from the strong encroachment of scrub and areas of bare ground. The habitat consisted of dominant common bent, with frequent Yorkshire fog. Occasional species included bramble, festuca species, ribwort plantain, and goat willow (*Salix caprea*). Rare species considered of herb-Robert (*Geranium robertianum*), hoary willowherb (*Epilobium parviflorum*), common sedge (*Carex nigra*), wild strawberry (*Fragaria vesca*), *Ranunculus* species, and hoary ragwort (*Senecio erucifolius*). Buddleia was spread across the habitat. At the western entrance, to the south of the entrance road (G6), modified grassland was present and was dominated by perennial rye grass, with abundant creeping buttercup, frequent fescue species (*Festuca spp.*) and	Moderate	0.0769

				occasional bramble, creeping thistle (*Cirsium arvense*), common daisy (*Bellis perennis*) and cleavers (*Galium aparine*). The grass contained a variety of plant species between six to eight per m^2 and was considered a good representation of the habitat apart from the consistent sward height and areas of bare ground. The habitat parcels scoring 'Moderate' both passed Essential Criteria A, D, F, and G. Habitat Parcel G2 also passed Criterion B. Habitat Parcel G6 also passed Criterion C "Any scrub present accounts for less than 20% of the total grassland area…".		
G3, G4, and G5	Grassland – Modified grassland	No	No	At the western entrance, to the north of the entrance road, modified grassland was present and was dominated by perennial rye grass (*Lolium perenne*), frequent bramble and common reed (*Phragmites australis*), and occasional cock's foot (*Dactylis glomerata*). The grass did not contain a variety of plant species between six to eight per m^2 and was not considered a good representation of the habitat due to the encroachment by scrub and consistent sward height. The habitat parcels scoring 'Poor' did not pass Essential Criterion A, but all three habitat parcels passed Criteria D, E, and F. Habitat Parcel G5 also passed Criterion C.	Poor	0.0079
G7 and G10	Grassland – Other neutral grassland	No	No	Other neutral grassland habitat was located throughout the site in patches towards the west, centre, and east of the site, with the largest area located in the northeastern corner of the site. This area comprised at least 10 species per metre squared (m^2). Species composition included dominant creeping bent, and frequent creeping cinquefoil (*Potentilla reptans*), ranunculus species, and rumex species (*Rumex sp.*). Occasional species included bristly oxtongue (*Helminthotheca echi*oides), black medick (*Medicago lupulina*), common fleabane (*Pulicaria dysenterica*), common bird's-foot-trefoil (*Lotus corniculatus*), bramble, and hawthorn (*Crataegus monogyna*). Rare species included hoary ragwort, dove's-foot crane's-bill (*Geranium molle*), white clover (*Trifolium repens*), selfheal (*Prunella vulgaris*), pedunculate oak (*Quercus robur*), soft-rush (*Juncus effusus*), common vetch (*Vicia sativa*), greater plantain (*Plantago major*), *Carex* sp., oxeye daisy (*Leucanthemum vulgare*), creeping thistle (*Cirsium arvense*), wild strawberry, and germander speedwell. The habitat parcels scoring 'Good' passed Essential Criterion A "The parcel represents a good example of its habitat type with a consistently high proportion of characteristic indicator species present…" as well as Essential Criterion F "There are 10 or more vascular plant species per m2 present…". These habitat parcels both also passed Criterion B "Sward height is varied", and Criterion D "Cover of bracken is less than 20%". Habitat Parcel G7 also passed Criterion C "Cover of bare ground is between 1% and 5%...". Habitat Parcel G10 also passed Criterion E "Combined cover of species indicative of suboptimal condition and physical damage".	Good	0.2507
G8 and G9	Grassland – Other neutral grassland	No	No	These parcels were considered to be in moderate condition as these were a good example of the habitat but lacked species diversity. This area was dominated by festuca species, with abundant annual meadow-grass (*Poa annua*). Occasional species included creeping bent (*Agrostis stolonifera*), dandelions, hawthorn, Norway maple (*Acer platanoides*), and goat willow. Rare species included herb-Robert, holly (*Ilex aquifolium*), pedunculate oak, hoary ragwort, and large-leaved lime (*Tilia platyphyllos*). The habitat parcels scoring 'Moderate' both passed Essential Criterion A, Criterion B, and Criterion E. Habitat Parcel G8 also passed Criterion D. Habitat Parcel G9 also passed Criterion C.	Moderate	0.054
G11 and G12	Grassland – Other neutral grassland	No	No	These habitat parcels were considered to be in poor condition due to lack of species diversity, an abundance of bare ground and bracken, and high levels of physical damage. These areas of grassland were dominated by common bent (*Agrostis capillaris*), with frequent Yorkshire fog. Occasional species included cock's foot, bramble,	Poor	0.1116

				festuca species, ribwort plantain, and goat willow. Rare species included herb-Robert (*Geranium robertianum*), hoary willowherb, common sedge, wild strawberry, ranunculus species (*Ranunculus sp.*), hoary ragwort, red clover (*Trifolium pratense)*, Himalayan honeysuckle, soft-rush (*Juncus effusus*), black pine (*Pinus nigra*), and gorse (*Ulex europaeus*). The habitat parcels scoring 'Poor' both passed Essential Criterion A and Criterion B.		
S1, S2, S3, S4, S5	Heathland and shrub – Bramble scrub	No	No	Bramble scrub was dominant along large sections of the northern and southern site boundaries which had succeed on vacant or derelict land, containing tall forbs [16] and ruderal or ephemeral species. The habitat was dominated by bramble. Frequent sliver birch was also present across the habitat, all young and self-set at a high of no more than 3 m tall, therefore not tall enough to classify as individual tree but captured under the scattered trees secondary code. Occasional species of pedunculate oak and traveller's joy (*Clematis vitalba*) were recorded. Rare species consisted of cherry laurel (*Prunis laurocerasus*), grey willow (*Salix cinerea*), goat willow, large-leaved lime, holly, hawthorn, and dogrose (*Rosa Canina*). Cotoneaster species (*Cotoneaster sp*.) was rare across both areas of scrub. Buddleia was spread across the habitat and the site. Scattered trees were present amongst the bramble scrub, with several recorded along the northern boundary and a couple along the southern boundary. Species recorded included small-leaved lime (*Tilia cordata*), common lime (*Tilia x europaea*), London plane (*Platanus x acerifolia*), sycamore (*Platanus occidentalis*), and Norway maple. The northern half of the courtyard within the former Novartis building is dominated by bramble scrub with an understorey of pendulous sedge, Yorkshire fog and scattered buddleia and Himalayan honeysuckle (*Leycesteria formosa*). This habitat type does not require a condition assessment.	N/A	0.3906
S6 and S7	Heathland and shrub – Willow scrub	No	No	Two areas of willow scrub habitat were located in the north and southwest corners of the site. This habitat was dominated by grey willow and bramble. Rare species included hawthorn, pedunculate oak, silver birch, hoary willowherb, and common reed. Buddleia was spread across the habitat. 'Willow scrub' habitat parcels both scored 'Moderate' condition as both of the habitat parcels passed Criterion C "There is an absence of Invasive Non-Native Species…", Criterion D "The scrub has a well-developed edge…", and Criterion E "There are clearings, glade, or rides present within the scrub…".	Moderate	0.1129
W1	Woodland and forest – Other woodland; mixed	No	No	Along the western boundary a patch of woodland is present. It is dominated by Leyland cypress (*Cupressus x leylandii*), with frequent beech (*Fagus sylvatica*) and occasional silver birch (*Betula pendula*). Also present are rare wild cherry (*Prunus avium*), Norway maple, holly, elder (*Sambucus nigra*) and sycamore (*Acer pseudoplatanus*) trees. The ground flora consists of abundant bramble and common ivy (*Hedera helix*). Trees spanned a range of ages; however, no veteran trees were present. Structurally the trees only comprised two storeys and some dead wood was present. The woodland scored 29 points, out of a possible 39, achieving 'Moderate' condition. There were "Three age classes of trees present" (Criterion A - 3 points), "No significant browsing damage evident" (Criterion B - 3 points), "No invasive species present in woodland" (Criterion C - 3 points), "Five or more native tree or shrub species" (Criterion D - 3 points), "50-80% of canopy trees and understorey shrubs are native" (Criterion E - 2 points), "21-40% of woodland has areas of temporary open space" (Criterion F - 2 points), "One or two classes only present in woodland" (Criterion G - 2 points), "Tree mortality 10% or less, no pests or diseases and no crown dieback" (Criterion H - 3 points), "No recognisable woodland NVC plant community at ground layer present" (Criterion I - 1 point), "Two storeys across all survey plots" (Criterion J - 2 points), "No veteran trees present" (Criterion K - 1	Moderate	0.0484

				point), "Less than 25% of all survey plots within the woodland parcel have deadwood" (Criterion L - 1 point), and "No nutrient enrichment or damaged ground evident" (Criterion M - 3 points).		
P1	Lakes – Ornamental Pond	No	No	Within the courtyard of the former Novartis building is a small ornamental concrete pond raised 50cm from the ground on all sides. This pond contained invasive pygmy weed (*Crassula aquatica*), as well as water thyme (*Hydrilla sp*), bullrush (*Typha latifoli*), bramble, moss sp., pendulous sedge, and filamentous algae. The pond passed Criterion A "The pond is of good water quality, with clear water…", Criteria D "The pond is not artificially connected to other water bodies…", Criterion E "Pond water levels can fluctuate naturally throughout the year", and Criterion G "The pond is not artificially stocked with fish".	Moderate	0.0135
T004, T006-T008, T012-T014, T016-T020, T035-T039, T041, T045, T046, T048, and H002 (6 trees)	Individual trees – Urban trees	No	No	All trees passed Criterion B "The tree canopy is predominantly continuous…" and Criterion C "The tree is mature…", and Criterion D "There is little or no evidence of an adverse impact on tree health by human activities…", and all (except T004) passed Criterion F ""More than 20% of the tree canopy area is oversailing vegetation". 15 trees (T004, T006-T008, T012-T014, T016-T020, T035, T045, and T048) passed Criterion A "The tree is a native species", 14 trees (T004, T0013, T036, T038, T039, T041, T046, T048, and H002) passed Criterion E "Natural ecological niches for vertebrates and invertebrates are present…".	Good	0.8894
T001-T003, T009-T011, T015, T032-T034, T040-T044, T047, T050 and H001 (11 trees)	Individual trees – Urban trees	No	No	All trees passed Criterion B, and all (except T003) passed Criterion F. 23 trees passed Criterion D (T001-T003, T009-T011, T015, T033, T034, T040, T044, T050, and H001). Five trees passed Criteria A (T001, T002, T015, T034, T044). Six trees passed Criteria C (T003, T032, T033, T042, T043, and T047). Three trees passed Criteria E (T032, T042, and T043).	Moderate	0.6885

Hedgerows (BI-T05)

Feature Refs	Habitat Type and Code	Irreplaceable	Priority	Description and Condition Justification	Condition	Length (km)
H1	Native hedgerow	No	Yes	A section of other native hedgerow is present along the western boundary. It measures approximately 30m in length and is dominated by beech with abundant holly and rare common lime. The hedgerow was continuous, with management evident, to ensure there was no encroachment of the hedgerow on to the footpath adjacent. The hedgerow was approximately 3.5 m tall, however the width could not be ascertained due to access restrictions to the hedgerow on the site side by fencing. The hedgerow passed all but one condition criteria. The hedgerow met the following: more than >1.5m in height and width (Criteria A.1 and A.2); the gap between the ground and base of canopy was <0.5m and gaps made up less than 10% of total length (Criteria B.1 and B.2); there was >1m width of undisturbed ground with perennial herbaceous vegetation and plant species indicative of suboptimal condition made up	Good	0.029

				<20% of the undisturbed ground (Criteria C.1 and C.2); >90% of the hedgerow and undisturbed ground is free of Invasive Non-Native Species and >90% of the hedgerow is free from anthropogenic damage (Criteria D.1 and D.2); and at least 95% of the hedgerow trees are in a healthy condition (Criterion E.2).		

Watercourses (BI-T06)

Feature Refs	Habitat Type and Code	Irreplaceable	Priority	Description and condition justification	Condition	Area ha
				No watercourses were recorded within the site.		

Priority and Irreplaceable Habitats

Summary of Priority and Irreplaceable Habitats (BI-B07)

There were no irreplaceable habitats within the site boundary.

One hedgerow was identified within the site, in Good condition. This is a priority habitat due to being approximately 2m wide, and over 20m long, and being dominated by beech.

Potential Constraints and Opportunities for Project (BI-B08)

There were no irreplaceable habitats identified within the site.

There are nine trees within the site that have been issued Tree Protection Order (TPO) (T034, T035, and T037 – T043), however these trees will be retained within the development.

All other habitats within the site are of common habitat types and were not able to be retained as part of the development.

Baseline Habitats Plan (BI-F02)

NOVARTIS SITE PHASE 1 & 2

- Red Line Boundary
- Native hedgerow
- Existing Very Large Urban Tree
- Existing Large Urban Tree
- Existing Medium Urban Tree
- Existing Small Urban Tree
- Bramble scrub
- Developed land; sealed surface
- Introduced shrub
- Modified grassland
- Other neutral grassland
- Other woodland; mixed
- Ponds (non-priority habitat)
- Vacant or derelict land
- Willow scrub

TXXX - Tree reference number
UX / GX / SX - Habitat Parcel reference

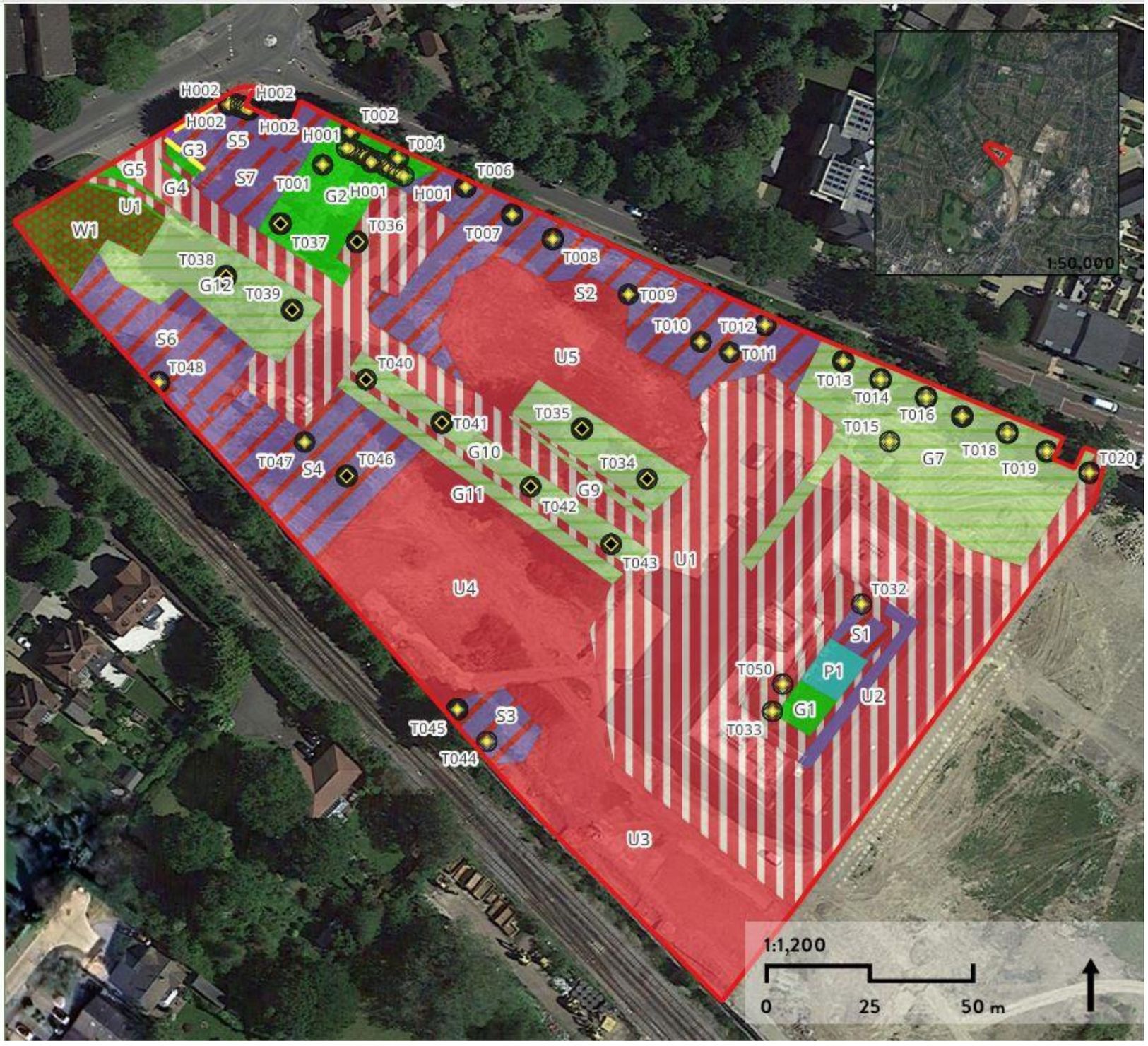
Title: Figure A.1

Drawn by: FO
Date: 17/03/2025

Reviewed by: ST
Date: 17/03/2025

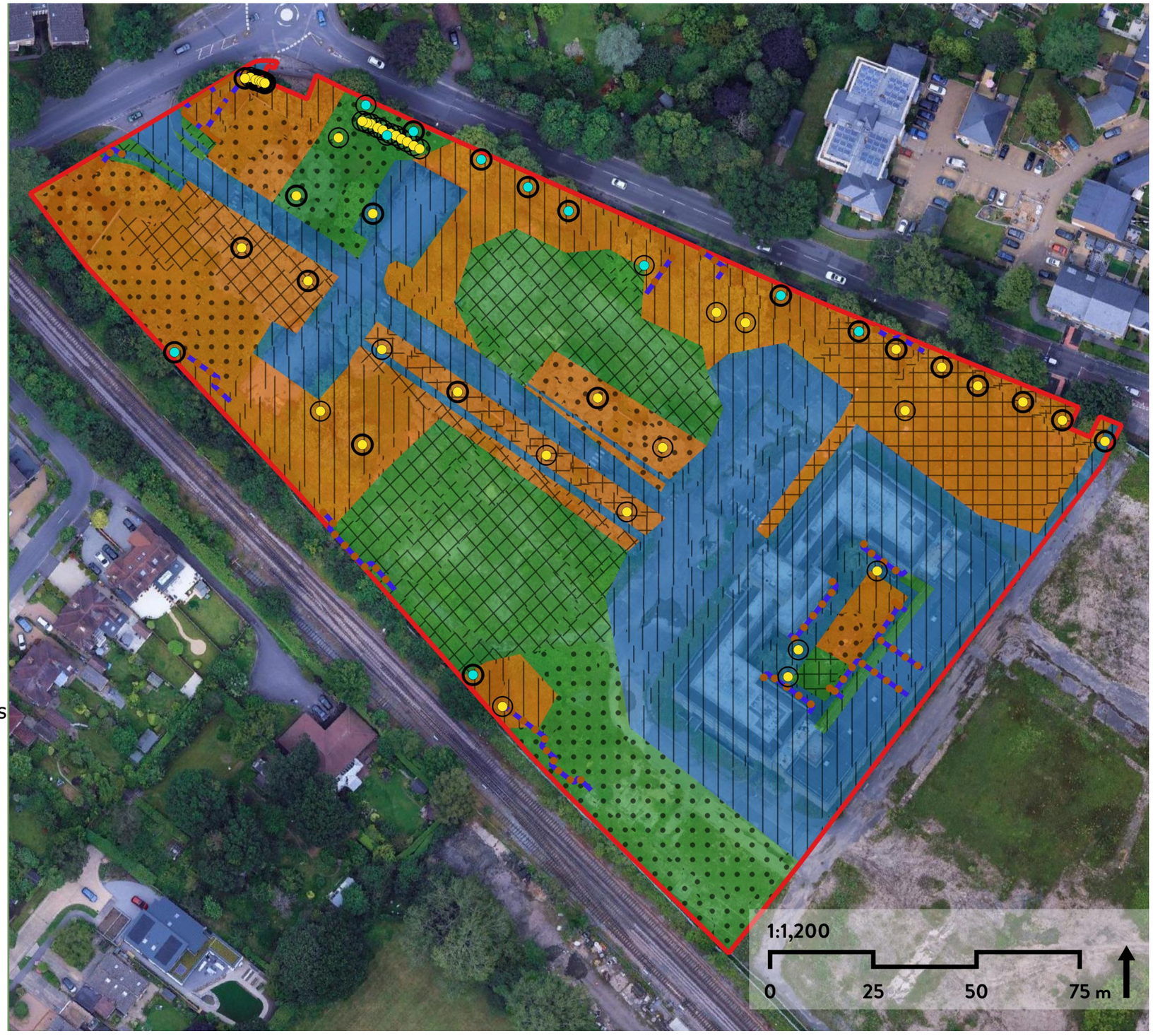
Project number: 552979
Sources: ESRI World Topo, Greenspace Information for Greater London (GiGL), Natural England

Greengage



Baseline Distinctiveness and Condition Plan (BI-F03)

NOVARTIS SITE PHASE 1&2



Baseline Habitat Condition
- Good
- Moderate
- Poor
- Condition Assessment N/A

Baseline Habitat Distinctiveness
- Medium
- Low
- V.Low

Tree Retention
- Retained
- Lost

Baseline Tree Condition
- Moderate
- Good

Baseline Hedgerow Condition
- Good
- N/A

Baseline Hedgerow Distinctiveness
- Low
- Red Line Boundary

Greengage

Baseline Habitats Photos (BI-F04)

Land Tenure and Public Access

Relevant Land Tenure Information (EI-B01)
To Be Confirmed
Potential Impact to Scheme (EI-B02)
Due to the nature of the development, as a residential development, the post-development will have public access to the green spaced within the site. This has been considered within the post-development Condition Assessment targets of the created habitats on site.
Public Access Information (EI-B03)
At present, there is no public access to the site, and there will be no public access to the site during the construction phase. TBC when public access to the site will be granted and how this may impact the management prescriptions of the habitat creations/establishment.
Potential Impact to Scheme (EI-B04)
Public access to the site has been considered when assigning the target condition assessments for the proposed habitats. Measures such as knee-railing and physical barriers can be used to ensure that create habitats in a ‘Good’ condition, for example, do not become trampled on.

Climate

Current Climate Information (EI-T01)	
Nearest weather station details	Charlwood, located 6 miles northeast from the site.
Days of rain per year	126.21
Average annual rainfall mm	833.69
Average temperature °C	6.12**°C** to 15.09**°C**
Highest temperature – Month and temperature °C	July – 23.14**°C**
Lowest temperature – Month and temperature °C	February – 1.44**°C**
Average annual hours of sunshine	1628.44
Sunniest month and average hours of sunshine	July - 215.95
Average number of days with air frost	52.92
Frostiest month and number of days	December – 11.89

Potential impact of current climate on project (EI-B05)

The proposals include the creation of; 1.6629 hectares (ha) of 'Developed land; sealed surface', 0.4122 ha of 'Vegetated garden', 0.3583 ha of 'Urban tree' (equivalent to 88 small trees), 0.0569 ha of 'Rain garden', 0.1548 ha of 'Other neutral grassland', 0.3387ha of introduced shrub. The development seeks to retain 0.3216 ha of 'Urban trees' (equivalent to 7 large and 4 medium trees). The establishment of these habitats and planting may be impacted by the hotter, dryer summers, and more extreme weather.

Within the summer months, the hot and dry extremes may cause the failure of recently planted/created habitat. Therefore, consideration of species chosen to be implemented onsite as part of the project will be taken to ensure species resilient to short term flooding are incorporated.

Potential Impact of Climate Change on Proposals (EI-B06)

The site is within a low Climate Change Vulnerability Zone, identified through a desktop search of the MAGIC website[15].

The habitats include grassland and woodland of native origin. The management of the habitats as a result of the project interventions may need additional effort in support of climate change impacts, such as additional irrigation efforts and species selection. The species implemented on site will consist of those tolerant to drought conditions. With such a diversity in species, the habitats will have increased resilience to the major climate changes predicted over the next 30 years.

[15] MAGIC, (2019). Interactive Map. (Partnership project involving six government organizations: Defra (Department for Environment, Food and Rural Affairs); English Heritage; Natural England; Environment Agency; Forestry Commission; Department for Communities and Local Government). Available at: www.magic.gov.uk.

3. Planned Management Activities.

Management Plan Aims and Objectives PM-B01

The site is within a developed semi-urban area of Horsham. However, the wider landscape comprises lines of trees and hedgerows connecting pockets of woodland and grassland across the landscape. The re-development of the site provides the potential to create strategically placed green space, increasing the social value of the site and benefits to mental health through access to nature.

The development proposes to create other neutral grassland, urban (individual) trees, hedgerow, and rain gardens. This area would contribute towards greater support and biodiversity value to a range of species including birds, bats and invertebrates for foraging, refuge, sheltering, nesting, or reproducing on a wider scale.

The aim of this HMMP is to provide an overview of the implementation and management interventions that will allow the proposed habitats to be established, maintained, and managed on the long term. If implemented effectively, the HMMP will accordingly seek to ensure that the habitat creation area will provide a longstanding resource for local wildlife.

This document will be reviewed by the LPA to determine whether the implementation and management interventions are satisfactory for the creation of the proposed habitats.

Principles Informed by Design Stage

Design Principles Informed by Baseline Information PM-B02

The baseline habitat of the site includes mixed woodland, scrub, other neutral grassland, modified grassland and urban trees. Tree were retained within the development, where possible, particularly those within the centre of the site protected by a Tree Protection Order (TPO). The proposed habitats are designed to offer the similar structural variation in the created habitat as there were at baseline, with grassland, rain gardens, and tree being created within the site.

Strategic significance was determined following a review of the Sussex Nature Partnership Nature Strategy 2020.

Strategic significance both pre- and post-development has been determined to be "area / compensation not in local strategy".

At the time of writing this HMMP, the Local Nature Recovery Strategy (LNRS) for West Sussex was not yet available. Therefore, the approach employed for habitat creation and management of habitats followed government guidance within Table 7 of the SBM User Guide[16].

[16] Department for Environment Food and Rural Affairs (2023) The Statutory Biodiversity Metric User Guide (Draft).

Habitat and Condition Targets PM-T01

Baseline Habitat Type	Target Habitat Type	Parcel / Feature Refs	Baseline Condition	Targeted Condition	Years to Targeted Condition	Condition Assessment Targets	Comments
Urban	Developed land; sealed surface		N/A - Created	N/A	0	'Developed land; sealed surface' relates to all areas of hardstanding, building and impermeable surfaces within the proposed development design. The habitat has no habitat condition within the SBM and does not contribute any biodiversity units to the calculation.	
Urban	Vegetated garden		N/A - Created	N/A	1	'Vegetated garden' relates to all areas that will become private gardens within the proposed development design. The habitat has no habitat condition within the SBM.	
Urban	Introduced shrub		N/A - Created	N/A	1	'Introduced shrub' will consist of planted areas of flowering and evergreen amenity shrubs. The species mix to be used cannot be confirmed as planting plans are not yet available. Introduced shrub can be designed to provide a biodiverse rich area for pollinators and other wildlife. In line with the SBM, this habitat has a pre-set condition of 'Condition assessment N/A'.	
Urban	Rain garden		N/A - Created	Good	5	'Rain gardens' will be created on-site. It is recommended that these are created using a mix of ferns, flowers, bulbs and grasses, that no invasive species are to be planted and that the planting mix is to provide varied structure vegetation (e.g. bulbs, ferns, shrub, trees and grasses of varying vegetation heights and textures). It is expected that the 'Rain Gardens' can fulfil all three condition criteria; Criterion A "Vegetation structure is varied, providing opportunities for vertebrate and invertebrates to live, eat, and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area", Criterion B "The habitat parcel contains different plant species that are beneficial for wildlife, for example, flowering species providing nectar sources for a range of invertebrates at different times of year", and Criterion C "Invasive non-native plant species and others which are to the detriment of native wildlife must be absent".	

Grassland	Other neutral grassland		N/A - Created	Moderate	5	'Other neutral grassland' is predicted to score 'Moderate' condition, meaning 3 or 4 of 6 criteria must be passed. It is deemed reasonable for the habitat to fulfil essential Criterion A "The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type", Criterion D "Cover of bracken is less than 20% and cover of scrub is less than 5%", and Criterion F "There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type".	
Individual trees	Urban trees		N/A - Created	Moderate	27	Approximately 88 small 'Urban trees' of native and non-native species will be planted throughout the site consisting of field maple (*Acer campestre*), silver birch (Betula pendula), English oak (*Quercus robur*), common lime, small-leaved lime, Magnolia (*Magnolia sp.*), dawn redwood (*Metasequoia glyptostroboides*), birch bark cherry (*Prunus serrula*), Yoshino cherry (*Prunus yedoensis*), juneberry (*Amelanchier lamarckii*), ornamental pear tree (P*yrus calleryana 'Chanticleer'*), elm (*Ulmus 'Lutece'*), and birch 'Fascination' (*Betula albosinensis 'Fascination'*). These trees are expected to reach 'Moderate' condition by meeting Criterion A "The tree is a native species" (where applicable), Criterion B "The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5m wide", Criterion E "Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy, or loose bark", and Criterion F "More than 20% of the tree canopy area is oversailing vegetation beneath". Criterion E can be met on planted trees by the creation or addition of additional habitats for vertebrates, such as bird boxes, bat boxes, or undertaking tree veteranisation techniques.	
Hedgerow	Native hedgerow		N/A - Created	Poor	1	'Native hedgerow' is predicted to score 'Poor' condition, due to the residential nature of the development and the likelihood that the hedgerow will be subject to management to maintain them for this purpose. Therefore, it is predicted that the hedgerows will achieve condition Criterion B2 "Gaps make up	

						<10% of the total length, and no canopy gaps >5m", and Criterion D1 ">90% of the hedgerow is free from invasive non-native plant species and recently introduced species". The remaining criteria will not be achievable.	

Habitat and Condition Targets Further Comments
No further comments at this time

Habitat Retention

Provide a concise description of the habitats that are to be retained in their baseline condition. Habitats being retained may still require ongoing measures to maintain their baseline condition.

Measures to be Implemented to Protect Retained Habitats PM-03
Eleven individual trees are proposed to be retained within the site. T04, T06, T07, T08, T012, T013, T048, T045 – in Good condition, 4 large, 4 medium trees. T02, T03, T09 – in Moderate condition, 3 large trees. It is expected that all retained trees should be retained with a buffer during the development process, to ensure that the root zone will not be impacted, as outlined within the arborist report[17] Forward management of the trees should be such that there are little or no adverse anthropogenic impacts, and more than 20% of the canopy should over sail vegetation.
Specification of Protective Measures to be Used PM-04
Trees shall be protected using physical barriers outlining the root protection zone, as detailed within the arborist report[17]. This shall be an exclusion zone for breaking ground and all heavy machinery to ensure no adverse impacts on the health of the trees. Measures shall be included within the Construction Environmental Management Plan (CEMP) to ensure that the construction works do not result in adverse impacts on the trees, to include the avoidance of vibration, and direct damage to the trees. Trees shall be included within the post-development monitoring of habitats to ensure their condition is being maintained. Trees shall be allowed to develop niches to support vertebrates and invertebrates naturally, including dead wood within the canopies, knot holes and rot features, and branches suitable for bird nesting.

[17] Hayden's Arboricultural Consultants (2025) TREE SURVEY & CONSTRAINTS PLAN IN ACCORDANCE WITH BS 5837:2012. (Report reference: 11380 – CP – Former Novartis Site, Horsham.

Habitat Retention Plan PM-F01

NOAVARTIS PHASE 1&2

Red Line Boundary

Habitats Retention

Lost

Individual tree Retention

Created

Retained

Hedgerow Retention

Created

Lost

Greengage

Urban

Creation, Enhancement and Management Summary (UR-T01)

Target Habitat:			Rain gardens – Good Condition			
Condition Assessment Criteria		**Targeted**	**Relevant Parcels**	**Creation Approach**	**Enhancement Approach**	**Management Approach**
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	Yes	All	The planting will include a combination of ferns, flowers, bulbs, and grasses. These will be planted in such a way that no one element dominates 80% of the area.	N/A	Supplementary planting will be used, where applicable, to fill in/replace failed plants and maintain the diversity in vegetation structure. Monitoring to take place to ensure that no one element dominates 80% of the area.
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Yes	All	Planting will include species recommended by the Royal Horticultural Society (RHS) for pollinators and include a range of native flowering species. Planting also to include species that will retain vegetation through the winter months.	N/A	Supplementary planting will be used, where applicable, to fill in/replace failed plants and maintain the diversity in vegetation structure.
C	Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of total vegetated area. **Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).**	Yes	All	No species listed within Schedule 9 of the Wildlife and Countryside Act, or the London Invasive Species Index (LISI) are to be included within the planting. In locations where invasive species are present, invasive species removal will be undertaken as per Defra guidance prior to the creation of the rain garden.	N/A	Monitoring to ensure that the establishment of invasive and detrimental species does not occur. Where invasive species do establish, the removal of these will be required following the Defra guidance.

Additional Management Prescriptions (UR-B01)

N/A at this time

Urban

Creation, Enhancement and Management Detailed Methods (UR-T02)

Action	Relevant Parcels	Timing	Prescriptions
Preparation of the soils for shrubs	All	Post-Construction	Rain garden area, including drainage infrastructure, to be installed and existing subsoil will be broken up to assure adequate drainage. Any hardcore or rubble shall be fully removed. Topsoil is then to be laid over prepared subsoil as noted. Topsoil shall be kept weed-free prior to planting by hand weeding. Existing topsoil will be reused from the site where possible. In existing topsoiled areas, the depth of soil shall be checked to ensure they are adequate to promote the successful uptake of plants . Imported topsoil, if required, should be compatible in pH with the requirements of the proposed floral mix and shall comply with BS3882: 2015 Multipurpose topsoil.
Installation of shrub planting	All	Post-Construction	Shrub planting: minimum 350mm depth of topsoil. All shrub planting areas to be mulched with minimum 50mm settled depth medium graded ornamental bark mulch to suppress weeds. All planting shall be undertaken, at the latest, within the first planting season (1st November to 31st March inclusive) following substantial completion of the major construction and groundworks. Where planting is likely to take place outside the planting season, the Contractor is to provide a provisional quote at tender to upgrade all bare root plants to equivalent containerised plants and an allowance for weekly watering June-Aug inclusive. All planting works will be undertaken and supervised by a competent professional landscape contractor.
Onward maintenance	All	Post-planting	Maintenance visits will typically be undertaken once monthly between October and March and twice monthly between April and September. A guide minimum number of 18 visits shall therefore be undertaken. Watering trees, plants and wildflower areas as necessary to ensure vigorous and successful establishment during the first three years after planting in particular. Keeping planting areas free from undesirable and or invasive plant species. All planted / mulched areas shall be hand weeded or treated with a non-residual herbicide as appropriate / required. Fertilising of shrub / ground cover areas (only), annually in spring using a suitable organic slow-release fertiliser. General pruning and trimming to ensure footways, signs etc. are not obscured and to ensure plants develop appropriately according to their species. Removal of litter (to be undertaken as part of the general site cleaning and not necessarily by the landscape maintenance contractor). Replacing plants that fail where required, with the approved species, (within five years of planting as a minimum). All planting will be inspected annually in late summer. Any dead, dying or diseased plants shall be removed and replanted according to the approved plan in the following planting season (November-March)

Urban Species Lists (UR-T03)

Common Name	Scientific Name	Abundance / %	Comments
Siberian dogwood	*Cornus alba 'Sibirica'*	To Be Confirmed (TBC)	No abundances included within planting schedule at this time.
Red osier	*Cornus sericea 'Flaviramea'*	TBC	As above.
Dogwood 'Midwinter fire'	*Carnus sanguinea 'Midwinter fire'*	TBC	As above.
Scarlet willow	*Salix alba 'Britzensis*	TBC	As above.
Creeping jenny	*Lysimachia nummularia*	TBC	As above.
Guelder rose	*Viburnum opulus*	TBC	As above.
Little carlow	*Aster 'Little carlow'*	TBC	As above.
Chinese silver grass	*Miscanthus 'Yakushima Dwarf'*	TBC	As above.
Maiden grass	*Miscanthus 'Gracilimus'*	TBC	As above.
Black-eyed susan	*Rudbeckia fulgida var.deami*	TBC	As above.
Blue oat grass	*Helicotrichon sempervirens*	TBC	As above.

Other Supporting Information

Supporting Information (UR-B02)
N/A at this time

What Does Success Look Like? (UR-F01)

Grassland (Medium, High, and Very High Distinctiveness)

Creation, Enhancement and Management Summary (GH-T01)

Target Habitat				Other neutral grassland – Moderate condition		
Condition Assessment Criteria		**Targeted**	**Relevant Parcels**	**Creation Approach**	**Enhancement Approach**	**Management Approach**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. **Note – this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Yes	All	Sowing to include a grassland mix with a high number of species indicative of other neutral grassland, such as with an Emorsgate EM3 Special General-Purpose Meadow Mixture (or equivalent).	N/A	Grassland will be managed as a grassland, with cuts occurring at a maximum of twice per year; once in early spring (if required) and once in late summer. Where undesirable species are noted within the grassland, management will be adjusted accordingly through remedial action identified during monitoring visits i.e. adjustment of mowing regime, targeted mowing, removal or arisings.
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) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No	All	N/A	N/A	N/A
C	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	No	All	N/A	N/A	N/A
D	Cover of bracken *Pteridium aquilinum* less than 20% and cover of scrub (including bramble) less than 5%.	Yes	All	Seed mix selected will not include bracken or scrub. Bracken is not established within the baseline vegetation and therefore is unlikely to establish. No scrub planting is proposed within the site.	N/A	Where scrub (including bramble) may become established, frequency of mowing, or removal of the scrub may be recommended as remedial management measures during the monitoring visits.
E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging activities) accounts for less than 5% of total area. If any invasive non-native species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	No	All	N/A	N/A	N/A
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type.	Yes	All	Sowing to include a grassland mix with a high number of species indicative of other neutral grassland, such as with an	N/A	Grassland will be managed as a grassland, with cuts occurring at a maximum of twice per year; once in early spring (if required) and once in late summer. Where undesirable species are noted within the

	Note – this criterion is essential for achieving Good condition for non-acid grassland types only.			Emorsgate EM3 Special General-Purpose Meadow Mixture (or equivalent).		grassland, management will be adjusted accordingly through remedial action identified during monitoring visits i.e. adjustment of mowing regime, targeted mowing, removal or arisings.

Additional Management Prescriptions (GH-B01)
N/A at this time.

Grassland (Medium, High, and Very High Distinctiveness)

Creation, Enhancement and Management Detailed Methods (GH-T02)

Action	Relevant Parcels	Timing	Prescriptions
1. Preparation of ground prior to seeding	All	Autumn (post-development)	The ground is most of the site has urban unsealed substrate which is likely the have been disturbed by the development. This substrate will need to be broken and removed to reach the soil surface prior to seeding to create a suitable surface for the other neutral grassland to grow once seeded. Any substrate removed should be disposed of offsite. Top soil, of a suitable type, may be used in places where the existing substrate is not deep enough.
2. Preparation of soil prior to seeding – soil strip, decompaction and scarifying	All	Summer to Late Summer (July onwards following from completion of the above actions)	Preparation of the soil should begin once the above steps have been carried out. Either by hand or mechanical digger, the top 5cm to 10cm of topsoil should be removed to reveal the less fertile sub-soil[18]. Harrow, rake, or fork over the bare soil to break up any compaction or lumps. Tread over the area to produce a firm-level surface. The area should then be left to 'settle' for four to six weeks, giving time for any remaining vigorous/undesirable species* (see below table) to germinate[19]. After the 4-6 week settle period, preparation for scarifying should begin in early to mid-August to avoid the bulk of the year's weed seeds. Individuals and/or patches of vigorous/undesirable species* should be removed by hand as a priority. As far as possible, all vigorous/undesirable species* should be removed from the seed bed. After this, existing vegetation should be cut low, raking to remove any thatch cuttings and existing biomass such as moss. Soon or directly after this, the ground should be scarified when existing biomass is at its lowest. Scarifying involves using a chain harrow, rake with deep tines or an electric scarifier, to disturb soil to a depth of approximately 1cm - 2cm, aiming to create around 50% bare soil. Scarifying should be ideally done when the ground is dry, and the entire technique area should be scarified.
3. Overseeding/sowing		Early autumn	Once the ground is fully prepared and the desired seed mix has been received, it can be sown onto the surface by hand or using a seed broadcast spreader. It is recommended that a sowing rate of between approximately 4g/m^2 to 5g/m^2 should be used. Sowing should ideally be performed in early autumn, with September considered the best month. To get an even distribution and avoid running out, divide the seed into two or more parts and sow in overlapping sections. Once all seed has been broadcast, lightly rake the area and tread the surface to give a good seed/soil contact. During the first year the seeds should be kept well-watered, especially during dry spells[20]. If prolonged dry spells occur after the seed is sown, the bed should be watered so it does not dry out, potentially requiring daily watering during these periods[21]. Soon after sowing, there may be a flush of annual vigorous/undesirable species, arising from the soil seed bank. These vigorous/undesirable species offer shelter to the sown seedlings, are great for invertebrates and they will die before the year is out. If sown in the previous autumn resist cutting the annual vigorous/undesirable species until the following March/April if the

[18] *The Grass People (2024). How to establish a wildflower meadow. Available at: https://thegrasspeople.com/establish-wildflower-meadow/?srsltid=AfmBOoqITI36s0CtmgAkIQ1aDJvPZPf_xpi_00_VBnYK52KG4IFgMDjx, accessed 21/01/2025 [online].*

[19] *Emorsgate Seeds (2024). Sowing and Aftercare - Mixtures, Meadow restoration by sowing into existing grass. Available at: https://wildseed.co.uk/additional-information/sowing-and-aftercare-mixtures/, accessed 21/01/2025 [online].*

[20] *RSBP (n.d). Growing wildlife-friendly flowers. Available at: https://www.rspb.org.uk/helping-nature/what-you-can-do/activities/create-a-wildflower-meadow, accessed 28/01/2025 [online].*

[21] Royal Botanic Gardens Kew (n.d). Looking after your wildflowers. Available at: https://growwild.kew.org/championing-nature/wildflowers/how-to-grow-wildflowers/looking-after-your-wildflowers#:~:text=If%20it's%20especially%20hot%2C%20dry,is%20gentle%20on%20the%20plants, accessed 28/01/2025 [online].

			grassland has grown to a height of 10cm or mid to late summer if not [22], [23]. This should be followed especially if the mixture contains yellow rattle or has been sown with a nurse of cornfield annuals. Then cut, remove and compost. If appropriate, the grassland should be cut to a height of 5cm every two months during the first spring/summer. If required, cut back the re-growth through to late autumn/winter to c50mm if needed, removing any cut biomass.
4. Cutting		Early spring and/or late summer	Once established, likely in the following spring after the autumn sow, the grassland should not be cut until late summer. After flowering in July or August take a 'hay cut', cutting back with a scythe, or petrol strimmer to c50mm. Leave the 'hay' on the ground to dry for at least seven days, giving time for the wildflower seeds to shed their seeds back into the soil, then remove from site. Cut back the re-growth in early spring to c50mm if needed, removing any cut biomass/arisings. All cut material should be composted to be used within the site. The grassland should then be mowed at a maximum of twice a year. Mowing should only occur once early spring and late summer.
5. Onward maintenance		Monthly during establishment until desired grassland has been created, then annually in late spring/early summer	Regular maintenance needs to be performed to ensure the habitat establishes successfully. Firstly, the habitat should be inspected a minimum of once a month, primarily recording overall habitat establishment, highlighting any areas that may need reseeding, and picking up any litter. During these inspections, if the presence of INNS is recorded then plans should be put in place for their removal until their eradication. This should avoid the use of chemical eradication, and favours strimming, hand pulling, or digging in targeted areas. If other dominant undesired species* not included within the species mix is recorded, the soil may be too nutrient rich due to previous use of the site and from any other external sources. Therefore, nutrient soil testing may be required to assess for presence of high nutrient enrichment. If areas of grassland enhancement are determined to be too nutrient-rich, then a specific high-nutrient wildflower mix should be sown initially to reduce fertility of the soils. Recommended mixes included BFS8 high nutrient initial establishment mix, which is composed of species which can tolerate higher initial nutrient levels and help reduce soil fertility over time. Annual re-testing of the soil should be undertaken to determine whether the desired nutrient levels have been achieved. At the point when nutrient levels are considered suitable for other neutral grassland, the desired seed mix can be sowed again, following actions 4 and 5. If particularly heavy footfall or damage is identified, then fencing should be implemented around these areas to reduce footfall and aid the habitat's establishment. If especially hot, dry, and windy prolonged conditions occur (over one week), the seed bed should be regularly watered using a gentle spray, so it does not dry out. This may require daily watering during these periods. Following establishment, the habitat can then be monitored annually in late spring/early summer to check for any INNS and for any damage caused to the grassland to assess for further action.

- * Undesirable species include broad-leaved dock (*Rumex obstusifolius*), curled dock (*Rumex crispus*), creeping thistle (*Cirsium arvense*), spear thistle (*Cirsium vulgare*), stinging nettle (*Urtica dioica*), greater plantain (*Plantago major*), white clover (*Trifolium repens*), cow parsley (*Anthriscus sylvestris*), cleavers (*Galium aparine*), and creeping buttercup (*Ranunculus repens*).

[22] Emorsgate Seeds (2024). First Year Management. Available at: https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/special-general-purpose-meadow-mixture/, accessed 21/01/2025 [online].

[23] *The Grass People (2024). When and how often should I cut my wildflower meadow? Available at: https://thegrasspeople.com/when-should-i-cut-my-wildflower-meadow/?srsltid=AfmBOoo7gXfQ37-uY-zFW_bksDKLgvrUhAKhnn53gMJZs0sA87Ipf-rr, accessed 21/01/2025 [online].*

The Grass People (2024). When and how often should I cut my wildflower meadow? Available at: https://thegrasspeople.com/when-should-i-cut-my-wildflower-meadow/?srsltid=AfmBOoo7gXfQ37-uY-zFW_bksDKLgvrUhAKhnn53gMJZs0sA87Ipf-rr, accessed 21/01/2025 [online].

Grassland (Medium, High, and Very High Distinctiveness) Species Lists (GH-T03)

Seed mixes and species lists TBC. Below is an indicative list.

Common Name	Scientific Name	Abundance / %	Comments
Autumn hawkbit	*Leontodon autumnalis*	TBC	Mix is to be 80% wildflower, 20% grass
Betony	*Stachys officinalis*	TBC	Mix is to be 80% wildflower, 20% grass
Bird's foot trefoil	*Lotus corniculatus*	TBC	Mix is to be 80% wildflower, 20% grass
Cat's ear	*Hypochaeris radicata*	TBC	Mix is to be 80% wildflower, 20% grass
Common knapweed	*Centaurea nigra*	TBC	Mix is to be 80% wildflower, 20% grass
Common sorrel	*Rumex acetosa*	TBC	Mix is to be 80% wildflower, 20% grass
Common toadflax	*Linaria vulgaris*	TBC	Mix is to be 80% wildflower, 20% grass
Common vetch	*Vicia sativa*	TBC	Mix is to be 80% wildflower, 20% grass
Cowslip	*Primula veris*	TBC	Mix is to be 80% wildflower, 20% grass
Dames violet	*Hesperis matronalis*	TBC	Mix is to be 80% wildflower, 20% grass
Field scabious	*Knautia arvensis*	TBC	Mix is to be 80% wildflower, 20% grass
Hemp agrimony	*Eupatorium cannabinum*	TBC	Mix is to be 80% wildflower, 20% grass
Kidney vetch	*Anthyllis vulneraria*	TBC	Mix is to be 80% wildflower, 20% grass
Lady's Bedstraw	*Galium verum*	TBC	Mix is to be 80% wildflower, 20% grass
Meadow Buttercup	*Ranunculus acris*	TBC	Mix is to be 80% wildflower, 20% grass

Meadow Cranesbill	*Geranium pratense*	TBC	Mix is to be 80% wildflower, 20% grass
Meadow Vetchling	*Lathyrus pratensis*	TBC	Mix is to be 80% wildflower, 20% grass
Meadowsweet	*Filipendula ulmaria*	TBC	Mix is to be 80% wildflower, 20% grass
Musk Mallow	*Malva moschata*	TBC	Mix is to be 80% wildflower, 20% grass
Nettle Leaved Bellflower	*Campanula trachelium*	TBC	Mix is to be 80% wildflower, 20% grass
Ox Eye Daisy	*Leucanthemum vulgare*	TBC	Mix is to be 80% wildflower, 20% grass
Perforate St John's Wort	*Hypericum perforatum*	TBC	Mix is to be 80% wildflower, 20% grass
Ragged Robin	*Lychnis flos-cuculi*	TBC	Mix is to be 80% wildflower, 20% grass
Red Campion	*Silene dioica*	TBC	Mix is to be 80% wildflower, 20% grass
Ribwort Plantain	*Plantago lanceolata*	TBC	Mix is to be 80% wildflower, 20% grass
Rough Hawkbit	*Leontodon hispidus*	TBC	Mix is to be 80% wildflower, 20% grass
Sainfoin	*Onobrychis vicifolia*	TBC	Mix is to be 80% wildflower, 20% grass
Salad Burnet	*Sanguisorba minor*	TBC	Mix is to be 80% wildflower, 20% grass
Self-heal	*Prunella vulgaris*	TBC	Mix is to be 80% wildflower, 20% grass
Sweet Cicely	*Myrrhis odorata*	TBC	Mix is to be 80% wildflower, 20% grass
Water Avens	*Geum rivale*	TBC	Mix is to be 80% wildflower, 20% grass
White Campion	*Silene latifolia*	TBC	Mix is to be 80% wildflower, 20% grass

Wild Carrot	*Daucus carota*	TBC	Mix is to be 80% wildflower, 20% grass
Wild Marjoram	*Origanum vulgare*	TBC	Mix is to be 80% wildflower, 20% grass
Wild Red Clover	*Trifolium pratense*	TBC	Mix is to be 80% wildflower, 20% grass
Wood Sage	*Teucrium scorodonia*	TBC	Mix is to be 80% wildflower, 20% grass
Yarrow	*Achillea millefolium*	TBC	Mix is to be 80% wildflower, 20% grass
Yellow Rattle	*Rhinanthus minor*	TBC	Mix is to be 80% wildflower, 20% grass

Other Supporting Information

Supporting Information (GH-B02)
N/A at this time.

What Does Success Look Like? (GH-F01)

Individual Trees

Creation, Enhancement and Management Summary (UT-T01)

Target Habitat:			Urban Trees - Moderate condition			
Condition Assessment Criteria		**Targeted**	**Relevant Features**	**Creation Approach**	**Enhancement Approach**	**Management Approach**
A	The tree is a native species (or more than 70% within the block are native species).	Yes (some)	201 of the newly planted trees (out of 239)	201 (out of 239) trees will be of native species including field maple (*Acer campestre*), alder (*Alnus glutinosa*), silver birch (*Betula pendula*), hornbeam (*Carpinus betulus*), hawthorn (*Crataegus monogyna*), crab apple (*Malus sylvestris*), bird cherry (*Prunus avium*), Pedunculate oak (*Quercus robur*), rowan (*Sorbus aucuparia*), whitebeam (*Sorbus aria*), and common lime (*Tilia europaea*).	N/A	If any trees fail, these must be replaced with a tree of the same species.
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes	All	Trees should be planted with enough space that the canopies are allowed to grow and form naturally.	N/A	Limited pruning maintenance of the trees should be carried out to ensure that gaps do not form in the canopy.
C	The tree is mature (or more than 50% within the block are mature).	No	All	N/A	N/A	N/A
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	No	All	Tree species have been selected so that their growth will match the requirements of the development. Therefore, it is not expected that these will be heavily pruned.	N/A	Limited pruning maintenance to the trees to ensure that they retain their expected canopy. If vandalism is found to be occurring, measures such as fencing around trees can be implemented to deter.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Yes	All	Trees should naturally be allowed to form cavities, lifted bark where required. Features can also be created at a later date through the installation of insect boxes.	N/A	Natural deadwood and loose bark should be retained within the trees. Where ivy is growing on the trees, some should be retained and managed to provide niches for vertebrates and invertebrates.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes	All	Trees are to be planted in areas with vegetation below (rain gardens, introduced shrub, grassland)	N/A	Introduced shrub, rain gardens, and grassland habitats should be managed so that there is always vegetation beneath at least 20% of the tree canopy.

Additional Management Prescriptions (UT-B01)
N/A at this time

Individual Trees

Creation, Enhancement and Management Detailed Methods (UT-T02)

Action	Relevant Features	Timing	Prescriptions
1. Preparation of the soils for tree planting	All	Autumn to Early Spring - November to March	Areas where trees will be planted to be identified and existing subsoil will be broken up to assure adequate drainage. Any hardcore or rubble shall be fully removed. Topsoil is then to be laid over prepared subsoil as noted. Topsoil shall be kept free of undesirable species* (see below table) prior to planting by hand weeding. Existing topsoil will be reused from the site where possible. In existing topsoiled areas, the depth of soil shall be checked to ensure minimum requirements noted above are achieved. Imported topsoil, if required, should be compatible in pH with the requirements of the proposed tree species and shall comply with BS3882: 2015 Multipurpose topsoil.
2. Installation of tree planting	All	Autumn to Early Spring - November - March	All tree planting to be in accordance with BS8545:2014. Tree pits, to be square in plan, excavated to a minimum size of 600mm larger than the root ball. Base of pit to be slightly domed; not to be broken up unless drainage problems are apparent. Tree pit backfill to reflect soil profile – i.e.: subsoil up to approx. 400mm from ground surface, topsoil above, approx. 400mm depth. Trees to be double staked, with a low cross bar, fixed with rubber tree ties and rubber pad. Trees outside planting areas to be mulched with minimum 50mm settled depth, medium graded ornamental bark mulch to 1.2m diameter. All planting shall be undertaken, at the latest, within the first planting season (1st November to 31st March inclusive) following substantial completion of the major construction and groundworks. The developer may, however, undertake planting prior to this, outside the planting season, using fully containerised planting material. This is on the understanding that increased watering will be required to establish the planting successfully. Where planting is likely to take place outside the planting season, the Contractor is to provide a provisional quote at tender to upgrade all bare root plants to equivalent containerised plants and an allowance for weekly watering June-Aug inclusive. All planting works will be undertaken and supervised by a competent professional landscape contractor.
3. Onward maintenance	All	Post-planting	Watering trees as necessary to ensure vigorous and successful establishment during the early years after planting i.e. particularly Years 1 - 3. Keeping planting areas free from weeds. All planted / mulched areas shall be hand weeded or treated with a non-residual herbicide as appropriate / required. Fertilising of tree pits and shrub / ground cover areas (only), annually in spring using a suitable organic slow-release fertiliser. Checking and adjusting all tree stakes and ties at every maintenance visit during the first one to two years after planting. Removal of stakes and ties once trees are securely established (guide 12 - 18 months after planting). Replacing plants that fail where required, with the approved species, (within five years of planting as a minimum). All planting will be inspected annually in late summer. Any dead, dying or diseased plants shall be removed and replanted according to the approved plan in the following planting season (November-March).

- * Undesirable species include broad-leaved dock (*Rumex obstusifolius*), curled dock (*Rumex crispus*), creeping thistle (*Cirsium arvense*), spear thistle (*Cirsium vulgare*), stinging nettle (*Urtica dioica*), greater plantain (*Plantago major*), white clover (*Trifolium repens*), cow parsley (*Anthriscus sylvestris*), cleavers (*Galium aparine*), and creeping buttercup (*Ranunculus repens*).

Individual Trees Species Lists (UT-T03)

Common Name	Scientific Name	Abundance / %	Comments
Field maple	*Acer campestre*	2.5%	
Snowy mespilus	Amelanchier lamarckii	9%	
Chinese red birch	Betula albosinensis 'Fascination'	2.5%	
Magnolia ‘Elizabeth’	Magnolia acuminata x M. denudata	5%	
Dawn redwood	Metasequoia glyptostroboides	13%	
Birch bark cherry	Prunus serrula	15.5%	
Yoshino cherry	*Prunus yedoensis*	9%	
Silver birch	*Betula pendula*	14.8%	
Callery pear	Pyrus calleryana 'Chanticleer'	0.8%	
Pedunculate oak	*Quercus robur*	1.6%	
Small-leaved lime var.	Tilia cordata 'Streetwise	7.4%	
Nanguen elm	*Ulmus ‘Lutece’*	13.9%	
Common lime	*Tillia europaeus*	5%	

Other Supporting Information

Supporting Information (UT-B02)
N/A at this time

What Does Success Look Like? (UT-F01)

Hedgerow

Creation, Enhancement and Management Summary (HD-T01)

Target Hedgerow Type:			Native Hedgerow			
Condition Assessment Criteria		**Targeted?**	**Relevant Features**	**Creation Approach**	**Enhancement Approach**	**Management Approach**
A1	Height >1.5m average along length.	No	All	N/A	N/A	N/A
A2	Width >1.5m average along length.	No	All	N/A	N/A	N/A
B3	Gap – hedge base Gap between ground and base of canopy <0.5m for >90% of length.	No	All	N/A	N/A	N/A
B2	Gap – hedgerow canopy continuity Gaps make up <10% of total length; and no canopy gaps >5m.	Yes	All	Zig-zag planting of whips along the proposed trajectory of the hedgerow, and planting in double lines to ensure that no gaps occur within the hedgerow.		Where gaps are formed/forming, these gaps should be filled with whips of a like-for-like species. Whips should be protected with guards when planted to reduce damage from herbivores.
C1	Undisturbed ground and perennial vegetation >1m 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)	No	All	N/A	N/A	N/A
C2	Nutrient-enriched perennial vegetation Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	No	All	N/A	N/A	N/A
D1	Invasive and neophyte species >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA) and recently introduced species.	Yes	All	N/A	N/A	Continued management and monitoring of the hedgerows for INNS or undesirable species.
D2	Current damage	No	All	N/A	N/A	N/A

	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.					
E1	Tree class (applicable to hedgerows with trees only) There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient), and there is on average at least one mature, ancient or veteran tree present per 20 – 50m of hedgerow.	No	All	N/A	N/A	N/A
E2	E2. Tree health (applicable to hedgerows with trees only) At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	No	All	N/A	N/A	N/A

Additional Management Prescriptions (HD-B01)

Cutting and pruning of hedgerows should be avoided during the breeding bird season (March – August inclusive) if extensive pruning is to take place and/or power tools are being used. If the breeding bird season cannot be avoided and/or the use of power tools is required, a nesting bird check is to be undertaken by a suitably qualified ecologist at a maximum 48 hours prior to works.

Hedgerow

Creation, Enhancement and Management Methods (HD-T02)

Action	Relevant Features	Timing	Prescriptions
1. Selection of species and nursery procurement	All	Prior to planting	Tree species to be planted should be selected for their value for wildlife and should be native, deciduous trees or shrubs. All tree selection to be in accordance with Section 7 of BS8545:2014. The species should be procured taking into consideration Section 8 of BS8545:2014. To foresee potential tree failures, it is recommended that for every one tree required, three whips are planted.
2. Planting	All	Autumn to spring	A trench appropriately a metre wide should be dug where the hedgerow is proposed. The excavated soil should be decompacted by breaking it up by hand, with mulch mixed in if deemed appropriate. The soil should then be placed back into the trench, avoiding recompaction. A hole or slit should be created into the ground prior to planting whip specimens, deep enough to cover all roots. The whips should be planted about 50cm apart in wavy lines to appear more natural. A singular mulch layer, including straw, composted bark, or wood chip should be placed at the base of the whips to avoid vigorous/undesirable species (such as docks/thistles) growing through at the base of the hedgerow. Protect newly planted whips with sustainably sourced stakes and biodegradable guards. If used, these should be removed after approximately 5-10 years or as soon as they split or start to disintegrate. Whips should not be planted when the ground is waterlogged or frozen.
3. Gap filling	All	Autumn to spring (October to March)	Where gaps have formed, these will need closing up by refilling with whips using shade-tolerant species. Initially, the canopy area of the gap should be opened up slightly to reduce shading impacts on newly planted whips, by coppicing of specimens on either side of the gap, if required. The base vegetation should also be strimmed to remove weed growth and reduce competition. A number of whips should be planted, depending on the size of the gap. A singular mulch layer, including straw, composted bark, or wood chip should be placed at the base of the whip/s to avoid vigorous/undesirable species (such as docks/thistles). growing through at the base of the hedgerow. When the whips are installed, guards or fencing should be considered to reduce damage and risk of failure due to browsing by local fauna/herbivores. A mulch layer should also be used around the newly planted whip to control
4. Cutting/pruning	All	First year for new hedgerows (in winter) Then (and for existing hedgerows), every three years (end of winter i.e. February)	For newly planted hedgerows, heavy pruning in the first year of planting will encourage bushy side growth, to aim towards the minimum 1.5m minimum width. The side of the hedge should be trimmed annually until the required size and shape is achieved, followed by cutting every third year at the end of winter to avoid periods of hard frost and to allow for natural fruit and seeds to be available for wildlife. Hand tools should be used to cut the hedges and only one side of the hedgerow should be cut, alternating hedgerow sides between each periodical cut.
5. Hedgelaying/coppicing	All	Late November to early March during mild weather	On the new hedgerows, hedgelaying should only be undertaken once the whips have reached a 2.5-5m height and stem of 5-10cm thick. The hedgerows should be monitored every 10 years to assess requirement for laying to maintain a small gap between the canopy and the ground. If monitoring states laying/relaying is required, then this should be done following that monitoring, However, it is recommended that hedgerows are laid every 15-30 years[24].

[24] People's Trust for Endangered Species (PTES) (2025) Hedge Management Options. Accessed online at: Hedge management options

6. Temporary/permanent fencing	All	May to September	Fencing may be considered necessary on a temporary or permanent basis due to extensive damage or protection of newly planted whips/hedgerow. If so, fencing should be incorporated at 1.5m distance from the hedgerow, where appropriate/in public open space. Wooden posts should be secured into the ground evenly along the length of the hedgerow that is aimed to be fenced off. Mesh fencing should be secured to the wooden posts along the length. The fencing should be monitored annually to check for breaching or damage to the fence and should be repaired accordingly. The fencing should also be removed if it is considered to no longer be required.
7. Base vegetation	All	Annually between May to September	The base of hedgerows should be monitored annually for the introduction of any undesirable perennial vegetation, including nettles or bramble. They should be monitored within the botanical season between May to September (inclusive). If present, they should be cut back using hand tools only such as hand saws or clippers. Should powered tools be required to be used, then a nesting bird check from a suitably qualified ecologist should be undertaken to assess the habitat for any nesting birds. Caution should also be taken when cutting back base vegetation using hand tools to avoid areas where a visible nest is observed. Once base vegetation is cut back, a singular mulch layer, including straw, composted bark, or wood chip should be placed at the base to aim to avoid further weed/undesirable species growth.
8. Management of INNS	All	Spring (March-May)	Hedgerows should be monitored annually for presence of any INNS, or the growth of excessive undesirable species*. Should any INNS be observed, they should be removed following Defra guidance[25] until eradicated. Seeds can remain dormant in the seed bank for several years, and as such, the management measured outlined above must be repeated each year until eradicated. The parcels should be monitored for the establishment of INNS in the future and continue removal where required until eradicated.

[25] *Defra (2022) Guidance - How to Stop Invasive Non-Native Plants from Spreading [online] Available at: https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants*

Hedgerow Species Lists (HD-T03)

The below species list has been included within the Fabrik (2025) Hard and Soft Landscape Legend " D3438-FAB-00-XX-DR-L-1000 Hard and Soft Landscape Legend PL01". It is not expected that the below species will be planted in a density that would include five or more species per 30 metre hedgerow length.

Common Name	Scientific Name	Abundance / %	Comments
Hawthorn	*Crataegus monogyna*	See comments.	No more than four species should be planted per 30 metres of hedgerow.
Dogwood	*Carnus sanguinea*	See comments.	
Blackthorn	*Prunus spinosa*	See comments.	
Dog rose	*Rosa canina*	See comments.	
Privet	*Ligustrum vulgare*	See comments.	
Spindle	*Euonymus europaeus*	See comments.	
Guelder rose	*Viburnum opulus*	See comments.	

Other Supporting Information

Supporting Information (HD-B02)

No additional information at this time

What Does Success Look Like? (HD-F01)

Habitat Creation and Management – Risk Register and Remedial Measures PM-T02

Risk Identification Date	Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
22.05.2025	Individual trees and native hedgerow	Newly planting trees failing to establish	Signs of failure through lack of growth or death	Plant a larger number of trees initially as contingency against some losses in the early years. Undertake a second round of planting, replacing failed specimens on a like-for-like basis
22.05.2025	Individual trees and native hedgerow	Trees becoming diseased or ill	Signs of disease or ill health during monitoring	Remove diseased trees if they are likely to cause spread to other trees and thus to prevent further disease across the habitat. Provide additional support to trees in response to causes of ill health or remove if too far gone. Replace all trees that are removed with appropriate species i.e. do not replace with the same species if the cause of illness is a result of unsuitable species.
22.05.2025	Individual trees and native hedgerow	Damage from heavy footfall, machinery or poaching	Damage in habitat causing obvious bare patches or areas of destruction	Erection of fencing and reapplication of tree guards if necessary
22.05.2025	Individual trees and native hedgerow	Species/specimens failing to survive in changed climate including flooding and drought	Signs of ill-health or death of trees	Replacement of different species with characteristics more tolerant to conditions
22.05.2025	Grassland and rain garden	Flood or drought event undermines the planting	Areas of bare ground/lack of vegetation surviving is evident	Replacement of different species with characteristics more tolerant to conditions
22.05.2025	Grassland and rain garden	Intended species do not establish due to likely nutrient leaching/nutrient enriched soil	Botanical survey results show lack of establishment of intended species planted and evidence of undesired species	Seed with a BFS8 high nutrient initial establishment mix to help reduce soil fertility. Replant desired species mix the following botanical season
22.05.2025	Grassland and rain garden	Planted seed/ planting mix fails to establish	Failure of seedlings emerging or continuing to grow	If especially hot, dry, and windy prolonged conditions (over one week) occur, apply additional irrigation to the seed bed to promote establishment should be regularly watered using a gentle spray. This may require daily watering during these periods. If it still fails to establish, apply management actions again including re-planting of seed mix. Plug plants should be considered to be planted where seed mixes are failing or not taking which may be more successful.

22.05.2025	Grassland	Damage from heavy footfall, machinery and/or poaching resulting in >5% bare ground	Monitor bare ground extent across habitat	Fencing should be implemented around areas of undesired bare ground to reduce footfall and aid the habitat's establishment.
22.05.2025	Grassland, native hedgerow, and rain gardens	Presence of vigorous/undesirable species (such as docks/thistles)	Undesirable species identified during monitoring surveys	Hand-weed to remove the undesirable species or use hand tools/power tools where/when appropriate or treat with a non-residual herbicide as appropriate / required.

4. Monitoring Schedule

Monitoring Strategy

Provide details of the monitoring strategy to encourage successful implementation of the management plan (MS-B01)
A site visit by an ecologist will occur within one year of habitat creation and enhancement works commencing to ensure that all initial measures have been implemented as proposed/expected and to advise on remedial measures if applicable. A monitoring visit by an ecologist will occur annually for the first 5 years', and then every 5th year thereafter to ensure the successful establishment of the features and provide adjustments to the monitoring and management processes as needed. The annual monitoring visit will be undertaken during the peak botanical season i.e. between May – August (inclusive), with specific habitats requiring visits within specific months of that season. Management will be an iterative process, and recommended management techniques may be altered throughout the course of the establishment to maximise the success of the features. After the first five years, and upon successful establishment, the monitoring checks will swap to being carried out quinquennially, unless a monitoring visit has requested that a specific habitat requires more monitoring due to remedial measure recommendations. Photos are to be taken at each monitoring check and a short report produced recording the species planted, current BNG condition assessment, and any remedial actions to improve the condition/succeed in reaching the proposed conditions in the expected timescale (if still feasible). Records of species lists for the grassland should be kept. Where requested specific methodologies should be followed. Monitoring plan to be reviewed after five years and determine frequency at which monitoring needs to be carried out thereafter until 30 years post-installation.

Monitoring Methods and Intervals MS-T01

Habitat Type	Monitoring Methods	Monitoring Interval and Timing
Other neutral grassland	To be undertaken on all other neutral grassland habitat parcels. Undertake quadrat sampling to identify the habitat type that is establishing and then number of species per m^2. Estimate percentage of bare ground, bramble and bracken cover. Collect a botanical species list across grassland to check against target species list and identify INNS.	Annually from years 1-5, then every 5 years. Surveys to be completed between May – June before a hay cut is undertaken.
Urban trees	Survey each of the 88 newly planted trees. Check the diameter at breast height measurement to ascertain the tree size. Estimate the maturity of the tree. Check for evidence of anthropogenic activities impacting on tree health, e.g. vandalism, herbicide treatment or agricultural activities, excessive pruning. Check for ecological niches on the tree, e.g. cavities, deadwood etc. Estimate percentage of the tree canopy that over sails vegetation. Collect a species list for the 88 trees to check against target species list.	Annually from years 1-5, then every 5 years. Surveys to be completed within botanical survey season (May – September).
Hedgerows	Conduct a Hedgerow Survey using methodology as detailed within the Hedgerow Survey Handbook.[26]	Annually from years 1-5, then every 5 years. Surveys to be completed between May – June.

[26] Defra (2007) Hedgerow Survey Handbook. A standard procedure for local surveys in the UK. Defra, London.

	Record height and width of the hedgerow. Record the gap height between the vegetative growth and the ground. Check for gaps within the hedgerow and estimate percentage of gaps are within the full length of the hedgerow. Check the vegetation within 1 m of the hedgerow and identify the habitats. Check for any disturbance within the vegetation within 1 m of the hedgerow. Estimate the percentage cover of plant species indicative of nutrient enrichment. Estimate the percentage of invasive non-native species within the hedgerow and vegetation within 1 m of the hedgerow. Check for evidence of anthropogenic activities impacting on the hedgerow, e.g. vandalism, herbicide treatment or agricultural activities, excessive pruning.	
Rain garden	To be undertaken on all rain garden habitat parcels. Undertake a survey to compare the species present with the species lists, and check for presence of invasive non-native species. Ensure that no one species/vegetation structure dominates more than 80% of the area and identify where supplementary planting may be needed.	Annually from years 1-5, then every 5 years. Surveys to be completed between May – June.

Monitoring Reports

Monitoring Report Schedule MS-T02

Organisation Responsible for Submitting the Monitoring Reports	Organisation Receiving and Responsible for Reviewing Reports
TBC	TBC

Project Year	Month Report to be Submitted	Month Management Plan to be reviewed	Comments
Y1	September	September or October	Report on progress of all habitats and provide any remedial measures.
Y2	September	September or October	Report on progress of all habitats and provide any remedial measures.
Y3	September	September or October	Report on progress of all habitats and provide any remedial measures.
Y4	September	September or October	Report on progress of all habitats and provide any remedial measures.
Y5	September	September or October	Report on progress of all habitats and provide any remedial measures. Confirm whether monitoring visits can occur every 5 years or whether certain habitats need more frequent monitoring visits due to constrained progress.
Y10	September	September or October	Report on progress of all habitats and provide any remedial measures. Confirm whether monitoring visits can occur every 5 years or whether certain habitats need more frequent monitoring visits due to constrained progress.

Y15	September	September or October	Report on progress of all habitats and provide any remedial measures. Confirm whether monitoring visits can occur every 5 years or whether certain habitats need more frequent monitoring visits due to constrained progress.
Y20	September	September or October	Report on progress of all habitats and provide any remedial measures. Confirm whether monitoring visits can occur every 5 years or whether certain habitats need more frequent monitoring visits due to constrained progress.
Y25	September	September or October	Report on progress of all habitats and provide any remedial measures. Confirm whether monitoring visits can occur every 5 years or whether certain habitats need more frequent monitoring visits due to constrained progress.
Y30	September	September or October	Report on progress of all habitats and provide any remedial measures. Confirm whether monitoring visits can occur every 5 years or whether certain habitats need more frequent monitoring visits due to constrained progress.

Adaptive Management

Summary of Adaptive Management Approaches (MS-B02)

Following the implementation of action for the planned management activities for the project at the site, monitoring visits are to take place to assess the establishment and success of the habitat types. These monitoring visits are to highlight success and where remedial actions are required to amend the management activities in an event where failure has occurred. This failure may include; failure to establish, or failure to continue to succeed and progress to the desired habitat type or condition.

For example, a monitoring visit may identify an issue with the management of the habitat through failure of habitat type or condition, such as the presence of an INNS or a diseased tree, amongst others possible as detailed in this HMMP. As a result, remedial action is to be followed, as detailed within this HMMP, such as removal of INNS or removal and replacement of a diseased tree, for example. The required remedial action may not be included within this HMMP, however, and therefore additional recommendations may be highlighted by the responsible body, such as the suitably qualified ecologist. Following from each monitoring visit, this HMMP is to be updated as per the monitoring report schedule above. The updated HMMP following each monitoring visit is then to be submitted to the responsible authority, Natural England.

External factors may be identified as additional risk factors not identified or expanded further enough within this HMMP, such as prolonged flood or drought for example. These may have an impact on the ability and/or time required to meet the targeted condition. This therefore may affect the result of the potential to reach the desired habitat type and/or condition in order to produce the intended BNG units for this habitat bank project. In this event, these factors are to be included within the monitoring report and discussed with the responsible authority, Natural England, for the required remedial actions going forward.