

BIODIVERSITY NET GAIN DESIGN STAGE ASSESSMENT

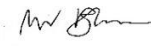
October 2023

**Plant Hill Road,
Blackley,
Manchester,
M9 8LX**

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



QUALITY MANAGEMENT

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NON-TECHNICAL EXECUTIVE SUMMARY

Irwell Valley Homes are proposing to develop Land off Plant Hill Road (hereafter referred to as ‘the site’). The proposals include the demolition of two onsite buildings and the development of 12 residential units with associated hard and soft landscaping.

Urban Green have been appointed to complete a Biodiversity Net Gain Design Stage Assessment in order to assess the change in value to the environment provided by the proposed development.

The Assessment was conducted using the Biodiversity Metric 3.1 to calculate the pre-and post-development biodiversity habitat units of the site for the proposed development. The results of this calculation are summarised in the following table:

	On-site baseline	Habitat Unit Change				On-site post development	Net change in Biodiversity	
		Retained	Lost	Enhanced	Created		Habitat units	%
Area Habitat Units	4.01	0	4.01	-	0.22	0.22	-3.79	-94.40
Linear Hedgerow Units	-	-	-	-	0.32	0.32	+0.32	100.00

The current landscape proposals for the development of the site produce a 94.40% net loss in area habitat units and a 100% net gain in linear hedgerow units. Area and linear habitats are assessed separately within the metric meaning that the large gain in linear hedgerow habitats cannot compensate for the loss of area habitats. Consequently, for this development to conform to the relevant National Planning Policy Framework and Local Planning Policies, offsetting would be required to compensate for the loss of habitat units. Additionally, the proposed habitats also fail to satisfy the trading rules laid out by the metric. This is due to a loss of urban trees, which must be removed to accommodate for development, resulting in a loss of medium distinctiveness habitat. This will need to be compensated for offsite.

To ensure habitats are maintained at the expected condition, a 30-year management plan should be implemented post-development (Urban Green, 2023a).

CONTENTS

1	Introduction	1
1.1	Background to the Scheme.....	1
1.2	Site Context.....	1
1.3	Purpose of this Report	2
1.4	Planning Context.....	2
1.5	Good Practice Principles	3
2	Ecological Baseline	4
2.1	Preliminary Ecological Appraisal (PEA)	4
3	Methods	6
3.1	Sources of Information	6
3.2	Site Mapping	7
3.2.1	Existing Habitat (Baseline).....	7
3.2.2	Post-Development Habitats.....	7
3.3	The Biodiversity Metric 3.1.....	7
3.4	Habitat Scoring	7
3.4.1	Baseline Units.....	7
3.4.2	Post-Development.....	9
3.5	Constraints to the Survey	9
4	Baseline Habitat Assessment.....	11
4.1	Area Habitats	11
4.1.1	1) Grassland – Modified grassland (P1).....	11
4.1.2	2&3) Grassland – Modified grassland (P2&P3).....	12
4.1.3	4) Urban Trees.....	13
4.1.4	5) Buildings (Developed land; sealed surface)	13
4.1.5	Developed land; sealed surface	14
5	Lost Habitats	15
5.1	Area Habitats	15
6	Pre-Development Unit Summary	16
7	Habitat Creation.....	17

7.1	Area Habitats	17
7.1.1	1) Urban – Urban Trees	17
7.1.2	2) Urban – Introduced Shrub (Low Sun Shrub Mix).....	17
7.1.3	4) Urban – Developed Land; Sealed Surface	17
7.1.4	3) Urban – Developed Land; Sealed Surface and Vegetated Gardens	18
7.2	Linear Hedgerow Habitats	18
7.2.1	Hedgerow – Native Hedgerow.....	18
8	Post-Development Summary and Conclusion.....	19
9	References	20
 Appendix 1 – Pre-Development Habitat Map		
 Appendix 2 – Soft Landscape Plan		

1 Introduction

1.1 Background to the Scheme

Irwell Valley Homes are proposing to develop Land on Plant Hill Road (hereafter referred to as ‘the site’). The proposals include the demolition of two onsite buildings and the development of 12 residential units with associated hard and soft landscaping.

Urban Green have been appointed to complete a Biodiversity Net Gain Design Stage Assessment in order to assess the change in value to the environment provided by the proposed development.

The author of the report is Biodiversity Net Gain Consultant, Sarah Child. Sarah has experience providing consulting services in Biodiversity Net Gain for a range of development schemes, both residential and commercial, across the UK.

1.2 Site Context

The site is located at National Grid Reference SD 85183 03446 and comprises a total area of approximately 0.2ha (see Figure 1).

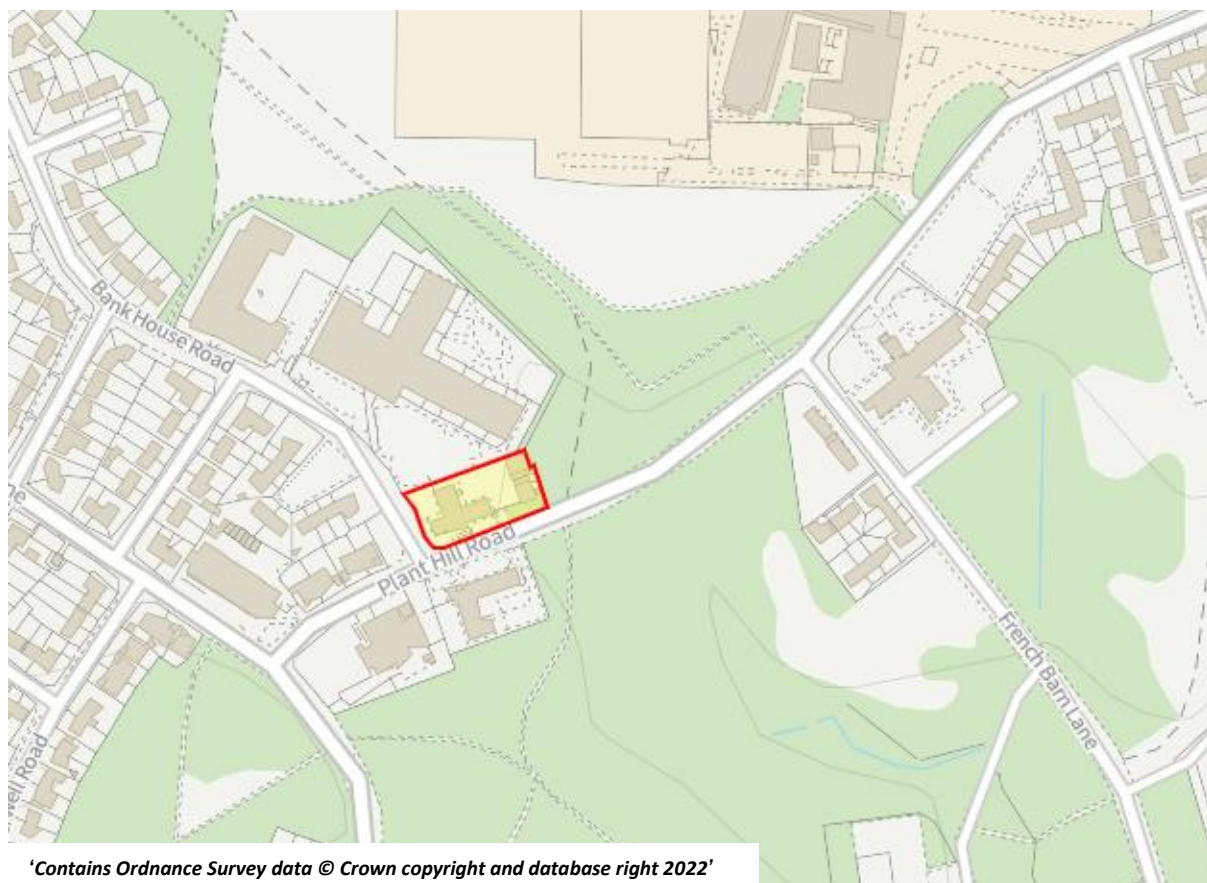


Figure 1 – Site Extent

The site is located in a densely urban area of Salford, approximately 5.5km north of the centre of Manchester. The site is bound by Plant Hill Road to the south and Bank House Road to the west, with residential developments present immediately opposite. Prospect House Specialist Support Primary School is present immediately to the north, with an area of woodland present immediately to the east.

Immediately present to the southeast and south is a large expanse of woodland. Within the wider landscape, managed public open greenspaces are present to the north and east, with a residential estate present to the west.

1.3 Purpose of this Report

This report has been produced to document the methods, results and conclusions of a BNG Design Stage Assessment that was undertaken on site. The advice herein is based on both desk and field-based studies and intends to fulfil the following purposes:

- Ensure the core principles of Biodiversity Net Gain including the mitigation hierarchy are applied;
- Identify the baseline habitats present on site (pre-development), assess the condition and provide an indication of the ecological value of those habitats;
- Identify the post-development habitats present on site, assess the possible target condition and provide an indication of the likely importance of those habitats;
- Calculate the overall change in biodiversity score from pre- to post-development habitats (measured as habitat units).

1.4 Planning Context

BNG means leaving biodiversity in a better state than it was before. As part of the Government's 25 Year Environment Plan, this requirement is being introduced and mandated for all developments. National planning policy and several Local Plans already require developments to deliver BNG.

Currently the National Planning Policy Framework (NPPF, 2021) details:

Paragraph 174 of the NPPF states:

Planning policies and decisions should contribute to and enhance the natural and local environment by:

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

Manchester City Council adopted a local plan in 2012, which will remain in place until 2027. While this document does not directly reference Biodiversity Net Gain, Policy EN 15 (Biodiversity and Geological Conservation) states:

Developers will be expected to identify and implement reasonable opportunities to enhance, restore or create new biodiversity, either on-site or adjacent to the site, contributing to linkages between valuable or potentially valuable habitat areas where appropriate.

Additionally, Greater Manchester Combined Authority (GMCA) have produced guidance relating to Biodiversity Net Gain within the 10 GM boroughs and set out a 10% target (GMCA, 2021):

The minimum level of Biodiversity Net Gain is considered to be achieved when the biodiversity units for the habitats (for example, area based habitats, rivers and/or hedges) impacted by the development is increased by 10% or more after the development. If the calculations indicate that a net gain will not be delivered at this stage, either the design should be updated or additional areas for habitat compensation identified (either onsite or outside the development boundary).

1.5 Good Practice Principles

To ensure holistic development that makes a lasting positive change to the site's biodiversity, the Good Practice Principles as detailed in Biodiversity Net Gain: Good Practice Principles for Development (Baker *et al.*, 2019) must be followed. Key principles include:

- Following the 'Mitigation Hierarchy':
 - Avoid impacts on biodiversity
 - Minimise impacts on biodiversity
 - Compensate for biodiversity losses on site
 - Compensate for biodiversity loss off site
- Avoid irreplaceable habitats and losing biodiversity that cannot be offset elsewhere;
- Address risks including difficulty and time of habitat creation and enhancement;
- Make a measurable net gain contribution calculated with a suitable metric with limitation and assumptions clearly identified;
- Achieve the best outcome for biodiversity creating lasting long-term benefits that exceed current expectations;

2 Ecological Baseline

2.1 Preliminary Ecological Appraisal (PEA)

A preliminary ecological appraisal (PEA) was conducted on the site in November 2022 by Urban Green. This constituted a desk-based study and a field survey. Key information obtained is summarised in Tables 1 and 2; full details can be found within the PEA (Urban Green, 2022a). Due to the size and low impact of the proposed development, a 1km Local Data Search was conducted as it is deemed an appropriate distance for the Zone of Influence.

One statutory designated site forming part of the National Site Network was located within 5km of the site. Two additional statutory and three non-statutory designated sites and were located within 1km of the site and are detailed within Table 1.

Table 1 – Designated Sites within the Search Areas

Designated Site	Approx. Distance from Site	Details
Statutory designated sites		
Rochdale Canal Special Area of Conservation (SAC)	3.9km east	This site is designated for the significant populations of floating water-plantain (<i>Luronium natans</i>) and diversity of pondweed species (<i>Potamogeton</i> sp.) supported within the predominantly mesotrophic waters.
Blackley Forest Local Nature Reserve (LNR)	600m west	The forest makes up most of the reserve along with grassland. The River Irk flows through the park and is a main feature. There are a variety of plants and animals to see. Habitats include broadleaved and plantation woodland, grassland, lake, marsh and a river.
Boggart Hole Clough LNR	975m southeast	The site is the largest woodland clough in Manchester and part is ancient woodland.
Non-statutory designated sites		
Bailey's Wood Site of Biological Interest (SBI)	750m southeast	No information provided.
Blackley Forest & Heaton Vale Reservoirs SBI	850m west	No information provided.
Boggart Hole Clough SBI	975m southeast	No information provided.

The site also falls within the Impact Risk Zone of the Rochdale Canal SAC and Site of Special Scientific Interest (SSSI), based on consultation with MAGIC.

Table 2 – Summary of the PEA (Urban Green, 2022a)

Flora/Fauna	Results
Vascular plants	No records of notable vascular plants were returned in the data search, and the site has limited potential to support them due to the active management.
Invertebrates	Two records of buff ermine (<i>Spilarctia luteum</i>) were returned within the data search. Buff ermine are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The site has limited suitable habitats to support notable invertebrate species.
Amphibians	Two records of common toad (<i>Bufo bufo</i>) were returned within the data search. Common toad are listed under Section 41 of the NERC Act 2006. No records for great crested newt were returned and the site has no suitable aquatic habitats.
Reptiles	No records of reptiles were returned and the site had limited suitable habitat present.
Birds	A total of 14 records of protected or notable birds were returned, including bullfinch (<i>Pyrrhula pyrrhula</i>) and lapwing (<i>Vanellus vanellus</i>). All species were listed on the Red or Amber list for Birds of Conservation Concern 5, and under Section 41 of the NERC Act 2006, except the little ringed plover (<i>Charadrius dubius</i>) which is listed under Schedule 1 or 5 of the WCA (1981). The site has potential to support nesting passerine bird species, due to the presence of scattered trees. The site has limited potential for ground nesting birds, wintering birds and birds of prey.
Bats	32 records of bats were returned during the data search relating to four confirmed species and two unconfirmed species. Ten records were related to a pipistrelle (<i>Pipistrellus sp.</i>). All species of bat are listed under the Greater Manchester LBAP and two species are listed under Section 41 of the NERC Act 2006. The site had low foraging and commuting value for bats, and the buildings were considered to have low roosting potential.
Hedgehog (<i>Erinaceus europaeus</i>)	Two records of hedgehog were returned in the data search. Hedgehog are listed on Section 41 of the NERC Act (2006). While the habitats present on site have limited potential for hedgehogs, the areas of woodland adjacent to the site have higher potential, therefore, hedgehogs may be present.
Badger (<i>Meles meles</i>)	No records for badger were returned, however the adjacent broadleaved woodland may provide some potential for the species, and as such presence of commuting or foraging badger cannot be reasonably discounted from the site.
Otter (<i>Lutra lutra</i>)	One record of otter was returned, located 850m southwest from the site in 2013. Otter are listed under Schedule 5 of the Wildlife and Countryside Act (WCA) 1981 and Section 41 of the NERC Act 2006. However, due to the lack of suitable habitats present on site, otter are not considered present.
Invasive species	No records of invasive species were returned, and none were found on site. However, some invasive non-native plants are very fast spreading and therefore the potential for these species to be introduced to the site cannot be ruled out.

3 Methods

3.1 Sources of Information

Table 3 – Desk Study Sources of Information

Source	Date Consulted	Information Sought
MAGIC website (www.magic.gov.uk)	07/12/2022	Locations of statutory designated sites within 1km of the site boundary. Locations of the designated sites within the National Site Network (Ramsar, SAC and SPA) within 5km of the site boundary. Locations of European Protected Species Licences (EPSL) and Class Licences within 1km.
Natural England (https://designatedsites/.naturalengland.org.uk/)	07/12/2022	Relevant statutory designated site citations.
JNCC (https://jncc.defra.gov.uk/)	07/12/2022	Information on European wildlife sites. Details of relevant Section 41 species and habitats.
Greater Manchester Ecology Unit	07/12/2022	Locally designated wildlife sites within 1km of site boundary. Records of protected and notable species within 1km of the site boundary.
Greater Manchester Local Biodiversity Action Plans	07/12/2022	Species and habitats which are given special conservation status at the local level.
Preliminary Ecological Appraisal (Urban Green, 2022a)	07/12/2022	Notable species, habitats and designations identified on site and within a 1km radius.
The Biodiversity Metric 3.1 <i>Natural England Publications</i> (http://nepubprod.appspot.com/publication/6049804846366720)	07/12/2022	The Biodiversity Metric 3.1, including the tool itself, user guides and reference documentation associated with the tool.

3.2 Site Mapping

3.2.1 Existing Habitat (Baseline)

The site was subject to a field survey on 17th November 2022, by Ecologist Jake Healy and Biodiversity Net Gain Consultant, Sarah Child. The weather conditions were 8°C with persistent rainfall (8/8 oktas), and wind speed 2 on the Beaufort scale.

Habitat types were identified and recorded using the Coreo habitat mapping application (version V3.1) which utilises UKHab classifications (Butcher *et al.* 2020). Habitat types were based on the UKHab guidance provided and the assessor's best judgment while using these guidelines.

Plant species were identified and recorded and species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and those which are indicators of important and/or uncommon habitats, were searched for during the survey. Any invasive species, including those listed on the revised (April 2010) Schedule 9 of the *Wildlife and Countryside Act 1981* were also searched for during the field survey.

These habitats were subsequently mapped using ESRI ArcGIS Pro software, and habitat areas and lengths were calculated to demonstrate habitats within the proposed development and the surrounding area. The baseline habitat map is displayed in Appendix 1.

3.2.2 Post-Development Habitats

The planning layout as provided by Urban Green (Urban Green, 2023b) (see Appendix 2) was provided in PDF and DWG format and used to categorise the proposed habitats and calculate the associated areas and lengths.

3.3 The Biodiversity Metric 3.1

The BNG calculation was undertaken utilising The Biodiversity Metric 3.1 from Natural England (full calculation available Urban Green [2023c]) using data obtained from the field survey.

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

The Biodiversity Metric 3.1 uses habitat features as a proxy measure for capturing the value and importance of nature. The metric considers the size, ecological condition, location and proximity to nearby 'connecting' features. The metric enables assessments to be made of the present and forecast future biodiversity value of a site.

3.4 Habitat Scoring

The Biodiversity Metric 3.1 supplies reference documents and user guides to accurately evaluate and assess the different habitats on site. The methodology for the baseline and post development calculations are demonstrated in the following sections.

3.4.1 Baseline Units

To assess the quality of a habitat, and therefore calculate the units scored, the Biodiversity Metric 3.1 utilises three scoring factors detailed as follows:

Condition

The condition of a habitat is assessed utilising the Condition Sheets provided for each habitat type. These list positive indicators for each habitat and indicate how many of these indicators need to be present to meet certain thresholds of condition. These condition sheets can be found in Biodiversity Metric 3.1 Technical Supplement Part 1a (Natural England, 2022). Condition sheets used within this assessment for pre- and post-development habitats are **Grassland (Low)**, **Urban Trees**, and **Hedgerow** (Table 4).

Table 4 – Conditions Sheets for Habitat Assessment

Condition Sheet	Habitats Assessed
Area Habitats	
Grassland (Low)	Modified Grassland
Urban Trees	Urban Trees
Linear Hedgerow Habitats	
Hedgerow	Native Hedgerow

Distinctiveness

The distinctiveness of each habitat is automatically assigned by the tool, based upon national records of the occurrence and rarity of each habitat. Table 5 provides the basis of the distinctiveness assessment for area habitats.

Table 5 – Distinctiveness Assessment

Distinctiveness Categories		
Category	Scores	Description
Very High	8	Priority habitats as defined in Section 41 of the Natural Environment and Rural Communities (NERC) Act that are highly threatened, internationally scarce and require conservation action e.g. blanket bog.
High	6	Priority habitats as defined in Section 41 of the NERC Act requiring conservation action e.g. lowland fens.
Medium	4	Semi-natural habitats not classed as a Priority Habitat.
Low	2	Habitat of low biodiversity value. Temporary grass and clover ley; intensive orchard; rhododendron scrub.
Very Low	0	Little or no biodiversity value e.g. hard standing or sealed surface.

Strategic Significance

The idea of strategic significance works at a landscape scale. It gives additional unit value to habitats that are in preferred locations for biodiversity and other environmental objectives. Strategic significance utilises published local plans and objectives to identify local priorities for targeting biodiversity and nature improvement, such as Nature Recovery Areas, local biodiversity plans, National Character Area 14 objectives and green infrastructure strategies (see Table 6).

Hedgerows are listed under the Greater Manchester Biodiversity Action Plan, therefore, they have been allocated a Medium Strategic Significance score.

Table 6 – Strategic Significance Assessment

Strategic Significance Categories	
Category	Score
High strategic significance High potential & within area formally identified in local policy	1.15
Medium strategic significance Good potential but not in area defined in local policy	1.1
Low Strategic Significance Low potential and not in area defined in local policy	1

3.4.2 Post-Development

Post-development habitats are subject to the same condition assessments as baseline habitats, based on information provided by the proposed landscape layout and planting proposals (Appendix 2). Two additional factors are considered within post-development landscapes which are detailed below.

Temporal Multiplier

For post development habitat creation or enhancement, a risk multiplier will be automatically applied by the tool to account for the period of diminished ecological value while the habitat reaches the targeted post development condition. This time and therefore risk multiplier differs between habitat types, if the habitat is being created or enhanced and how the habitat is to be managed. The predetermined multiplier is based on the average time to meet targeted condition assuming good practice principles and appropriate management strategies are applied.

Difficulty Multipliers

A risk multiplier will be automatically applied by the tool to account the ‘difficulty’ of habitat-specific enhancement or creation. There are two separate difficulty multipliers assigned to each habitat, one for creation and one for enhancement/restoration, recognising that the technical challenges will not necessarily be the same for both.

3.5 Constraints to the Survey

Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment.

Best possible effort was made during the mapping process to ensure that the habitat map accurately represents the area of habitats present on site. Some margin of error is possible due to the continuous and difficult to define nature of habitat boundaries, however this margin of error has been minimised using professional opinion of two experienced ecologists and up to date aerial imagery. As such this is not expected to be a significant constraint and affect the overall Biodiversity Net Gain Calculation provided within this report.

November is a suboptimal time for carrying out UKHab Habitat Surveys due to being outside of the optimal plant growing season. Therefore, it is likely that some plants are present on the site but were not evident at the time of the survey and were not recorded. This is not considered to be a significant constraint with regards to the general UKHab survey results as, due to the size and location of the site

and limited extent of the habitats, it is considered very unlikely that any rare or priority plant species were missed.

The conclusions and recommendations detailed in this report are based upon the site redline boundary and the development proposals as outlined by the client at the time of writing. Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional assessment is required.

4 Baseline Habitat Assessment

Baseline habitat condition was assessed following the methodology outlined in Section 3.4. Habitat descriptions and the results of this assessment are provided below. The habitats have been given reference numbers for clarity regarding in-text and the metric calculation (Urban Green, 2023c) illustrates the numerical data. Full habitat descriptions can be found in the PEA (Urban Green, 2022a).

4.1 Area Habitats

4.1.1 1) Grassland – Modified grassland (P1)

There were three small parcels of modified grassland within the site, running along the southern boundary of the site.

Parcel 1 was the largest area of grassland and was located in the south-western corner of the site. The habitat was dominated by perennial ryegrass (*Lolium perenne*), with occasional dandelion (*Taraxacum* spp.), creeping buttercup (*Ranunculus repens*), and clover (*Trifolium* spp.). Eight mature downy birch (*Betula pubescens*) were also present, scattered throughout the habitat (see Section 4.1.3).



Photograph 1 – Modified Grassland (P1)



Photograph 2 – Modified Grassland (P1)

Table 7 – Condition Assessment for Modified Grassland

UK Hab Classification	Modified Grassland				
Condition Sheet	Grassland (Low)				
Condition Criteria 1.	There must be 6-8 species per m2. If a grassland has 9 or more species per m2 it should be classified as a medium distinctiveness grassland habitat type.	Fail	Condition Criteria 5.	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Fail
Condition Criteria 2.	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small	Fail	Condition Criteria 6.	Cover of bracken less than 20%.	Pass

		mammals to live and breed.				
Condition Criteria 3.		Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.	Pass	Condition Criteria 7.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
Condition Criteria 4.		Physical damage is evident in less than 5% of total grassland area.	Fail			
Condition	Poor	Passes 3 of 7 criteria, but fails essential criterion 1.				
Distinctiveness		Low				

4.1.2 2&3) Grassland – Modified grassland (P2&P3)

Parcels 2 and 3 of modified grassland ran along the south-eastern border of the site. These habitats were actively managed, with evidence of a regular mowing regime. Both parcels were dominated by perennial ryegrass, with occasional dandelion, creeping buttercup, clover, and ribwort plantain (*Plantago lanceolata*). A single mature whitebeam (*Sorbus aria*) tree was also present within modified grassland Parcel 3 (see Section 4.1.3).



Photograph 3 – Modified Grassland (P2)



Photograph 4 – Modified Grassland (P3)

Table 8 – Condition Assessment for Modified Grassland (P2 & P3)

UK Hab Classification	Modified Grassland				
Condition Sheet	Grassland (Low)				
Condition Criteria 1.	There must be 6-8 species per m2. If a grassland has 9 or more species per m2 it should be classified as a medium distinctiveness grassland habitat type.	Fail	Condition Criteria 5.	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass
Condition Criteria 2.	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating	Fail	Condition Criteria 6.	Cover of bracken less than 20%.	Pass

		microclimates which provide opportunities for insects, birds and small mammals to live and breed.				
Condition Criteria 3.		Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.	Pass	Condition Criteria 7.	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass
Condition Criteria 4.		Physical damage is evident in less than 5% of total grassland area.	Pass			
Condition	Poor	Passes 5 of 7 criteria, but fails essential criterion 1.				
Distinctiveness		Low				

4.1.3 4) Urban Trees

There were eight mature downy birch trees present in modified grassland Parcel 1 (see photograph 1 and 2) and a single mature whitebeam in Parcel 3 (see photograph 4).

Table 8 – Condition Assessment for Urban Trees

UK Hab Classification		Urban Tree			
Condition Sheet		Urban Tree			
Condition Criteria 1.	The tree is a native species (or more than 70% within the block are native species).	Pass	Condition Criteria 4.	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.	Pass
Condition Criteria 2.	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).	Pass	Condition Criteria 5.	Micro-habitats for birds, mammals and insects are present e.g. presence of deadwood, cavities, ivy or loose bark	Pass
Condition Criteria 3.	The tree is mature or veteran (or more than 50% within the block are mature or veteran).	Pass	Condition Criteria 6.	More than 20% of the tree canopy area is oversailing vegetation beneath.	Fail
Condition	Good	Passes 5 of 6 criteria			
Distinctiveness		Medium			

4.1.4 5) Buildings (Developed land; sealed surface)

Two buildings, due for demolition as part of the development plans, were present onsite. Buildings are classified as developed land; sealed surface which has a predetermined condition score of **N/A** within the metric.



Photograph 5 – First building and associated car park



Photograph 6 – Second building and associated carpark

4.1.5 Developed land; sealed surface

The remainder of the site consisted of hardstanding infrastructure maintained as a car park, as shown in Photograph 5 & 6, which has a predetermined condition score of **N/A** within the metric.

5 Lost Habitats

Under current landscape proposals, all of the habitats present and their associated units will be lost. Using the Biodiversity Metric 3.1, the habitat units of the pre-development habitats to be lost were calculated.

5.1 Area Habitats

Table 9 shows a summary of the area habitats and their corresponding area (ha) and unit score to be lost on site, along with planned mitigation.

Table 9 – Lost Area Habitats

Habitat Parcel Reference	Total Area (ha)	Total Units	Area lost (ha)	Units lost	Planned Mitigation
1-3) Grassland – Modified Grassland (P1-3)	0.029	0.06	0.029	0.06	Although condition of this habitat is poor, it still offers some resources for wildlife. Seeded amenity grassland habitat will be sown in the back gardens of houses to partially compensate.
4) Urban Trees	0.33	3.96	0.33	3.96	All the urban trees currently present on site will be lost. Five additional trees will be planted to partially compensate for the loss.
5&6) Buildings and Developed land; sealed surface	0.17	0	0.17	0	The two buildings present on site will be demolished and the areas of hardstanding will be lost to accommodate for the new development. This habitat provides no ecological value, therefore no mitigation is necessary.
Total	0.53	4.01	0.53	4.01	

6 Pre-Development Unit Summary

Using the Biodiversity Metric 3.1, the habitat units of the existing site habitats were calculated; the habitat units to be retained within site development were calculated; and, the habitat units that are anticipated to be lost in site development were calculated.

The results of these calculations are presented in Table 10.

Table 10 – Pre-Development Unit Summary

	On-site baseline	Retained	Lost
Area Habitat Units	4.01	-	4.01

7 Habitat Creation

7.1 Area Habitats

7.1.1 1) Urban – Urban Trees

A total of 5 urban trees (4 small, 1 medium) will be planted across the site, within the front gardens of houses. Trees are predominantly non-native snowy mespilus (*Amelanchier lamarckii*) with one native silver birch (*Betula pendula*).

Table 11 – Condition Assessment for Urban Trees

Classification within Landscape Designs		Proposed Tree Planting and Proposed Shrub Planting				
UK Hab Classification		Urban tree				
Condition Sheet		Urban tree				
Condition Criteria 1.		The tree is a native species (or more than 70% within the block are native species).	Fail	Condition Criteria 4.	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Pass
Condition Criteria 2.		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).	Pass	Condition Criteria 5.	Micro-habitats for birds, mammals and insects are present e.g. presence of deadwood, cavities, ivy or loose bark	Fail
Condition Criteria 3.		The tree is mature or veteran (or more than 50% within the block are mature or veteran).	Fail	Condition Criteria 6.	More than 20% of the tree canopy area is oversailing vegetation beneath.	Pass
Condition	Moderate	Passes 3 of 6 criteria				
Distinctiveness		Medium				
Time to Target Condition		27 years				
Difficulty of Creation		Low				

7.1.2 2) Urban – Introduced Shrub (Low Sun Shrub Mix)

Areas of non-native, introduced shrub will be planted within the front gardens of houses, to provide visual value and provide some nectar for pollinators. Species present will include Japanese quince (*Chaenomeles japonica*), dwarf sweet box (*Sarcococca humilis*), and shrubby veronica ‘Margorie’ (*Hebe* ‘Margorie’). Introduced shrub is automatically allocated a condition score of **N/A** by the metric.

7.1.3 4) Urban – Developed Land; Sealed Surface

Areas of hard surfacing will be created across the development as a new access road, footpath, and driveways. Hard surfacing is categorised as developed land; sealed surface, which has a predetermined condition of **N/A** within the metric.

7.1.4 3) Urban – Developed Land; Sealed Surface and Vegetated Gardens

Following guidance in the Biodiversity Metric 3.1 Technical Supplement (Natural England, 2022) the developed residential area of the site, including houses and the grassland within gardens, has been classified as 70% developed land; sealed surface and 30% vegetated garden. Both classifications are given a predetermined condition of **N/A**. The four trees that will be planted within the private rear gardens of houses are also classified within the vegetated gardens as they are the responsibility of the homeowner and cannot be secured for 30-years.

7.2 Linear Hedgerow Habitats

7.2.1 Hedgerow – Native Hedgerow

A total of 87m of beech (*Fagus sylvatica*) hedgerow will be created across the site, which will border driveways, paths and gardens.

Table 12 – Condition Assessment for Native Hedgerow

Classification within Landscape Designs		Proposed Hedge Planting				
UK Hab Classification		Native Hedgerow				
Condition Sheet		Hedgerow				
A1. Height		>1.5 m average along	Pass	C1. Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: - measured from outer edge of hedgerow, and - is present on one side of the hedge (at least)	Fail
A2. Width		>1.5 m average along length	Fail	C2. Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	Pass
B1. Gap – hedge base		Gap between ground and base of canopy <0.5 m for >90% of length (unless ‘line of trees’)	Pass	D1. Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species.	Pass
B2. Gap – hedge canopy continuity		Gaps make up <10% of total length and No canopy gaps >5 m.	Pass	D2. Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Fail
Condition	Moderate	Passes 5 of 8 criteria and no criteria category has more than 1 failure.				
Distinctiveness		Low				
Time to Target Condition		5 years				
Difficulty of Creation		Low				

8 Post-Development Summary and Conclusion

Using the Biodiversity Metric 3.1, the habitat units of the proposed and created habitats were calculated; the habitat units to be retained within site development were calculated; and the habitat units that are anticipated to be lost in site development were calculated.

The results of these calculations are presented in the Table 13.

Table 13 – Post Development Biodiversity Net Gain Calculation

	Habitat Unit Change					On-site post development	Net change in Biodiversity	
	On-site baseline	Retained	Lost	Enhanced	Created		Habitat units	%
Area Habitat Units	4.01	0	4.01	-	0.22	0.22	-3.79	-94.40
Linear Hedgerow Units	-	-	-	-	0.32	0.32	+0.32	100.00

As illustrated in Table 13, the current landscape proposals for the development of the site produce a 94.40% net loss in area habitat units and a 100% net gain in linear hedgerow units. Area and linear habitats are assessed separately within the metric meaning that the large gain in linear hedgerow habitats cannot compensate for the loss of area habitats. Consequently, for this development to conform to the relevant National Planning Policy Framework and Local Planning Policies, off site mitigation will be required to compensate for the loss of habitat units.

The proposed habitats also fail to satisfy the trading rules laid out by the metric. The urban trees, which must be lost to accommodate for the development, have not been replaced in full by the same broad habitat or a better distinctiveness habitat. Although five new urban trees are being planted, this does not sufficiently compensate for those lost, resulting in a net loss of 3.31 units of medium distinctiveness habitat, which will need to be compensated for offsite.

To ensure that the habitats proposed as part of the post-development design of this site reach the condition detailed within this report and the full gain in value to the environment is achieved by this site, a long-term management plan (usually 30 years) is required. This length of management plan is required to ensure that the habitats proposed for this site become successfully established and reach the intended condition level. This management plan is provided by Urban Green (Urban Green, 2023a) as a separate document and covers the recommended management practices for the proposed habitats discussed in this report.

9 References

- Baker, J., Hoskin, R. and Butterworth, T. (2019). Biodiversity net gain. Good practice principles for development: A practical guide.
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- Natural England (2022). The Biodiversity Metric 3.1 - Technical Supplement.
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- Urban Green (2023b). UG_1827_LAN_GA_DRW_01 Po3.
- Urban Green (2023c). UG_1827_ECO_BNG_CALC_02.

APPENDIX 1 - PRE-DEVELOPMENT HABITAT MAP

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Legend

Target Note

Red Line Boundary

Buildings

Modified grassland

Other developed land

N



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Client: Irwell Valley

Project: Plant Hill

Title: UKHAB Habitat Map

Issue: 01

Drawn: CL	Checked: SC	Approved: SB
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Project: UG1827	Scale @ A3: NTS	Date: 12/12/2022
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Dwg No: UG_1827_ECO_HM_01	Revision: 01
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APPENDIX 2 - PROPOSED LANDSCAPE PLAN

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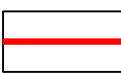
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Notes:-

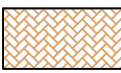
KEY

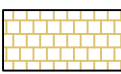
**Site Red Line Boundary**

Hard Works

**Vehicular Asphalt Surfacing**
Black colour. To engineer specification & recommendation

**Pedestrian Asphalt Surfacing**
Black colour. To engineer specification & recommendation

**Concrete Block Paving**
*To private driveways
Bracken and heather colour. Herringbone laid.*

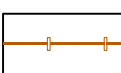
**Precast Concrete Flag Paving**
*To private paths and patios
Buff colour.*

**Existing Brick Wall**

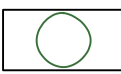
**Brick Wall**
1100mm high. Brick to match architecture.

**Metal Railings**
1100mm high. With matching gates.

**Timber Closeboard Fence with Timber Posts**
2100mm high. With matching gates.

**Timber Closeboard Fence with Timber Posts**
1800mm high.

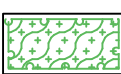
Soft Works

**Existing Tree**
To be retained.

**Proposed Tree Planting**

**Proposed Small Tree Planting**

**Proposed Native Hedge Planting**

**Proposed Ornamental Shrub Planting**
Ornamental shrub mix.

**Proposed Turf Grass**
To front gardens.

**Proposed Seeded Amenity Grass**

P03	29/09/23	LAYOUT UPDATED	TH	SA
P02	28/09/23	LAYOUT UPDATED	TH	SA
P01	15/12/22	FIRST ISSUED	TH	SA
REV.	DATE	DESCRIPTION	DRAWN	CHK'D

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Client:

IRWELL VALLEY

Project:

**PLANT HILL ROAD,
MANCHESTER**

Title:

**GENERAL
ARRANGEMENT PLAN**

Issue:

PLANNING

Drawn:	TH	Checked:	SA	Approved:	ME
Project:	UG1827	Scale @ A1:	1:200	Date:	15/12/22
Dwg No:	UG_1827_LAN_GA_DRW_01	Revision:	P03		



Plant Schedule

QTY	UNIT	CODE	PLANT NAME	STOCK	SIZE	SPACING
Small Trees						
4 No.	Ame lam	25L	Amelanchier lamarckii	C 25L	150-180cm	1/m2
2 No.	PRU AVI s		Prunus avium	B	STD	8-10cm
2 No.	PYR COM s		Pyrus communis	B	STD	8-10cm

QTY	UNIT	CODE	PLANT NAME	STOCK	FORM	GIRTH/HEIGHT
Trees						
1 No.	BET PEN	12	Betula pendula	RB	STD	12-14cm

QTY	UNIT	CODE	PLANT NAME	STOCK	SIZE
Hedges					
87 m	F.syl Hedge		Fagus sylvatica	B Trans	60-80cm
348 No.	Plants spaced @ 4/m		in a Double Staggered Row		

PERCENT	QTY	UNIT	PLANT NAME	STOCK	SIZE
Plant Mixes					
46m2 LOW SUN SHRUB MIX planted @ 3/m2					
20%	28 No.		Chaenomeles japonica	C 3L	40-60cm
10%	14 No.		Hebe 'Marjorie'	C 3L	30-40cm
10%	14 No.		Hypericum 'Hidcote'	C 3L	30-40cm
10%	14 No.		Lavandula angustifolia 'Hidcote'	C 3L	20-30cm
10%	14 No.		Potentilla fruticosa 'Abbotswood'	C 5L	30-40cm
10%	14 No.		Potentilla fruticosa 'Elizabeth'	C 5L	40-60cm
20%	28 No.		Sarcococca humilis	C 3L	20-25cm
10%	14 No.		Skimmia x confusa 'Kew Green'	C 5L	30-40cm

Individual varieties to be planted in groups of 3.
Chaenomeles to be positioned furthest from pathways.

Notes and Abbreviations

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

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Notes:-

KEY

Site Red Line Boundary

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To be retained.

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Ornamental shrub mix

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To front gardens.

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REV.	DATE	DESCRIPTION	DRAWN	CHK'D

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Client:	IRWELL VALLEY		
Project:	PLANT HILL ROAD, MANCHESTER		
Title:	SOFT LANDSCAPE PLAN		
Issue:	PLANNING		
Drawn:	TH	Checked:	SA
Approved:	ME		
Project:	UG1827	Scale @ A1:	1:200
Date:	14/12/22		
Dwg No:	UG_1827_LAN_SL_DRW_02	Revision:	P03