LAND & BUILDINGS AT TOWER MOUNT, RESERVOIR ROAD EDGBASTON BIRMINGHAM, WEST MIDLANDS B16 9DS

Biodiversity Net Gain Assessment

Report to
Tru Developments

Project number 2024/003 B v3

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QUALITY ASSURANCE

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SUMMARY

In February 2024, Worcestershire Wildlife Consultancy was commissioned by Tru Developments, to undertake a biodiversity net gains assessment Land & Building at Tower Mount, Reservoir Road, Edgbaston, Birmingham, West Midlands B16 9DS. The appraisal was requested in order to ensure compliance with National and European legislation. The planning proposal for the erection of an eighty-unit care home and associated infrastructure. This follows on from a Preliminary Ecological Appraisal by Worcestershire Wildlife Consultancy undertaken in February 2024. The original condition assessment was undertaken in February 2024 using the Metric 4.1. Please note that du to feedback from Birmingham City Council and amendments to current landscaping plans, there are alterations and amendments to this document and supersedes earlier versions the BNG assessment by Worcestershire Wildlife Consultancy.

This report will act as a supplement to the actual current Natural England Metric Excel Workbook, based on ecological habitat assessments and the proposed development habitat features, as well as a list of options in order to achieve the government standard of at least 10% improvement (if required).

Biodiversity Net Gains Assessment

Based on the proposed plans (by Simply Planning CLPD 178 P01 dated September 2024), the existing habitats and the proposed plans, there will be an overall enhancement of the site with the total number of biodiversity units gained as 0. 4 habitat units, 0.78 linear units and 0.00 river units, representing an overall gain of **+122.68 % habitat units** and **+1,940.07% linear** whilst 0% for river units (NB: no river units on site).

Assuming that the current plans are adhered to, there will be no need to propose off site mitigation and enhancement and it would be a relative biodiversity net gain for the size of the site.

There **will be need to have a long -term ecological management plan, covering a minimum of 30 years**, to be designed by a suitable qualified ecologist. This is especially relevant as the proposed species-rich grassland will require careful management so that it does not revert to rank grass-dominated grassland, assuming the right criteria is adhered to, with the others being moderate which is considered to be far more practical and achievable. The management prescriptions need to be outlined in a dedicated management report.

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1. INTRODUCTION

1.1 Commissioning Brief

In February 2024, Worcestershire Wildlife Consultancy was commissioned by Tru Developments, to undertake a biodiversity net gains assessment Land & Building at Tower Mount, Reservoir Road, Edgbaston, Birmingham, West Midlands B16 9DS. The appraisal was requested in order to ensure compliance with National and European legislation. The planning proposal for the erection of an eighty-unit care home and associated infrastructure. This follows on from a Preliminary Ecological Appraisal by Worcestershire Wildlife Consultancy undertaken in February 2024. The original condition assessment was undertaken in February 2024 using the Metric 4.1. Please note that du to feedback from Birmingham City Council and amendments to current landscaping plans, there are alterations and amendments to this document and supersedes earlier versions the BNG assessment by Worcestershire Wildlife Consultancy.

Biodiversity Net Gain (BNG) is development that leaves biodiversity in a better state than before. The revised National Planning Policy Framework (2019) states that local planning authorities (LPAs) in England should identify and pursue opportunities for securing measurable net gains for biodiversity. Whilst BNG is not a new concept, the Environment Bill will see the introduction of a mandatory requirement for 10% BNG on most new developments. BNG is calculated using the Natural England Metric.

This report will act as a supplement to the actual current Natural England Metric Excel Workbook, based on ecological habitat assessments and the proposed development habitat features, as well as a list of options in order to achieve the government standard of at least 10% improvement (if required).

1.2 Summary of the Proposed Development

It is our understanding that planning permission is being sought for the erection of a detached Part 3-storey Residential Care Home (Use Class C2).

1.3 Site Location & Description

The site is located on land adj. Reservoir Road, Edgbaston, Birmingham, West Midlands B16 9DS (NGR SP 04601 86585). The site (approximately 0.40 Ha) contains a former working men's club (the Mount Pleasant Working Men's Club) and an area of hard-standing car park with some ruderals and an area of derelict vacant ground to the rear which contains area of bare earth, ruderals and rank grasses. The immediate surrounding land use is urbanised, being mostly residential with Edgbaston Waterworks to the southern rear. Other features in the local vicinity Edgbaston Reservoir and its riparian habitats (approximately 180m to the west) and Osler Street Play area to the north of the site.

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Map 1: Proposed Area

Land & Building at Tower Mount, Reservoir Road, Edgbaston, Birmingham, West Midlands

Preliminary Ecoloigcal Appraisal area

2024/003 A NGR SP 04601 86585 Scale 1: 1,000

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Map 2: UK Habs map of existing habitat

Land & Building at Tower Mount, Reservoir Road, Edgbaston, Birmingham

Extant Habitats Map

2024/003 B NGR SP 04601 86585 Scale 1: 1,000

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Hardstanding and vacant grassland

The site incorporates large sections of hard-standing, in the form of tarmac and concrete. These areas have small areas of shrubs, ruderals along with some bryophytes.

Vascular plants noted including bramble (*Rubus fruticosus* agg.), creeping thistle (*Cirsium arvense*), saplings of butterfly bush (*Buddleja davidii*), knotgrass (*Polygonum aviculare* agg.), greater willowherb (*Epilobium hirsutum*), common nettle (*Urtica dioica*), wall barley (*Hordeum murinum*), curled dock (*Rumex crispus*), groundsel (*Senecio vulgaris*), mugwort (*Artemisia vulgaris*), barren brome (*Anisantha sterilis*), annual meadow grass (*Poa annua*), evening primrose (*Oenothera* sp) and cat's-ear (*Hypochaeris radicata*).

The rear area of bare earth and patch grasses included common bent (*Agrostis capillaris*), creeping bent (*A. stolonifera*), perennial ryegrass (*Lolium perenne*), Timothy grass (*Phleum pratensis*), cock's-foot grass (*Dactylis glomerata*), red fescue (*Festuca rubra*), rough meadow-grass (*Poa trivialis*), annual meadow-grass (*Poa annua*) and Yorkshire fog (*Holcus lanatus*). Common herbs include yarrow (*Achillea millefolium*), chickweed (*Stellaria media*), greater plantain (*Plantago major*), ribwort plantain (*P. lanceolata*), dandelion (*Taraxacum officinale* agg.), creeping buttercup (*Ranunculus repens*), curled dock (*Rumex crispus*), red deadnettle (*Lamium purpureum*) and prickly sow-thistle (*Sonchus asper*). Bryophytes noted growing on a range of habitats included *Tortula muralis, Brachythecium rutabulum, Bryum dichotomum, Ceratodon purpureus, Didymodon fallax, D. insulanus, Grimmia pulvinata, Hypnum cupressiforme* agg., *Schistidium crassipilum, Syntrichia intermedia, Syntrichia ruralis* subsp. *Ruraliformis* and *S. ruralis* subsp. *Ruralis.*

Line of Conifers

Technically offsite but forming the southern border, there is a line of Leyland cypress (*Cupressus × leylandii*) forming a boundary with the neighbouring waterworks.

One site of statutory nature conservation importance is located within 1km of the site: Edgbaston Reservoir Local Nature Reservoir (*NB*: Edgbaston Pool Site of Special Scientific Interest (SSSI) is approximately 2.2km away to the south-east of the site. However, these sites are sufficiently distant from the proposed development for there to be no direct impact upon them.

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1.4 Scope of the BNG Report

Produce an 'Initial Biodiversity Assessment' report. The report sets out the BNG process in the context of the Proposed Scheme and includes the methodology and results of initial baseline and post-development biodiversity unit calculations.
This report aims to:

- Establish the total number of baseline Biodiversity Units (BU) and Linear Units (LU) at the Site of the Proposed Scheme;
- Establish the total number of BU and LU which will be created, retained and/or enhanced under landscape and ecological mitigation proposals at the Site of the Proposed Scheme; and
- Determine whether the Proposed Scheme will result in a net loss, no net loss or a net gain for biodiversity.

The client proposes to redevelop the land shown with the red-line boundary on Map 1 (see Appendix 1). An ecological appraisal was prepared to inform the proposed development (Worcestershire Wildlife Consultancy 2024 report). Following the initial appraisal, Worcestershire Wildlife Consultancy was commissioned by the client, to provide a biodiversity net gain (BNG) assessment to inform the preparation of landscape and biodiversity mitigation measures within the proposed development.

The study makes use of the classification and mapping of the habitats that was carried out for the ecological appraisals and surveys. The type, extent and condition of the habitats is used to enable baseline BNG calculations and to inform development proposals including habitat retention, creation and enhancement measures. The calculations will determine whether the proposed development (see Appendix 1) scheme provides the 'measurable net gain' that is a requirement of the 2019 National Planning Policy Framework (para 174 b) – see Section 1.6). The Natural England Biodiversity Metric Calculator version 4.1 is the most commonly used calculator and has been used for this study.

1.5 Biodiversity Net Gain Policy

Biodiversity net gain (BNG) is the end result of a process applied to infrastructure development so that overall, there is a positive outcome for biodiversity. The process itself follows the mitigation hierarchy, which sets out that everything possible must be done to first avoid and then minimise and restore / rehabilitate losses of biodiversity on site. Only as a last resort, residual losses are compensated for using biodiversity offsets, which are distinguished from other forms of mitigation in that they are off the development site and require measurable conservation outcomes.

Adopting a BNG approach can account for biodiversity losses not fully covered by legal and planning systems. Whilst some species are extensively protected, many are not; with the consequence that development can be 'legally compliant' but still result in biodiversity loss. The BNG approach guards against this, enabling development to contribute towards the national and global target of halting biodiversity loss by 2020 and towards local and national strategies for conserving and enhancing wildlife.

For BNG to be used appropriately and to generate long-term gains for nature, the good practice principles established by the Business and Biodiversity Offset Programme (BBOP) can be used. These principles have been established in the context of UK development by the Construction Industry Research and Information Association (CIRIA), the Chartered Institute for Ecology and Environmental Management (CIEEM) and the Institute of Environmental Management and Assessment (IEMA). The BNG process for land on Tower Mount, Edgbaston adheres to these principles.

The appraisal has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England.

- The Natural Environment and Rural Communities (NERC) Act 2006;
- The UK Post-2010 Biodiversity Framework (2011-2020) (JNCC and DEFRA, 2012);
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services (DEFRA, 2011);
- UK Biodiversity Action Plan (UKBAP[1]);
- The National Planning Policy Framework (NPPF) 2019 (DCLG, 2012);

National Planning Policy Framework (NPPF), December 2023
The Natural Environment and Rural Communities Act (NERC), 2006 states: "Every public authority must, in exercising its functions, have regard, so far is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity".

Furthermore, the appraisal and survey recommendations are guided by the National Planning Policy Framework[2] (NPPF), where the following policies are of particular relevance:
Para. 8. Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;

b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and

[1] The UK BAP has now been replaced by the UK Post-2010 Biodiversity Framework, however, it contains useful information on how to characterise important species assemblages and habitats which is still relevant.

[2] National Planning Policy Framework v4 published December 2023

c) an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

Para. 136. Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined ([3]), that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. Applicants and local planning authorities should work with highways officers and tree officers to ensure that the right trees are planted in the right places, and solutions are found that are compatible with highways standards and the needs of different users.

Para. 167. All plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk and the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by: …

c) using opportunities provided by new development and improvements in green and other infrastructure to reduce the causes and impacts of flooding, (making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management); and

d) where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations.

Para. 180. Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

[3] Unless, in specific cases, there are clear, justifiable and compelling reasons why this would be inappropriate.

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;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Para. 185. To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity([4]); wildlife corridors and stepping-stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation([5]); and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Para. 186. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

[4] Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

[5] Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons([6]) and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

The site visit also focussed on assessing the potential of the site to support populations of priority species, whose protection and recovery is promoted in paragraph 180, especially those given protection under British or European wildlife legislation as stated above.

Biodiversity Action Plans

The UK Post-2010 Biodiversity Framework succeeded the UK BAP partnership in 2011 and covers the period 2011 to 2020. However, the lists of Priority Species and Habitats agreed under the UKBAP still form the basis of much biodiversity work in the UK. The current strategy for England is 'Biodiversity 2020: A Strategy for England's wildlife and ecosystem services' published under the UK Post-2010 UK Biodiversity Framework. Although the UK BAP has been succeeded, Species Action Plans (SAPs) developed for the UK BAP remain valuable resources for background information on priority species under the UK Post-2010 Biodiversity Framework.

Priority Species and Habitats identified under the UKBAP are also referred to as Species and Habitats of Principal Importance for the conservation of biodiversity in England and Wales within Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006. The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

Birmingham and Black Country Biodiversity Action Plan

The UK Biodiversity Action Plan (BAP) has been superseded; however local BAPs remain relevant providing a framework for biodiversity locally. In 2010, the Birmingham and Black Country Biodiversity Partnership produced a Local Biodiversity Action Plan (LBAP).

The objectives of the LBAP are to:

• maintain and increase the biodiversity of key sites and landscapes through appropriate protection and management

[6] For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

• restore degraded habitats and key species populations by restoring key areas
• link key areas with ecological corridors to reconnect wildlife populations and make them less vulnerable
• promote and support the use of the natural environment to mitigate against, and adapt to, the effects of climate change
• enable the sustainable use of the natural environment to benefit health and wellbeing of residents, workers and visitors as well as improving the local economy.

In common with the rest of the UK, and indeed the planet, Birmingham and Black Country has suffered huge losses of natural habitats and species. The current plan Birmingham and Black Country Biodiversity Action Plan (BBCBAP) (accessed 20th March 2024) identifies 25 habitats and 22 species, or species groups, which are of particular conservation priority in the county.

BBCBAP Habitat Action Plans:

- Upland Oak Woodland
- Upland Mixed Ashwoods
- Wet Woodland
- Wood Pasture and Parkland
- Lowland Mixed Deciduous Woodland
- Lowland Heathland
- Lowland Meadows
- Lowland Calcareous Grassland
- Lowland Dry Acid Grassland
- Purple Moor Grass and Rush Pastures
- Floodplain Grazing Marsh
- Arable Field Margins
- Hedgerows
- Mesotrophic Lakes
- Eutrophic Standing Waters
- Ponds
- Reedbed
- Lowland Raised Bog
- Rivers
- Inland Rock Outcrops and Scree Habitat
- Open Mosaic Habitats on Previously Developed Land
- Canals
- Parks and Public Open Spaces
- Allotments
- Gardens

BBCBAP Species Action Plans:
Amphibians Common Toad Mammals: Water Vole The Crescent
and Reptiles: Great Crested Newt
Moths
(continued: Latticed Heath

Grass Snake
West
European
Hedgehog
Small Squarespot
Adder Brown Hare Figure of Eight
Slow-worm Otter Small Pheonix
Harvest
Mouse
September
Thorn
Bee: Andrena tarsata (a mining bee) Polecat Dusky Thorn
Noctule August Thorn
Soprano
Pipistrelle
Galium Carpet
Beetles: Early Sunshiner Autumnal Rustic
Sallow Guest Weevil
Brown Longeared Bat The Spinach
Netted Carpet
Birds: Tree Pipit
Lesser
Horseshoe
Bat
Garden Dart
Greater Scaup Double Dart
Great Bittern Plants: Spreading
Bellflower
Small Emerald
European Nightjar Cornflower Ghost Moth
Hawfinch Eyebright The Rustic
Common Cuckoo Floating
Water
Plantain
Rosy Rustic
Corn Bunting Tubular
Waterdropwort
Brindled Beauty
Yellowhammer Corn
Buttercup
The Lackey
Reed Bunting Dot Moth
Herring Gull Broom Moth
Black-tailed Godwit Rosy Minor
Common Grasshopper Warbler Shoulder-striped

Wainscot
Wood Lark
Common Scoter
Lunar Yellow
Underwing
Spotted Flycatcher Oblique Carpet
Eurasian Curlew Powdered
Quaker
House Sparrow Dark Spinach
Eurasian Tree Sparrow

Grey Partridge
Scarce Aspen
Knot-horn
Wood Warbler

Shaded Broadbar
European Turtle Dove White Ermine
Ring Ouzel Hedge Rustic
Northern Lapwing Blood-vein
Sky Lark Moths: Grey Dagger The Cinnabar
Bug: Lesser water-measurer Knot Grass Oak Hook-tip
Flounced
Chestnut
The Sallow
Butterflies: Brown-spot
Pinion
Small Pearl-bordered Fritillary
Beaded
Chestnut
Dark-barred
Twin-spot
Carpet
Mountain Ringlet Heath Rustic
Small Heath
Greenbrindled
Crescent
The Streak
Small Blue Ear Moth
Dingy Skipper Mouse Moth
Wall Dusky
Brocade

Wood White Rest Harrow
White Admiral Scarce Brown

Streak

White Letter Hairstreak Deep-brown
Dart

Local Policy

Birmingham City Council

Birmingham is part of a local and global market place and competes with other areas for investment. The positive progress that has been made in securing recent investment needs to continue to help the City prosper. To conserve and enhance Birmingham's natural environments, allowing biodiversity and wildlife to flourish.

Enhanced biodiversity and protecting heritage assets: Opportunities to enhance the biodiversity value of the site such as enhancements to Peddimore Brook and reinstatement of hedgerows will be required. The design of the development will be required to protect and enhance known archaeological features and the character and setting of heritage assets in the area. These include; the long distance views of Peddimore Hall and the scheduled ancient monument, Forge Farm and its setting, Wiggins Hill Farm and its setting, and the Birmingham and Fazeley Canal and its setting. Archaeological excavations will be required in advance of development, followed by analysis of the results and publication of reports. Development will need to consider impacts on soil resources during construction and operation, adhering to Defra's Code of Practice to protect soil.

Policy TP3 Sustainable construction
New development should be designed and constructed in ways to which will:
• Maximise energy efficiency and the use of low carbon energy.
• Conserve water and reduce flood risk.
• Consider the type and source of the materials used.
• Minimise waste and maximise recycling during construction and operation.
• Be flexible and adaptable to future occupier needs.
• Incorporate measures to enhance biodiversity value.

From whatever date the Government prescribes for the introduction of residential zero carbon standards through the Building Regulations, all new non-residential built developments in excess of 1,000 sq. m. gross permitted floorspace or being developed on a site having an area of 0.5 ha or more should aim to meet BREEAM standard excellent (or any future national equivalent) unless it can be demonstrated that the cost of achieving this would make the proposed development unviable.

Developers will be encouraged to find innovative solutions to achieve the objectives of this policy. Developers will need to demonstrate how their proposals accord with the provisions set out above and if not to provide a justification as to why they cannot be achieved. A post construction review certification process will be required for developments expected to meet the BREEAM excellent standard.

Measures to adapt and enhance the sustainability of existing buildings and neighbourhoods, for example through the Birmingham Energy Savers Scheme, will also be encouraged providing there is no conflict with other policies such as the protection of heritage assets.

Policy TP7 Green infrastructure network

The City Council will seek to maintain and expand a green infrastructure network throughout Birmingham. The integrity of the green infrastructure network will be protected from development and where possible opportunities will be taken to extend and enhance the network and to improve links between areas of open space. Any development proposal that would sever or significantly reduce a green infrastructure link will not be permitted. New developments will be expected to address green infrastructure issues in an integrated way and to take advantage of new opportunities such as green and brown roofs.

It is important that all new green infrastructure features and assets are designed to help the City adapt to a changing climate. The City Council will also seek to conserve and enhance Birmingham's woodland resource (collectively known as 'The Birmingham Forest'). Particular attention will be given to protecting the City's ancient woodlands as irreplaceable semi-natural habitats. All trees, groups, areas and woodlands will be consistently and systematically evaluated for protection and all new development schemes should allow for tree planting in both the private and public domains. The importance of street trees in promoting the character of place and strengthening existing landscape characteristics will be recognised.

2. METHODOLOGY

2.1 Scope of the BNG Report

BNG Assessment involves calculating biodiversity units pre- and post-development, and then calculating the percentage change, using a Biodiversity Metric. The key steps to an assessment are as follows:

1. Conduct a pre-development field survey to catalogue baseline habitats.
2. Review landscape and planting proposals to assess post-development habitats.
3. Use a Biodiversity Metric to calculate pre- and post-development biodiversity units and the percentage change.
4. If there is a shortfall in the target BNG (i.e. less than 10%), Worcestershire Wildlife Consultancy can provide pragmatic recommendations for achieving an increase in post-development biodiversity units. Consideration can be given to on-site and off-site habitat creation and enhancement solutions. Worcestershire Wildlife Consultancy uses local knowledge to secure the best results for local wildlife, maximising the number of biodiversity units that can be achieved.

As indicated in the introduction, this report will act as a supplement to the current Natural England/Defra Metric Excel Workbook, based on ecological habitat assessments and the proposed development habitat features, as well as latest Metric Excel Workbook, in order to achieve the government standard of at least 10% improvement (if required).

2.2 BASELINE ONSITE HABITATS & THEIR CONDITIONS

In view of the Natural England metric, the onsite habitats were assessed in late February 2024 by Worcestershire Wildlife Consultancy using the UK Habitats Classification System and the 4.1 version of the metric using the technical supplement (Natural England 2021) for the purposes of habitat condition assessment (NB. This included the proposed site); Joshua Evans of Worcestershire Wildlife Consultancy undertook the habitat condition assessment on initial assessment on 28th February 2024.

For succinctness, the full criteria of the habitat conditions can be seen in Crosher *et al*. 2019B but for illustrative purposes, the criteria for the assessed features only can be seen in Appendix 4 and the results in Appendix 3.

Irreplaceable Habitats

Following Natural England guidance, irreplaceable habitats have been excluded from this biodiversity unit calculation. It is important to note that BNG or no net loss cannot be achieved for the scheme as a whole if there is a negative impact on an irreplaceable habitat.

Linear Habitats

Defra recognise that hedgerows are a very important feature in terms of biodiversity value: ‘‘Their contribution, by area, to biodiversity in the landscape is far greater than even the most biodiversity rich habitats’’ (Defra, 2012). Hedgerows and watercourses therefore cannot be treated as other area-based habitats and are considered in terms of linear units (LU) rather than biodiversity units (BU); both are arbitrary units which are not directly comparable with each other.

2.3 MAPPING

Identification of baseline habitats was based on a digitised UK Habitat Layers mapped using QGIS software. These habitat layers were then measured for both biodiversity units (BU) and linear units (LU) for both pre- and post-development works.

The landscape masterplan for pre-development used the supplied landscape plan CLPD 178 P01by Tower Mount Landscape Masterplan CLPD 178 P01 February 2024 plan which was interrogated to identify new habitats and any retained / enhanced habitats. The area, expected condition and ecological connectivity was entered into the actual Natural England Metric Excel Workbook for both BU and LU habitats. The BNG calculation covered all habitats (linear and non-linear) within the Scheme footprint (see Appendix 1).

Whilst hardstanding and buildings do not generate BU, they have been included within the tables as part of urban habitats in the pre- and post-development plans.
For area-based habitats, hectares are reported to two decimal places. However, for linear habitats, length is reported to the nearest kilometre.

All habitats are mapped using similar symbology that is used with the UK Habs system (Butcher et al. 2020).

2.4 BIODIVERSITY UNIT CALCULATIONS

The metric for calculating the biodiversity units follows the Natural England Biodiversity Metric Calculator version 4.1, which is the most commonly used calculator and has been used for this study. This metric has been reviewed by Worcestershire Wildlife Consultancy and is used as part of a toolkit to enable the assessment of biodiversity losses and gains within proposed development sites and possibly within the immediate surrounding habitats.

The calculation of the baseline biodiversity units using the biodiversity metric takes account of all the habitats on site using the recent UK Habs – the UK Habitats Classification system (Butcher et al. 2020).
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Biodiversity baseline calculations for each habitat category follow the formula:

(Habitat) Distinctiveness x Condition x Area (ha) = Biodiversity Units
Or
(Habitat) Condition x Length = Linear Biodiversity Units

Calculations of biodiversity units from the proposed development using the biodiversity metric takes account of: habitat that is lost due to development, habitat retained post development, any retained and enhanced habitats, and, any habitats created due to the development. The assessment is based upon the target state (size and condition) for the habitats that are being enhanced or created:

(Habitat) Distinctiveness x Condition x Area (ha) x
Spatial Risk x Temporal Risk x Delivery Risk
= Post-Development Biodiversity Units
Or
(Habitat) Condition x Length (m) x Risk Factor
= Post-Development Linear Biodiversity Units

Calculate baseline biodiversity units using the biodiversity metric. This calculation includes all habitats (minus irreplaceable habitats) within the Proposed Scheme boundary prior to development and is informed by Phase 1 Habitat data and results of the condition assessment. The baseline biodiversity unit calculation may be run on a number of scheme options if the scheme is at options appraisal stage.

Calculate post-development biodiversity units using the biodiversity metric. This calculation accounts for all of the proposed habitats (including retained habitats and habitats lost or created as a result of the development) within the Proposed Scheme boundary post-development. The calculation excludes irreplaceable habitats. The calculation is informed by scheme design, landscape plans, and proposed ecological mitigation. The assessment is based upon the target state (type, size and condition) of habitats being created.

Produce an 'Initial Biodiversity Assessment' report. The report sets out the BNG process in the context of the Proposed Scheme and includes the method and results of initial baseline and post-development biodiversity unit calculations.

Distinctiveness
Habitat distinctiveness is defined as a collective measure of biodiversity and includes parameters such as the number and variety of species found within the habitat (richness and diversity), how rare the species are, and how many species the habitat supports that are not common elsewhere.

To determine habitat distinctiveness, the habitat types were transposed into the standard habitat distinctiveness typology and bands issued by Defra ('the Defra habitat type'). For some habitat types, multiple distinctiveness bands can apply, depending on the quality of the habitat. Decisions on which distinctiveness band to assign were based on criteria pre-listed within the Metric Excel Workbook, as decided by Natural England in the third version. For clarity, Table 2.3 illustrates the distinctiveness banding.

Table 2.3 – Habitat distinctiveness bands and scores

Distinctiveness Band	Habitat Types included
High	Habitats of principle importance or habitats which meet the criteria to qualify as habitats of principle importance (JNCC, 2011). This excludes ancient woodland and other habitats which are irreplaceable.
Medium	Other semi-natural habitats that do not fall within the scope of habitats of principle importance definitions, i.e. all other areas of woodland (e.g. non-native coniferous plantation), other grassland (e.g. species poor semi-improved), uncultivated field margins, road verge and railway embankments (excluding those that are intensively managed).
Low	Improved grassland, arable fields (excluding any uncultivated margins), built up areas, domestic gardens, regularly disturbed bare ground (e.g. quarry floor, landfill sites etc.), verges associated with transport corridors.

Distinctiveness and condition are given numerical 'scores' which are multiplied, together with hectares (ha) or length in metres (m) of habitat to give the number of baseline BU or LU:

Distinctiveness x Condition x Area (ha) = BASELINE BIODIVERSITY UNITS

Length (m) x Condition = BASELINE LINEAR UNITS

The Natural England metric requires habitat condition to be assessed using the system presented in Natural England's Farm Environment Plan (FEP) manual. Habitat condition scores were assigned based on the criteria in Table 2.4.

Table 2.4– Habitat condition bands and scores

CONDITION BAND	CONDITION SCORE	CRITERIA FOR ASSIGNING CONDITION
Good	**3**	Any habitat which passes all the FEP criteria.
Moderate	**2**	Any habitat which fails **one** FEP criterion.
Poor	**1**	Any habitat which fails **two or more** FEP criteria.

Deriving the total number of baseline biodiversity units
Following the scoring of all habitat parcels for habitat distinctiveness and condition, the total number of baseline BU will be calculated for each area-based habitat (including those assumed for arable field margins).

The scores generated by each individual habitat parcel will then be summed to provide the total number of BU generated by the baseline habitat parcels. It is important to set out the BU for the individual habitats so that these can be compared with the post-development BU for the same habitat type.
The number of baseline LU present should be calculated for linear habitats (keeping hedgerows and watercourses separate).

Post-development biodiversity unit calculations
BU and LU resulting from landscape and ecological mitigation designs for the scheme, including newly created and retained habitats, are referred to as post-development BU / LU.

Linear Units
In the post-development unit calculation, linear habitats have been kept separate from units calculated for area-based habitats; this mirrors the approach for baseline unit calculations. The risk factors described below are only applicable to the area-based habitat calculation. They are not included in the calculation for linear habitats. This is because the risks associated with creating linear features are considered to be taken into account within the condition multiplier used to calculate the baseline LU.

The post-development LU from the hedgerows and watercourses created are expressed simply as a length in metres.

Applying risk factors to the post-development calculation
Post-development BU are calculated in a similar way to baseline BU. However, in addition to area, condition and distinctiveness of the proposed habitats, the key risks to delivery are taken into account through incorporation of risk factors. The Natural England metric sets out three risk factors: distance from scheme (spatial risk); time taken for created or

enhanced habitats to reach target condition (temporal risk); and how difficult it is to create or enhance any given habitat (delivery risk).

If there is an increase in the BU of 5% or more the project is capable of delivering net gain for biodiversity for area-based habitats. The percentage should be rounded to the nearest whole percentage point.

Assumptions & Limitations

Baseline Biodiversity & Linear Unit Calculations
The following assumptions were made for the baseline biodiversity unit and linear unit calculations.

Distinctiveness

- All G1 Standing water is assumed to be of High distinctiveness, in line with Appendix C of the BRE guidance.
- All hedgerows are assumed to be of High distinctiveness because the vast majority of hedgerows will meet the Habitat of Principal Importance criteria. For this reason, distinctiveness is not included as part of the linear unit calculation. This follows the approach set out by Defra/Natural England.

Condition
Where no primary condition information was available, the following assumptions were made:

All hedgerows with the exception defunct hedgerows were assigned a condition rating of Good. Defunct hedgerows were assigned a condition rating of Moderate because by nature of being defunct will fail one criterion of the FEP condition assessment.

Temporary Construction Impacts
There are currently no temporary compound locations or site plans for the construction areas. It is assumed, as a precautionary approach, that any area of habitat which is proposed within the landscape plan is cleared during construction and then created from scratch. Therefore, all proposed post-development habitats which are not retained are created from scratch rather than enhanced.

Spatial Risk Factor
It is assumed that habitat compensation, enhancement or retention will be delivered within the Proposed Scheme's footprint or within the same ecological network as the loss occurs. Therefore, the spatial risk factor is not included within the post-development biodiversity unit calculations.

Limitations

The BU and LU calculations do not account for indirect impacts that may happen to habitats outside of the Proposed Scheme footprint. Given all required construction compounds and accesses are included in the Proposed Scheme, this limitation is unlikely to have any effect on the BNG calculations.

The baseline BNG calculations are based on the UK Habitat survey data but are also referred to in the initial preliminary ecological appraisal. Therefore, it is possible that minor discrepancies exist between the areas of retained habitat post-development and the baseline habitats. Any discrepancies will not change the overall outcome of the BNG assessment.

3. RESULTS

3.1 Existing Habitat Condition Assessment

Please refer to the separate Excel Sheet for the condition assessment of the site. As for Habitat Units, the site contains urban habitats including buildings, hardstanding, and derelict remnant grassland lawn with bare patches and ruderals. All onsite habitats will be lost and the southern (offsite line of Leyland cypress) will be retained.

Onsite Habitats -Existing

Whilst there are no hedges onsite, there is one offsite hedge along the southern border, which will be retained and has been included in the BNG assessment for completeness as it a habitat that directly borders the proposed works. The proposed site has the following existing habitats:-

Existing Linear Features onsite			
Linear Features	**Condition Assessment**	**Length (m)**	**Length (km)**
H1 (offsite)	NA	40	0.04
Total		40	0.04

Existing linear features length total: 0.04 km (Hedges only)

Existing Habitat Features			
Habitat Features	**Condition Assessment**	**Area m^2**	**Area Ha**
Modified Grassland Vacant or derelict land (remnant Improved grassland with bare patches and ruderals	Poor	1,626	0.1626
Buildings	NA	1,332	0.1332
Hardstanding	NA	1,124	0.1124
Total		4,082	0.41

Existing onsite habitats area total: 0.41 Ha

Linear Features

Hedgerow

The bordering offsite hedge is non-native Leyland cypress hedge that that forms the southern boundary is classified as 'hedgerow – other hedgerow / h2b' under UK Habitat Classification. For the individual condition assessment of the hedge, please refer to Appendix 1 but was classed as being poor due to be planted entirely with an exotic non-native broadleaf species.

Habitat Features

Urban

The vast majority of the plot was the classified as urban habitats with the developed land (i.e. buildings u15b), built linear land (i.e. hardstanding u1e) as such, there is no condition assessment for these habitats. –

Modified Grassland

The rear area of derelict grassland was re- classified[7] as grassland – modified grassland g4 – in this case, abandoned amenity/improved grassland. It only passed on four criterium, not including Criterion A and B, which it failed on and thus was deemed as poor. Whilst a number of ruderal plants bryophytes were noted around and on site, there were scattered around the fringes of the hard standing area. The southern habitat in between the Leyland cypress hedgerow and rear elevation of the buildings, did have some vascular species in accumulations though, forming grassy areas. However, thee. These areas have small areas of shrubs, ruderals along with some bryophytes. To supplement the information, please find the quadrats in the following table:-

Quadrat No.	Vascular Species & DAFOR score	Sward Photo
1	Festuca rubra O-F Poa annua R Agrostis capillaris R Ranunculus repens R-O Holcus lanatus O	

[7] In Version 1 of the BNG assessment dated March 2024, the area was classified as vacant-derelict land as was hard standing area but bryophytes, ruderals and grasses as began to accumulate in sufficient areas to be reclassified as modified grassland.

Quadrat No.	Vascular Species & DAFOR score	Sward Photo
2	Plantago major R Holcus lanatus R Plantago lanceolata R	
3	Lolium perenne F-A Festuca rubra R Ranunculus repens R Holcus lanatus O Bellis perennis R	No Photo
4	Lolium perenne A Festuca rubra O Holcus lanatus O Ranunculus repens R Hypochaeris radicata R	No Photo
5	Lolium perenne F-A Festuca rubra R Ranunculus repens R Holcus lanatus R	

3.2 Area Sizes of Retained Habitats and Proposed Works

Onsite Habitats -Proposed and Retained

The proposed site has the following proposed and retained habitats:-

Proposed and retained existing linear features onsite			
Linear Features	**Condition Assessment**	**Length (m)**	**Length (km)**
H1 (extant offsite hedge)	NA	40	0.04
H2 (proposed western native hedgerow)	Moderate	97	0.097
H3 (proposed eastern native hedgerow)	Moderate	74	0.074
H4 (proposed non-native Escallonia hedgerow)	Poor	57	0.057
H5 (proposed native Carpinus hedgerow)	Poor	77	0.077
Total		345	0.345

Proposed and retained existing linear features length total: 0.345 km

Existing Habitat Features				
Habitat Features	**Feature Notes**	**Condition Assessment**	**Area m^2**	**Area Ha**
Modified grassland	lawn	Poor	444	0.0444
Developed land; sealed surface (i.e.	building = 80 units	N/A - Other	1,687	0.1687
Introduced shrub		Condition Assessment N/A	164	0.0164
Developed land; sealed surface	Hard Standing areas	N/A - Other	714	0.0714
Other neutral grassland	Flowering Lawn	Moderate	37	0.0037
Other neutral grassland	Pollinating & flowering planting area	Moderate	185	0.0185

Existing Habitat Features				
Habitat Features	**Feature Notes**	**Condition Assessment**	**Area m^2**	**Area Ha**
	(alongside car park - Flowering Mixes 1 and 2)			
Vegetated garden	Sensory Planting within communal gardens and around patio/steps	Condition Assessment N/A	57	0.0057
Vegetated garden	Private Gardens	Condition Assessment N/A	91	0.0091
Other neutral grassland	Shade tolerant meadow margin	Moderate	196	0.0196
Individual tree (x10 natives plus multi-stemmed shrubs)		Moderate	656*	0.0656*
Modified grassland (NB; area beneath trees and shrubs).	This area purely represents the area beneath the canopy of the planted trees	Poor	507	0.0507
Total			**4082**	**0.41**

*DBH = Root Protection area as per the BNG guidelines and not as part of the over overall area and excluded from the total area, which is why the modified grassland area beneath the canopy has been included.

Proposed and retained existing onsite habitats area total: 0.41 Ha

Linear Features

Hedgerows

The extant offsite southern hedge is being retained and will not be altered. Hedges H2 and H3 will be planted as native hedgerows and hedges H4 to H6 as non-native hedges whilst not initially useful for wildlife, it estimated to be of value within 8-10 years as will be classified as 'hedgerow – priority native hedgerow / h2a' as well as 'hedgerow – other hedgerow / h2b' under UK Habitat Classification. Assuming the newly planted native hedgerows will be planted with 5 or more native woody species, it has been given a moderate condition assessment; if less than 5, then it would be classed as poor and would reduce the percentage gain by approximately 595 %. The onsite planted hedges exceed the length of the extant offsite southern hedge.

Habitat Features

Modified Grasslands

The modified grassland/improved grassland will be developed and initially will be considered as g4- modified grassland. There is a proposed section of wildflower grassland that will initially be poor condition but will improve over time and will be classified as other neutral grassland (UK Habs 'g3c'). Assuming that the field is populated with 6-8 species per m^2, bramble, bracken and scrub are kept to below 20% of the site, and damage to the grounds are kept to a minimum, the fields could be classified as 'moderate' or even 'good' BUT this can be difficult achieve for a newly established neutral grassland and thus will be considered poor, although it is recognised that this could be improved with appropriate management and therefore the overall metric could be improved. Since the starting state is urban hardstanding and derelict ground, it is impossible to classify the site as anything more ecological significant than modified grassland, unless species diversity and appropriate management is regularly applied, then it might be possible to re-assign to medium distinctiveness grassland but can be difficult to achieve.

3.3 Irreplaceable Habitats

No irreplaceable habitats were identified within the red line boundary of the Proposed Scheme that will be affected by the proposed works.

3.4 Summary of Biodiversity Impact Assessment based on current layout

On-site baseline	Habitat units	0.33	
	Hedgerow units	0.04	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.72	
	Hedgerow units	0.82	
	Watercourse units	0.00	
On-site net change (units & percentage)	Habitat units	0.40	122.68%
	Hedgerow units	0.78	1940.01%
	Watercourse units	0.00	0.00%
Off-site baseline	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	Habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.40	
	Hedgerow units	0.78	
	Watercourse units	0.00	
Spatial risk multiplier (SRM) deductions	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	

Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.40
	Hedgerow units	0.78
	Watercourse units	0.00
Spatial risk multiplier (SRM) deductions	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.40
	Hedgerow units	0.78
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	122.68%
	Hedgerow units	1940.01%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	0.33	0.36	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	0.04	0.04	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓

Biodiversity Units

The Total Site Baseline is:
- On-site Habitats = 0.33 units.
- On-site Hedgerows = 0.04 units
- On-site River units = 0.0 units

The Total net unit change is
- Total net unit change= 0.40 Habitat units
- Total net unit change= 0.78 Hedgerow units
- Total net unit change= 0 River units

Implementation of the current landscape plan (by Simply Planning CLPD 178 P01 dated September 2024) that includes retention of the bordering offsite hedge and the creation of new linear units via creation of new hedges but no changes to the river features resulting in +1,940.07% improvement. Habitat features include he creation of the residential building, lawn, private gardens, modified grassland and most significantly a species-rich grassland by improved species diversity and micro-habitat heterogeneity, via conversion from low quality area into to modified grassland with flower rich resulting in +122.68 % and Linear units are a moderate change at +1,940.07%. Both of these, are well beyond the required +10 % improvement. Overall, there is an improvement of the site with the current scheme.

For full details of the Biodiversity Impact Assessment based on current layout, please refer to the Actual Natural England Biodiversity Metric Excel accompanying this document.

4. CONCLUSIONS & RECOMMENDATIONS

4.1 Biodiversity Impact Assessment

Based on the proposed plans (by Simply Planning CLPD 178 P01 dated September 2024), the existing habitats and the proposed plans, there will be an overall enhancement of the site with the total number of biodiversity units gained as 0. 4 habitat units, 0.78 linear units and 0.00 river units, representing an overall gain of **+122.68 % habitat units** and **+1,940.07% linear** whilst 0% for river units (NB: no river units on site).

Assuming that the current plans are adhered to, there will be no need to propose off site mitigation and enhancement and it would be a relative biodiversity net gain for the size of the site.

There **will be need to have a long -term ecological management plan, covering a minimum of 30 years**, to be designed by a suitable qualified ecologist. This is especially relevant as the proposed species-rich grassland will require careful management so that it does not revert to rank grass-dominated grassland, assuming the right criteria is adhered to, with the others being moderate which is considered to be far more practical and achievable. The management prescriptions need to be outlined in a dedicated management report.

5. BIBLIOGRAPHY

Birmingham & Black Country Biodiversity Action Plan
http://www.bbcwildlife.org.uk/what-we-do/biodiversity/bap-update

Butcher, B., Carey, P., Edmonds, R., Norton, L. & Treweek, J. 2020. The UK Classification User Manual Version 1.1 .

BBOP The good practice principles set out by - http://bbop.forest-trends.org/pages/guidelines

Crosher, I., Gold, S., Heaver, M., Heydon, M., Moore, L., Panks, S., Scott, S., Stone, D. & White, N. 2019a. The Biodiversity Metric 2.0: auditing and accounting for biodiversity value. User guide (Beta Version, July 2019). Natural England

Crosher, I., Gold, S., Heaver, M., Heydon, M., Moore, L., Panks, S., Scott, S., Stone, D. & White, N. 2019b. The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value: technical supplement (Beta version, July 2019). Natural England

Department for Environment, Food and Rural Affairs - https://www.gov.uk/government/collections/biodiversity-offsetting

Department for Environment, Food and Rural Affairs (Defra). (2012). Technical Paper: the metric for the biodiversity offsetting pilot in England. Available: https://www.gov.uk/government/publications/technical-paper-the-metric-for-the-biodiversity-offsetting-pilot-in-england

Department for Environment, Food and Rural Affairs 2020. UK Biodiversity Indicators 2020.

IUCN The good practice set out by the - www.iucn.org/theme/business-and-biodiversity/our-work/business-approaches-and-tools/biodiversity-offsets

Joint Nature Conservancy Committee 1990. Handbook for Phase 1 habitat survey- a technique for environmental audit. Joint Nature Conservancy Committee, Peterborough.

Natural England 2021. The Biodiversity Metric 3 – Technical Manual Natural England Joint Publication JP039

Rodwell J. S (ed.) (1991) *British Plant Communities (Vol. 1), Woodlands and scrub* Cambridge University Press.

Rodwell J. S (ed.) (1991) *British Plant Communities (Vol 2), Mires and heaths* Cambridge University Press.

Rodwell J. S (ed.) (1992) *British Plant Communities (Vol. 3), Grasslands and montane*

communities Cambridge University Press.

Rodwell J. S (ed.) (1995) *British Plant Communities (Vol. 4), Aquatic Communities, swamps and tall-herb fens* Cambridge University Press.

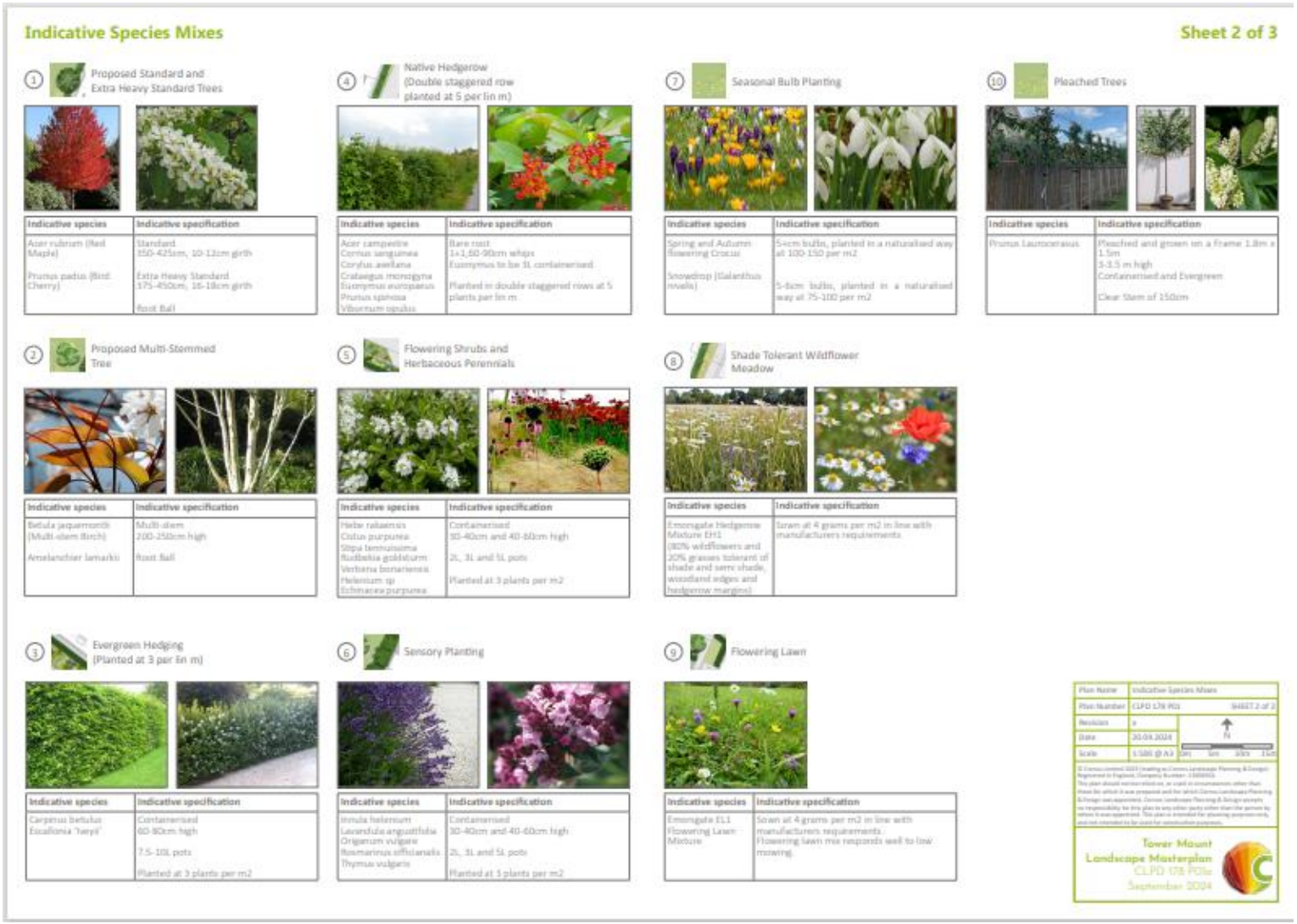
Rodwell J. S (ed.) (2000) *British Plant Communities (Vol. 5), Maritime communities and vegetation of open habitats.* Cambridge University Press.

Worcestershire Wildlife Consultancy 2024a. Land & Building at Tower Mount, Reservoir Road, Edgbaston, Birmingham, West Midlands - Preliminary Ecological Appraisal (report ref. 2024/003 A)

Worcestershire Wildlife Consultancy 2024b. Land & Building at Tower Mount, Reservoir Road, Edgbaston, Birmingham, West Midlands – Biodiversity Net Gains Assessment (report ref. 2024/003 B)

Appendix 1: Site Maps

NB: Please refer to Simply Plannings separate pdf of the landscaping plan for clarity.



Indicative Species Mixes

Sheet 2 of 3

1 Proposed Standard and Extra Heavy Standard Trees

Indicative species	Indicative specification
Acer rubrum (Red Maple) Prunus padus (Bird Cherry)	Standard 350-425cm, 10-12cm girth Extra Heavy Standard 375-450cm, 16-18cm girth Root Ball

4 Native Hedgerow (Double staggered row planted at 5 per lin m)

Indicative species	Indicative specification
Acer campestre Cornus sanguinea Corylus avellana Crataegus monogyna Euonymus europaeus Prunus spinosa Viburnum opulus	Bare root 1+1,60-90cm whips Euonymus to be 3L containerised Planted in double staggered rows at 5 plants per lin m

7 Seasonal Bulb Planting

Indicative species	Indicative specification
Spring and Autumn flowering Crocus Snowdrop (Galanthus nivalis)	5-4cm bulbs, planted in a naturalised way at 100-150 per m2 5-6cm bulbs, planted in a naturalised way at 75-100 per m2

10 Pleached Trees

Indicative species	Indicative specification
Prunus Laurocerasus	Pleached and grown on a Frame 1.8m x 1.5m 3-3.5 m high Containerised and Evergreen Clear Stem of 150cm

2 Proposed Multi-Stemmed Tree

Indicative species	Indicative specification
Betula jacquemontii (Multi-stem Birch) Amelanchier lamarkii	Multi-stem 200-250cm high Root Ball

5 Flowering Shrubs and Herbaceous Perennials

Indicative species	Indicative specification
Hebe rakaensis Cistus purpureus Stipa tenuissima Rudbekia goldsturm Verbena bonariensis Helenium sp Echinacea purpurea	Containerised 30-40cm and 40-60cm high 2L, 3L and 5L pots Planted at 3 plants per m2

8 Shade Tolerant Wildflower Meadow

Indicative species	Indicative specification
Emorsgate Hedgerow Mixture EH1 (80% wildflowers and 20% grasses tolerant of shade and semi shade, woodland edges and hedgerow margins)	Sown at 4 grams per m2 in line with manufacturers requirements

3 Evergreen Hedging (Planted at 3 per lin m)

Indicative species	Indicative specification
Carpinus betulus Escallonia 'Iveyi'	Containerised 60-80cm high 7.5-10L pots Planted at 3 plants per m2

6 Sensory Planting

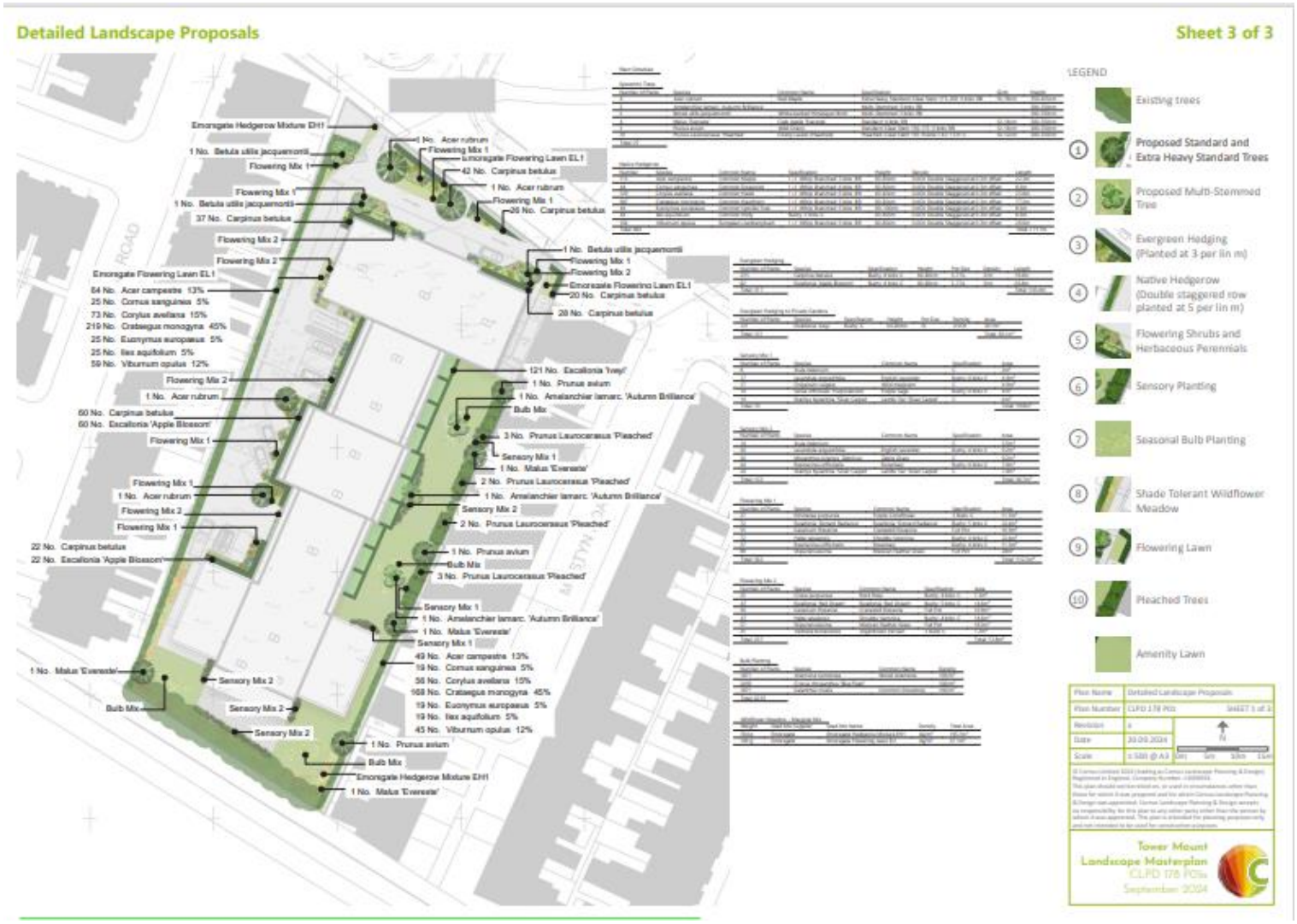
Indicative species	Indicative specification
Inula helenium Lavandula angustifolia Origanum vulgare Rosmarinus officianalis Thymus vulgaris	Containerised 30-40cm and 40-60cm high 2L, 3L and 5L pots Planted at 3 plants per m2

9 Flowering Lawn

Indicative species	Indicative specification
Emorsgate EL1 Flowering Lawn Mixture	Sown at 4 grams per m2 in line with manufacturers requirements. Flowering lawn mix responds well to low mowing

Plan Name	Indicative Species Mixes
Plan Number	CLPD 178 P01
Revision	a
Date	30.09.2024
Scale	1:500 @ A3

Tower Mount
Landscape Masterplan
CLPD 178 P01a
September 2024



Map 1a-C: Proposed Site Layout and details

Map 1d: Proposed Site Layout – UK Habs Map

Appendix 2: Condition Assessment

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)			
UK Habitat Classification (UKHab) Habitat Type			
Grassland - Modified grassland			
On-site or off-site, site name and location	onsite Land & Building at Tower Mount, Edgbaston	**Survey date and Surveyor name**	28/02/2024 Joshua Evans of Worcestershire Wildlife Consultancy
Limitations (if applicable)	Undertaken outside the growing season late Winter 2024. However, given the environment and situation at the rear of the building and that it appears to have been moderately maintained in the past, it would that the site is species-poor and unlikely to have many of pioneer nectar rich vascular plants in urbanised brownfield sites	**Survey reference (if relating to a wider survey)**	
Grid reference	SP 04601 86585	**Habitat parcel reference**	
Habitat Description			
Whilst a number of ruderal plants bryophytes were noted around and on site, there were scattered around the fringes of the hard standing area. The southern habitat in between the Leyland cypress hedgerow and rear elevation of the buildings, did have some vascular species in accumulations though, forming grassy areas.. These areas have small areas of shrubs, ruderals along with some bryophytes. Vascular plants noted including bramble (Rubus fruticosus agg.), creeping thistle (Cirsium arvense), saplings of butterfly bush (Buddleja davidii), knotgrass (Polygonum aviculare agg.), greater willowherb (Epilobium hirsutum), common nettle (Urtica dioica), wall barley (Hordeum murinum), curled dock (Rumex crispus), groundsel (Senecio vulgaris), mugwort (Artemisia vulgaris), barren brome (Anisantha sterilis), annual meadow grass (Poa annua), evening primrose (Oenothera sp) and cat's-ear (Hypochaeris radicata). The rear area of bare earth and patch grasses included common bent (Agrostis capillaris), creeping bent (A. stolonifera), perennial ryegrass (Lolium perenne), Timothy grass (Phleum pratensis), cock's-foot grass (Dactylis glomerata), red fescue (Festuca rubra), rough meadow-grass (Poa trivialis), annual meadow-			

grass (Poa annua) and Yorkshire fog (Holcus lanatus). Common herbs include yarrow (Achillea millefolium), chickweed (Stellaria media), greater plantain (Plantago major), ribwort plantain (P. lanceolata), dandelion (Taraxacum officinale agg.), creeping buttercup (Ranunculus repens), curled dock (Rumex crispus), red deadnettle (Lamium purpureum) and prickly sow-thistle (Sonchus asper). Bryophytes noted growing on a range of habitats included Tortula muralis, Brachythecium rutabulum, Bryum dichotomum, Ceratodon purpureus, Didymodon fallax, D. insulanus, Grimmia pulvinata, Hypnum cupressiforme agg., Schistidium crassipilum, Syntrichia intermedia, Syntrichia ruralis subsp. Ruraliformis and S. ruralis subsp. Ruralis.

ukhab – UK Habitat Classification

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	No - The	There are less than 9 characteristic species per metre squared. Essentially it has developed over an urban habitat and thus species poor.

B	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 vertebrates and invertebrates to live and breed.	No	Height at time of appraisal was <20% greater than 7cm and the sward was not varied in height
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes	Bramble and scrub development accounted for less that 20% of the rear area
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes	Physical damage absent
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	No	There are areas of bare ground >10%

F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Yes	Bracken absent
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Yes	
Essential criterion achieved (Yes or No)			No
Number of criteria passed			4
Condition Assessment Result (out of 7 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**	
Passes 6 or 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)		

Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	✓	
Suggested enhancement interventions to improve condition score			

Appendix 3: Ecological Experience

Joshua Evans BSc (Hons) MCIEEM

Consultancy Manager & Principal Ecologist

Joshua joined the team in 2008, previously working as an independent consultant, prior to that he worked for the National Trust and Forestry Commission as an ecological surveyor. For the last 27 years he has worked in both the conservation and consultancy sector. Many of these years were in woodland conservation and management. He is an experienced ecologist with particular expertise in terrestrial and aquatic invertebrates, amphibians, reptiles, small mammals, riparian mammals and bats and holds Natural England (NE) and Natural Resources Wales licences for bats, dormice, great crested newts, white-clawed crayfish and barn owls. He is also an experienced botanist with National Vegetation Classification skills, the recent UK Habitat Classification System and an experienced bryologist. In addition, has experiences in biodiversity net gains and offsetting and being involved in range of conservation and developmental management plans including heritage projects and habitat restoration.

WORCESTERSHIRE wildlife CONSULTANCY

ECOLOGY SURVEYS & ASSESSMENT
MITIGATION & CONSERVATION
ECOLOGICAL MANAGEMENT PLANS & ADVICE
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Worcestershire Wildlife Consultancy provides an independent professional ecological service, encompassing a broad range of ecological knowledge and skills. While maintaining a local focus within the Midlands and Cotswolds, we also operate throughout the UK.

We offer a competitive pragmatic solution based environmental service to the business and development sector, local authorities, public utilities, Natural England and non-governmental organizations (NGOs), as well as individual clients.

Worcestershire Wildlife Consultancy (WWC) has been the consultancy for Worcestershire Wildlife Trust since 1988, providing a wealth of experience to the environmental and ecological sector. All the profits of the ecological Consultancy are donated to Worcestershire Wildlife Trust and used to support its charitable work throughout the County.

Worcestershire Wildlife Consultancy has wide-ranging ecological and environmental expertise and a team of specialist associates allowing us to offer a comprehensive list of ecological services:

- **Phase 1 Habitat Surveys**
- **Protected Species Surveys**
- **Bat Surveys**
- **Great Crested Newt Surveys**
- **Reptile Surveys**
- **Badger Surveys**
- **Nesting Bird Surveys**
- **Breeding Bird Surveys**
- **Barn Owl surveys**
- **Otter & Water Vole Surveys**
- **Dormouse Surveys**
- **Invertebrate surveys**
- **Small Mammal Surveys**
- **Botanical Surveys (incl. NVC – National Vegetation Survey)**
- **Hedgerow Surveys**
- **Invasive Weed Surveys**
- **Protected Species Licence Applications (incl. Bat Low Impact Class licence)**
- **Ecological Clerk of Works**
- **Mitigation Advice & Implementation**
- **Monitoring – Botanical & Wildlife**
- **BREEAM Assessments (incl. Code for Sustainable Homes)**
- **Ecological Impact Assessments**
- **Ecological Planning Advice**
- **GIS Analysis**
- **Pond Surveys**
- **River Corridor Surveys**
- **Habitat Management Plans**
- **Habitat Creation/Restoration Advice & Implementation**
- **Arboricultural Surveys**
- **Training/CPD**