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# Greggs Bakery / Twickenham

## Biodiversity Net Gain

Prepared by Richard Graves Associates

05 August 2022



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**BIODIVERSITY NET GAIN REPORT FOR THE FORMER GREGGS BAKERY SITE,  
TWICKENHAM - SCHEME 1 - RESIDENTIAL LED**

<b>Project</b>	<b>Prepared By</b>	<b>Approved by</b>	<b>Client</b>	<b>Status</b>	<b>Date</b>
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## INTRODUCTION

### Instruction

Richard Graves Associates were instructed by London Square Developments Ltd to complete a Biodiversity Net Gain (BNG) calculation for land at the former Greggs Bakery in Twickenham.

### Background

The site is located to the south of is centred at Ordnance Survey (OS) grid reference: The Greggs Bakery Site covers approx. 1.1 hectare (ha), centred at Ordnance Survey (OS) grid reference: TQ 15321 73342, and is located in the London Borough of Richmond upon Thames in South West London. The site is situated in a largely residential neighbourhood.

Immediately north of the site is the River Crane and the railway line and to the south of the site are a number of light industrial buildings

*The proposals are for the “Demolition of existing buildings (with retention of a single dwelling) and redevelopment of the site to provide up to 116 residential units and 175 sqm commercial floorspace (Use Class E) with associated hard and soft landscaping, car parking and highways works and other associated works”*

### Project Ecologist

Richard Graves BSc (Hons) MSc PGDip CEcol CEnv FCIEEM has been appointed as the project ecologist for the former Greggs Bakery site. Richard is the director of Richard Graves Associates with over 27 years’ experience of ecological issues in relation to development projects. Richard is a chartered ecologist and environmentalist and fellow of the Chartered Ecology and Environmental Management (CIEEM) and holds survey licences for protected species.

### Biodiversity Net Gain Requirements

A BNG calculation has been requested by the local Planning Authority (LPA), The London Borough of Richmond upon Thames by way of fulfilling the requirements of the National Planning Policy Framework (NPPF) (DCLG, 2021).

The NPPF – which applies only to England – was first published in 2012. It provides the framework for producing local plans for housing and other development, which in turn provide the background against which applications for planning permission are decided.

The NPPF must be taken into account in preparing the development plan and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.

The current London Plan addresses Biodiversity Net Gain with reference to Urban Greening [urban greening and bng design guide march 2021.pdf \(london.gov.uk\)](https://www.london.gov.uk/asset-upload/urban-greening-and-bng-design-guide-march-2021.pdf)

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



- 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
- Development on land within or outside a Site of Special Scientific Interest (SSSI), 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 SSSIs
- 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 and a suitable compensation strategy exists
- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity. 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.

Of particular significance in the 2021 amendments, the NPPF now requires opportunities to incorporate biodiversity improvements in and around development. This demonstrates further steps taken by the government towards achieving the 25 Year Environment Plan (2018) which sets out the aspiration to mainstream BNG in the planning system and move towards approaches that integrate natural capital benefits.

The site is not an SSSI, contains no irreplaceable habitats. The proposals do not result in significant harm to biodiversity and opportunities to deliver biodiversity improvements have been maximised as part of the landscaping and architectural design.



## BIODIVERSITY NET GAIN - APPROACH

### Introduction

Biodiversity is essential to sustain our society and economy. Enhancing biodiversity is integral to sustainable development, and BNG is an approach to embed and demonstrate biodiversity enhancement within development. It involves first avoiding and then minimising biodiversity loss as far as possible and achieving measurable net gains that contribute towards local and strategic biodiversity priorities. BNG does not apply to statutorily designated sites or irreplaceable habitats.

BNG is defined as *“development that leaves biodiversity in a better state than before, and an approach where developers work with local governments, wildlife groups, landowners and other stakeholders in order to support their priorities for nature conservation.”* (Baker, 2019)

Achieving BNG relies on the different stakeholders recognising the aims, and sometimes constraints, of each stakeholder involved. Stakeholders are defined as *“individuals and organisations who are actively involved in the project, or whose interests may be positively or negatively affected as a result of project execution or successful project completion”*. At a strategic level, national policies set the context for LPAs and corporate strategies drive an organisation’s BNG agenda. At the project level, stakeholders influence decisions through consultations and how they communicate and collaborate.

BNG should be proportionate to the development and the potential impact on biodiversity. Such proportionate approaches are more likely to be achieved if strategically planned for and incorporated within local plans from the outset.

The Environment Act 2021 (HMG, 2021) received royal assent in November 2021.

Mandatory BNG as set out in the Environment Act 2021 (HMG, 2021) applies in England only by amending the Town & Country Planning Act (TCPA) and is likely to become law in 2023. The Act sets out the following key components to mandatory BNG:

- Minimum 10% gain required calculated using Biodiversity Metric & approval of net gain plan.
- Habitat secured for at least 30 years via obligations/conservation covenant.
- Habitat can be delivered on-site, off-site or via statutory biodiversity credits.
- There will be a national register for net gain delivery sites.
- The mitigation hierarchy still applies of avoidance, mitigation and compensation for biodiversity loss.
- Does not apply to Nationally Significant Infrastructure Projects (NSIPs) or marine development.
- Does not change existing legal environmental and wildlife protections.



The current Biodiversity Metric 3.0 was launched in July 2021 by DEFRA. The Biodiversity Metric is designed to provide ecologists, developers, planners and other interested parties with a means of assessing changes in biodiversity value (losses or gains) brought about by development or changes in land management. The Metric is a habitat based approach to determining a proxy biodiversity value.

BNG is now mandated in The Environment Act 2021, a minimum of 10% net gain will be required, once regulations are issued, by most developments, but currently this is an aspirational percentage.

There will be some exceptions to the BNG requirement, for example permitted development or minor householder applications, although this will be detailed in secondary legislation, which means that the regime is not expected to be implemented until 2023.



## THE MITIGATION HIERARCHY

The mitigation hierarchy is the cornerstone of achieving BNG. The sequential order of mitigation actions is listed below:

1. Avoidance: This first stage is to avoid harm to biodiversity, for example, by locating to an alternative site.
2. Minimisation: If avoiding all adverse effects is not possible, action is taken to minimise these effects, which can include timing works to avoid sensitive periods.
3. Compensation: Addressing residual adverse effects is the final stage, only considered after all possibilities for avoiding and minimising the effects have been implemented. Compensation does not prevent the effects, rather it involves measures to make up for residual effects that cannot be prevented.

Offsetting is a form of compensation that trades losses of biodiversity in one location with measurable gains in another – biodiversity offsets have a formal requirement for measurable outcomes. Offsetting losses of biodiversity with gains elsewhere can be within or outside of the development footprint.

By following the mitigation hierarchy, developers should demonstrate that they have tried to maximise habitat retention and creation on site, before considering off-site locations. If they choose an off-site location, the Government expects a range of offset providers to offer their land, for example local authorities, wildlife trusts or bespoke offset providers.



## **STAKEHOLDER ENGAGEMENT**

Good practice for BNG is to engage stakeholders early in the process; this can significantly improve the biodiversity outcomes. The scale of the stakeholder engagement should be proportionate to the size of the project.

The following stakeholders have been identified:

- The London Borough of Richmond upon Thames
- The Greater London Authority (GLA)
- Friends of the River Crane Environment (FORCE)
- Project team, (Client, Landscape Architects, Architects)
- Richard Graves Associates Ltd



## BASELINE CONDITIONS

The following baseline habitats in Table 1 were identified from site visits and have subsequently been measured for the BNG calculation using the Metric 3.0. The habitats have been translated into UK Habitat Classifications using the UKHab (Baker, 2019)/Phase 1 Translation tool within the Metric and knowledge of the Classification system.

The site is adjacent to the River Crane which is a wildlife corridor. For the purpose of the calculation this has been interpreted as *“Location ecologically desirable but not in local strategy”* in the strategic significance column.

**Table 1: Baseline habitat types and sizes**

Habitat type (Phase 1) with comments	Habitat type (UK Habitat Classification) for use within the Metric	Size of habitat type (area ha / length km)
Buildings and Hardstanding	Urban - Artificial unvegetated, unsealed surface	1.1 ha
	<b>Total Site Area:</b>	<b>1.1 ha</b>



## ONSITE HABITAT CREATION

Habitat creation is the removal or loss of an existing habitat to create a new, different habitat. It can also involve creating habitat where none was previously present (including from bare earth and hardstanding). Habitat enhancement is increasing the biodiversity value of an existing habitat, for example by improving its biodiversity capacity or removing factors that degrade its value. When designing BNG, a mixture of habitat creation and enhancement can be appropriate.

Table 2 summarises the habitat creation in terms of the Metric 3.0 calculation. The species lists are detailed in the Landscape Strategy produced by Planit I.E. Ltd. The habitat types are taken from those used in the Urban Greening Factor (UGF) produced by Assael translated into the best available UK Habitat Classification habitat that can be selected in the metric. Where it is necessary for the project ecologist to select the most appropriate habitat equivalent to the UGF types a conservative approach has been used, so that BNG is under, rather than over estimated.

**Table 2: Habitat types and sizes - Habitat creation**

Enhancement / new feature	Size (ha/km)
Semi-natural vegetation created on site / Introduced Shrub	0.026 ha
Intensive Green Roof	0.0137 ha
Standard Trees (Soils and Pits) / Urban Tree	0.2864 ha
Extensive Green Roof <sup>1</sup>	0.0274 ha
Amenity Grassland / Modified Grassland	0.0622 ha
Permeable Paving	0.3995 ha
Sealed Surfaces / Artificial Un-vegetated Unsealed Surface	0.5 ha
Hedgerow / Native Species Rich Hedgerow	0.01 km
	Retained Habitats:
	0
	<b>Total Site Area:</b>
	<b>1.1 ha</b>

<sup>1</sup> Intensive Green Roof has been substituted for extensive to account for a known error in the metric [The Biodiversity Metric 3.0 - IP039 \(nepubprod.appspot.com\)](https://www.gov.uk/guidance/the-biodiversity-metric-3-0)



## BIODIVERSITY NET GAIN RESULTS

The Headline results from the Metric 3.0 are shown below in Table 3.

**Table 3: BNG Headline Results**

Former Greggs Bakery		Return to results menu	
Headline Results			
On-site baseline	<i>Habitat units</i>	0.00	
	<i>Hedgerow units</i>	0.00	
	<i>River units</i>	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	2.09	
	<i>Hedgerow units</i>	0.04	
	<i>River units</i>	0.00	
On-site net % change (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	100.00%	
	<i>Hedgerow units</i>	100.00%	
	<i>River units</i>	0.00%	
Off-site baseline	<i>Habitat units</i>	0.00	
	<i>Hedgerow units</i>	0.00	
	<i>River units</i>	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00	
	<i>Hedgerow units</i>	0.00	
	<i>River units</i>	0.00	
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	2.09	
	<i>Hedgerow units</i>	0.04	
	<i>River units</i>	0.00	
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	100.00%	
	<i>Hedgerow units</i>	100.00%	
	<i>River units</i>	0.00%	
Trading rules Satisfied?	Yes		

The master Metric 3.0 has been included as a separate document (Excel spreadsheet).

The results show a total net percentage change of 100% for habitat units, reflecting a loss of no habitat units and a gain of 2.09 habitat units resulting from implementing the proposals.

Planting of new native species rich hedgerows would generate 0.04 units, a 100% net gain in hedgerow units.

This has exceeded the aspirational '10%' change for habitat and hedgerow units and the trading rules for the calculation are satisfied.

The drawings of baseline and proposed habitats are shown as Appendix A.



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**APPENDIX A**

**Figure 1 Baseline Habitats**





- Legend**
- Indicative site boundary
  - A3.1 Broadleaved parkland/scattered trees
  - J2.4 Fence
  - J2.5 Brick wall
  - J3.6 Buildings
  - J5 Hardstanding
  - 01 Target note

Note: All areas and locations are approximate and indicative

0	08/01/2019	FIRST ISSUE	JMG	SC	RG
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**Project**  
Greggs Bakery, Twickenham

**Drawing title**  
Figure 3: Phase 1 Habitats 2018

Scale	1:1000 @ A3	Drawn	08 January 2019
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Drawing number	Rev
19RG-01-01	0

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## Figure 2 Habitats after Development





General notes

This drawing must not be scaled. This drawing must not be used for land transfer purposes. The areas listed are approximate only and have been measured from the [DRAWING TYPE, e.g. preliminary drawings, survey etc.] listed below.

[LIST DRAWINGS AND REVISIONS]

Areas are measured and calculated generally in accordance with RICS Property Measurement, 2nd Edition (January 2018). All areas have been calculated in metric units.

Construction tolerances, workmanship and design by others may affect the stated areas. Existing buildings and structures may present anomalies in relation to surveyed/drawn plans that may also affect the stated areas. All these factors should be considered before making any decisions on the basis of these predictions, whether as to project viability, pre-letting, lease agreements or otherwise, and should include due allowance for the increases and decreases inherent in the design and construction processes.

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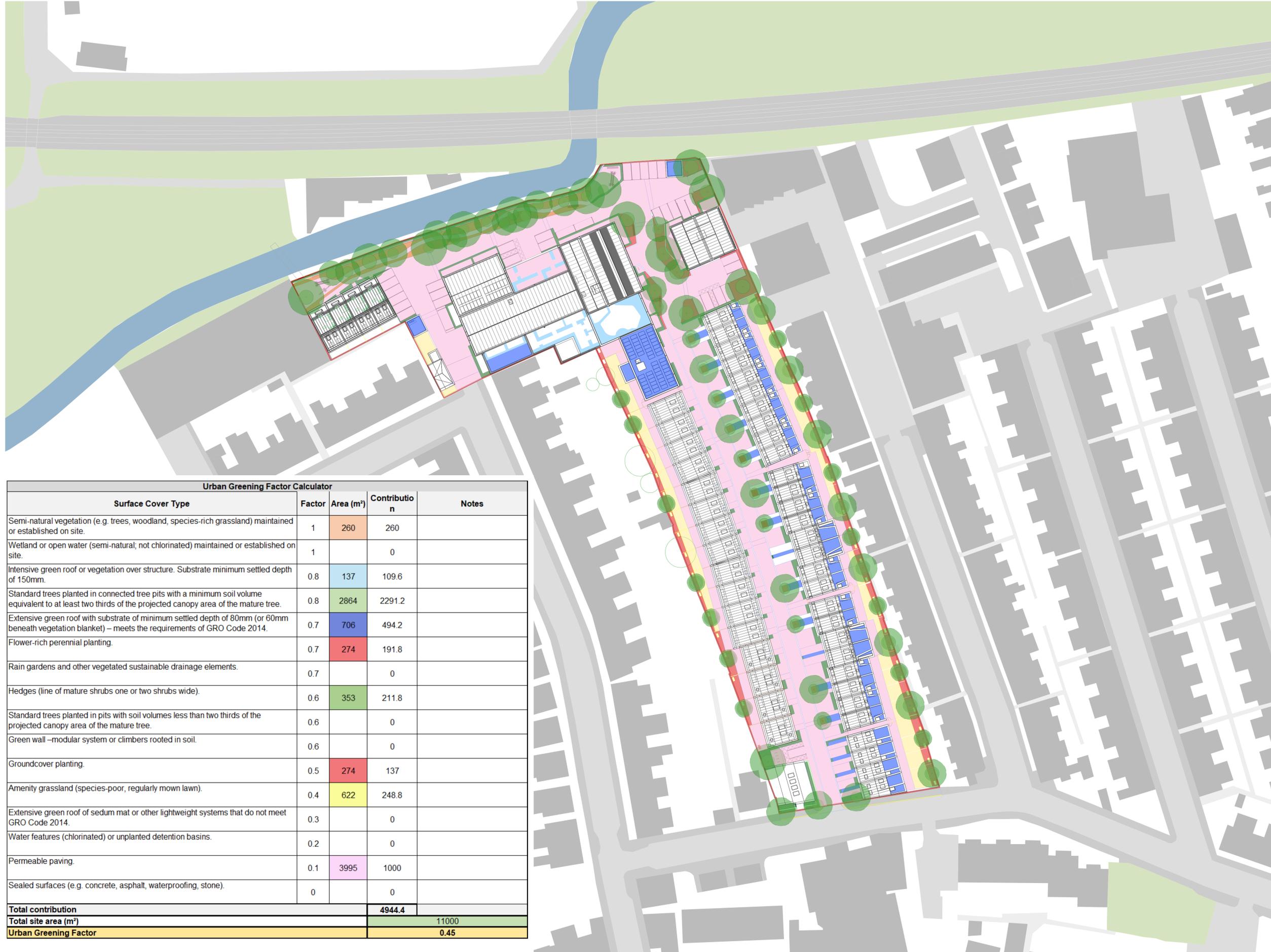
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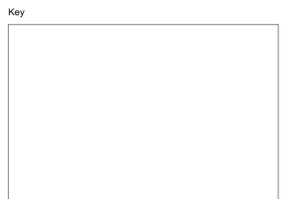
Electronic file reference

GBT-ASA-ZZ-ALL-DR-L-0100-RESI.vwx

Rev	Revision note	Date	Drawn Check
1	Draft issue for coordination	17.02.22	GR



Urban Greening Factor Calculator				
Surface Cover Type	Factor	Area (m <sup>2</sup> )	Contribution	Notes
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1	260	260	
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1		0	
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8	137	109.6	
Standard trees planted in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree.	0.8	2864	2291.2	
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014.	0.7	706	494.2	
Flower-rich perennial planting.	0.7	274	191.8	
Rain gardens and other vegetated sustainable drainage elements.	0.7		0	
Hedges (line of mature shrubs one or two shrubs wide).	0.6	353	211.8	
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6		0	
Green wall –modular system or climbers rooted in soil.	0.6		0	
Groundcover planting.	0.5	274	137	
Amenity grassland (species-poor, regularly mown lawn).	0.4	622	248.8	
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3		0	
Water features (chlorinated) or unplanted detention basins.	0.2		0	
Permeable paving.	0.1	3995	1000	
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0		0	
<b>Total contribution</b>			<b>4944.4</b>	
<b>Total site area (m<sup>2</sup>)</b>				<b>11000</b>
<b>Urban Greening Factor</b>				<b>0.45</b>



Client Title Block

Client

**London Square**

Project title

**Greggs Bakery Site  
Twickenham**

Drawing title

**Proposed Residential Scheme  
Urban Greening Strategy**

Scale @ A1 Issue date

**1:500 17.02.22**

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**Landscape**

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