

13 – 16
Market Place
Reading
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Bio-diversity Net Gains Assessment

June 2023

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1.0 INTRODUCTION

Danks Badnell Architects. Ltd have prepared this Biodiversity Net Gains Assessment to accompany a Full Planning Application for the demolition of the rear additions to the original Bank building, the replacement of the ground floor retail area together with an upper floor extension to the rear of the site to create 11 apartments. Together with, the renovation of the Listed Building and conversion of the upper floors to residential use to create 4 no. apartments.

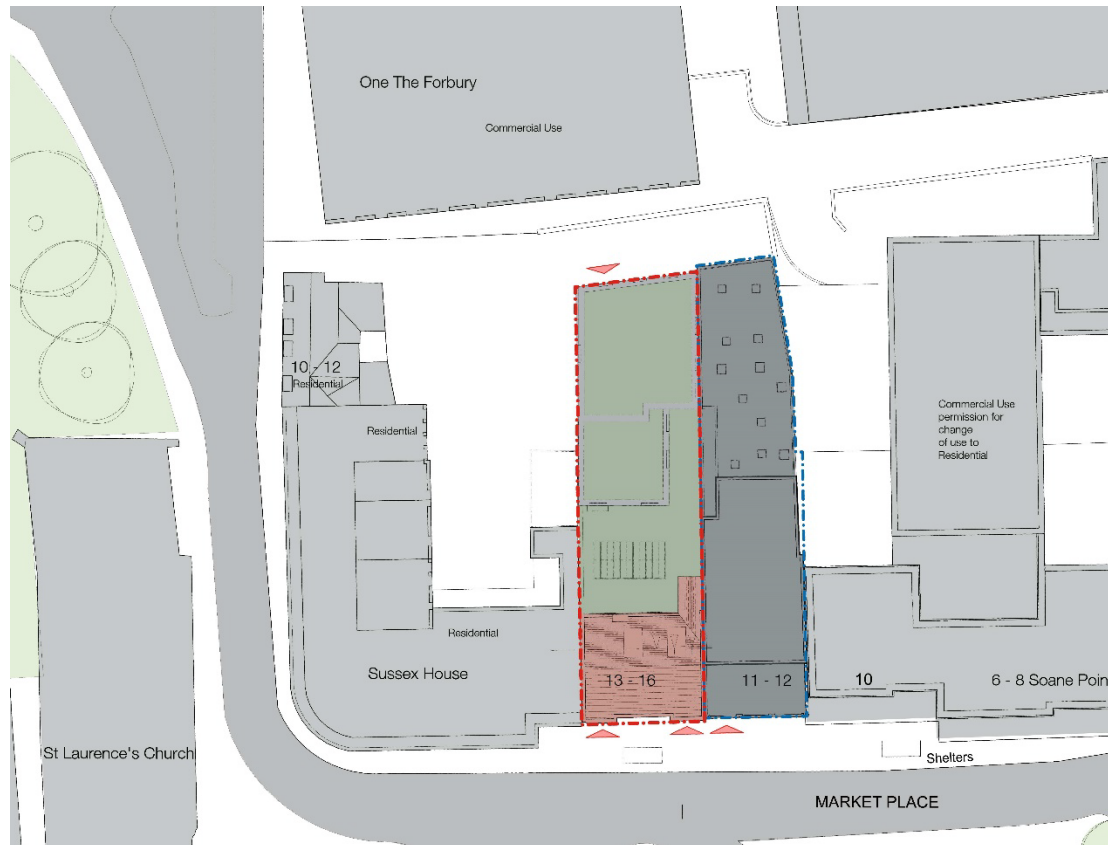
One of the aims of this study is to assess and calculate the biodiversity value of the site and to assess and calculate the impacts of the proposed development on the site's biodiversity value, given as a net loss or gain in biodiversity units, in line with the NPPF and Local Plan policy.

Please refer to Appendix 5 for the full calculation (Excel spreadsheet) using the Small Sites Metric.

A Biodiversity Net Gain (BNG) Assessment was conducted, using the Metric 4.0, to calculate the impact of the proposed development on the natural environment. The calculation also ascertains whether the proposals achieve a net gain in biodiversity, calculated as biodiversity units and percentage biodiversity units.

To effectively assess the impact of the proposals the habitats within the site were classified according to the habitat types given in the UKHab classification system (Butcher *et al.*, 2020).

Habitats were assessed for their condition and strategic significance according to the criteria given within the Biodiversity Metric through site surveys including PEA, photographs and the interrogation of Internet resources including MAGIC (www.magic.gov.uk)



The areas of given habitats in both their current state and the proposed development were mapped using satellite imagery, and surveys with the resulting areas inputted into the Metric 4.0 alongside relevant habitat condition and strategic significance classifiers.

2.0 BIODIVERSITY NET GAIN CALCULATION

2.1 Habitat Status Before Development

The site comprises of a three storey listed building with roof, and a single storey rear extension, and a mixed use residential building, of five storeys with a two storey rear extension. The site is full fill with no landscaping.

The total site area is 592m².

Ref	Existing area habitats			Distinctiveness		Condition	
	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Score	Condition	Score
1	Urban	Developed land; sealed surface	0.0592	V.Low	0	N/A - Other	0
		Total habitat area	0.06				
		Site Area (Excluding area of Individual trees and Green walls)	0.06				

2.2 Habitat Condition Assessment

Habitat condition of 'developed land; sealed surface' is determined by the Metric itself, please refer to Appendix 6 (Excel spreadsheet with Metric 4.0).

In terms of habitat, The Living England Habitat map classed the site as a Built-up Areas and Gardens

In addition the site is on the edge of an area denoted by Magic Maps under the Farmland Bird Section by being an area where Lapwings are nearby. It is unlikely that they will frequent the urban environment as they nest in farmland.

2.3 Habitat Strategic Significance

The site is not located within an area of strategic significance with regard to conservation or biodiversity.

2.4 Habitat Status After Development

The demolition of the rear additions to the original Bank building, the replacement of the ground floor retail area together with an upper floor extension to the rear of the site to create 11 apartments. Together with, the renovation of the Listed Building and conversion of the upper floors to residential use to create 4 no. apartments.

There will be areas of roof that are proposed to be green roofs of 376m² to provide urban greening within the proposals. The roofs will be extensive green roofs with a wild flower blanket as detailed below.



Revision: October 2022 V3

SYSTEM SUMMARY

BauderGREEN WB Wildflower Blanket System

Biodiverse, native wildflower green roof solution

The pre-grown native wildflower blanket (BauderGREEN WB), allows the quick establishment of a green roof. The blanket typically has 40 varieties of British native wildflowers with less than 10% grass species. Collected in line with the Flora Locale Code it is designed to give a long flowering season (RHS perfect for pollinators and Buglife approved). The system is fully GRO and FLL compliant. A comprehensive range of guarantees are available for this system.



	Flora Locale Membership
	Royal Horticultural Society Perfect for
	Endorsed by Buglife (the invertebrate charity)

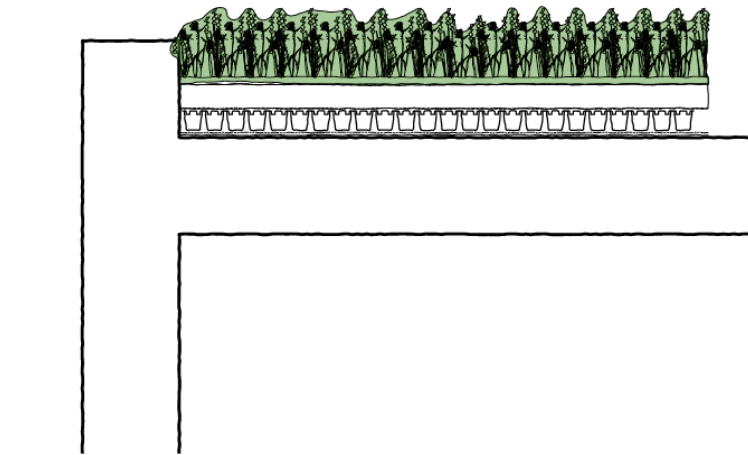
Product	Description	Thickness	Saturated weight
1 BauderGREEN WB native wildflower blanket*	Includes up to 40 of native wildflowers and herbs with less than 10% grass species. RHS Certified perfect for pollinators.	30mm blanket only	30kg/m ²
2 BauderGREEN SUB-BM UK biodiverse substrate	Lightweight growing medium for biodiverse green roof planting schemes manufactured to GRO and FLL guide lines and tested to BS8616.	100mm	120kg/m ²
3 BauderGREEN FV 125 100 filter fleece	Filtration layer that prevents substrate fines from washing into the drainage and water storage layer.	1mm	0.13kg/m ²
4 BauderGREEN DSE 40 drainage layer	DSE 40 is a light weight water storage and drainage layer made of 100% recycled HDPE.	40mm	15.3kg/m ² (water filled)
5 BauderGREEN FSM 600 protection layer	Is 100% recycled Polyester and polypropylene fibre mix protection layer to prevent mechanical damage to the underlying waterproofing.	4mm	3.6kg/m ²
6 Bauder's underlying waterproofing system	Various options for bituminous membrane, Hot Melt, Single ply or Cold applied liquid systems.	Not included	Not included
Green Roof System Build up (fully saturated, excludes waterproofing)		175mm	169kg/m²

*Bauder also produce sedum blanket solutions

Where to specify:

Ideally suited to native green roofs which are clearly visible and need a high aesthetic or where the quick establishment of vegetation is important.

Please note: All green roofs require water during times of drought. Bauder recommend that the watering and maintenance of this roof is considered and addressed during its design.



Bauder WB Native Wildflower Blanket

The vegetation blanket meets GRO recommendations and is specifically designed to flourish in the difficult conditions found on roofs. The blend of 38 British native wildflowers, herbs and grasses, that are included on most BAP lists, are sown on a 100% natural biodegradable coir blanket.

Bauder Native Wildflower Biodiverse, extensive Green roof to fourth floor

No tree or shrub planting is proposed as the green roofs are not accessible other than for maintenance.

2.5 Biodiversity Net Gain Matrix

The proposed green roof has a distinctiveness score of 2, and condition score of 1.

Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness		Condition	
			Distinctiveness	Score	Condition	Score
Urban	Developed land; sealed surface	0.0216	V.Low	0	N/A - Other	0
Urban	Other green roof	0.0376	Low	2	Condition Assessment N/A	1

The overall Biodiversity Net Gain is 0.07, which equates to a 100% improvement.

Area habitat summary	
Total Net Unit Change	0.07
Total Net % Change	100.00%
Trading Rules Satisfied	Yes ✓
Area Check (excluding individual trees and green walls)	Area Acceptable ✓