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FRANCIS CRICK INSTITUTE – BIODIVERSITY NET GAIN ASSESSMENT

RPS was commissioned by the Francis Crick Institute to undertake an assessment of Biodiversity Net Gain (BNG), of the level 5 and level 2 terrace works, in support of the upcoming planning application. The subsequent assessment and report was carried out by Hannah Knight MSc MCIEEM, Principal Ecologist.

Biodiversity Net Gain Definition and Methods

Biodiversity Net Gain is defined in Baker *et al* (2019)[1] as:

> *"Development that leaves biodiversity in a better state than before"*

The requirement for developments to seek to achieve BNG arises from the National Planning Policy Framework (NPPF), which states in Para. 174 that:

> *"Planning policies and decisions should contribute to and enhance the natural and local environment by … minimising impacts on and providing net gains for biodiversity."*

There is no single set method for quantifying the assessment of BNG, but one method is the use of biodiversity calculators to assess the biodiversity value of habitats pre- and post-development based on habitat type, distinctiveness and condition.

A biodiversity index is derived for the baseline and for the proposed development, and BNG is considered to be achieved where an increase in value is delivered (on or offsite), and where habitats of a higher value are not replaced exclusively with habitats of a lower value.

Defra made available its beta test update of its BNG assessment tool (version 3) in July 2021. This tool has been used for the assessment in this report. The tool and associated documents were downloaded from http://publications.naturalengland.org.uk/publication/5850908674228224

Planning Policy

Biodiversity and biodiversity net gain are now important consideration in the planning process and there is an expectation that developments should result in a 10% uplift in biodiversity over the existing situation.

Within the London Plan 2021, Policy G6 relates to both biodiversity and access to nature. The policy sets out that:

> *D. Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.*

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r, J., Hoskins, R. & Butterworth, T. (2019). *Biodiversity Net Gain – good practice principles for development.* Ciria, London.

Having regard to this requirement, the applicant's ecology advisor liaised in the pre-application stages with the Council's ecologist to ensure that the approach satisfied the Council's requirements under both the London Plan and the Camden Local Plan, plus Camden's Supplementary Planning Guidance.

The Camden Local Plan (2017) Policy A3 Biodiversity outlines that the Council will protect and enhance sites of nature conservation and biodiversity. The Council will assess developments against their ability to realise benefits for biodiversity through the layout, design and materials used in the built structure and landscaping elements of a proposed development, proportionate to the scale of development proposed.

Camden also has supplementary planning guidance on this issue in a Camden Planning Document dated 2018. This document must also be taken into account given it is a material consideration. The CPG sets out that applicants are expected to consider opportunities to improve biodiversity for proposal sites and its contents should be considered throughout the planning application process.

No specific BNG enhancement target is set within local policy, albeit that the Environment Act 2021, when it comes into effect, will mandate BNG, to ensure new developments deliver at least a 10% increase in biodiversity, using the DEFRA Metric.

Biodiversity Net Gain Assessment

The baseline for assessment of BNG used the Phase 1 Habitat Survey for the site produced as part of the original Preliminary Ecological Appraisal (RPS, September 2021). This report identified that the level 5 terrace comprised a biodiverse roof, with a small area of hardstanding (for maintenance purposes), whilst the level 2 terrace comprised solely hardstanding (paved).

The extent, distinctiveness and condition of the baseline habitats present on site is provided in the BNG excel spreadsheet, attached to this assessment, but is also detailed below, for ease of reference.

Description of pre-development habitats

Level 5 Terrace

Biodiverse (Extensive) Roof

The terrace on level 5 had, as part of the development of the Francis Crick Institute (planning approval: 2010/4721/P), been set-aside as a biodiverse roof; predominantly to provide habitat for black redstarts. However, owing to the height of the building and elevation of the level 5 terrace, part of the roof had failed to establish due to a lack of sunlight and the prevailing wind directions.

Species that were present on the unshaded part of the roof included ragwort *Jacobaea vulgaris*, yarrow *Achillea millefolium*, thistle *Carduus sp.,* chickweed *Stellaria media*, ribwort plantain *Plantago lanceolata*, bladder campion *Silene vulgaris*, sedums *Sedum sp.,* poppy *Papaver sp*., geranium *Pelargonium sp.,* and bristly ox tongue *Helminthotheca echioides*. Two log piles were present, although considering the isolated nature and limited vegetation on the roof, these are not considered to provide the desired result for species.

Notwithstanding the above, in line with discussions between the project ecologist (RPS) and the Council's ecologist, it was agreed that the condition of the roof should be taken to be that of which *should* be present, if the habitat had succeeded as originally intended, under the original planning approval, rather than the poorer condition that it was now demonstrating.

Based on that approach, the extensive green roof would meet the following criteria:

- Invasive, non-native species cover less than 5% of the total vegetated area; and
- There is a diverse range of species, providing nectar sources for insects.

It would not meet the following:

- Vegetation structure is varied. A single ecotone should not account for more than 80% of the total habitat area.

Based on the above, the biodiverse roof would be awarded a moderate habitat condition. However, as the conditions do not favour the establishment of the biodiverse system (nor is it likely they would ever, owing to the wind and heavy shading), and therefore, RPS considered the grading of the roof to fall within the *'fairly poor'* category as a result.

Developed Land

The remaining habitats on site comprised hardstanding, which was a maintenance strip surrounding the perimeter of the roof.

Level 2 Terrace

The level 2 terrace was comprised solely of paved hardstanding originally intended to be used as an amenity area but never utilised as such. No vegetation was present on this level at all although the Crick has indicated its intent to utilise this space as originally proposed, and this includes the location of planters and vegetation designed to contribute to the Crick's wider BNG enhancements associated with these proposals.

Description of proposed habitats with biodiversity benefits and outline management

Level 5 Terrace

Of the 200m^2 covered by the level 5 terrace, a small portion of this will remain as hardstanding, comprising the maintenance walkway and new café / kiosk. The remaining habitats will comprise a combination of the retained biodiverse roof, and new planting, chosen specifically to aid biodiversity. These habitats are described in more detail, below.

Retained (extensive) biodiverse roof

The scheme has been designed with the retention of the existing biodiverse roof in mind, and ensures that the roof will still function, in both of in terms of its biodiversity and drainage (see separate report).

The retained biodiverse roof will sit below a metal grate system (for details, refer to the full planning pack) and be replanted with the species mix which failed to properly establish under the previous permission. Regular watering, monitoring and weeding will be carried out as needed within the first year, to give this habitat the best chance of a successful re-establishment.

These areas will be monitored on an annual basis for the first five years following establishment, to ensure they are performing as intended. If, any remediation actions are required, a report will be prepared by RPS ecologists / landscape architects and implemented by the Francis Crick Institute. It may be that

the species mix needs to be adjusted, to provide species which are more tolerant to wind and shade; and this will be discussed with the maintenance team after the first year.

Enhanced (intensive) biodiverse roof

Select areas of the existing biodiverse roof will be enhanced, with the aim of providing a more intensive green roof and planted with a range of groundcover and grass species (similar to wildflower mounds), as outlined in the landscaping plans (RPS drawing no JSL3923_005). It is expected these areas will grow up through a wider metal grate system (again, for full details refer to the planning pack).

Species here have been chosen to be of specific benefit to wildlife and include a range of pollinators. The management of these areas will include regular watering and maintenance, to ensure establishment of the intended species, along with periodic weed removal (as necessary). These areas will be monitored on an annual basis for the first five years following establishment, to ensure they are performing as intended. If, any remediation actions are required, a report will be prepared by RPS ecologists / landscape architects and implemented by the Francis Crick Institute.

On the assumption that these areas will meet the following criteria, they are given a habitat condition of *fairly good*.

- Invasive, non-native species cover less than 5% of the total vegetated area;
- There is a diverse range of species, providing nectar sources for insects;
- Vegetation structure is varied. A single ecotone should not account for more than 80% of the total habitat area.

Introduced planting

Areas of introduced planting will be included along the southern boundary of the level 5 terrace. These areas include species which have been chosen with biodiversity in mind and include a variety of pollinators (both native and non-native). Introduced planting is, by default, given a habitat condition of poor.

Level 2 Terrace

Introduced planting

Areas of introduced planting will be included around the boundaries of the level 02 terrace. These areas include species which have been chosen with biodiversity in mind and include a variety of pollinators (both native and non-native). Introduced planting is, by default, given a habitat condition of poor.

Summary

The site, pre-development comprised of a biodiverse roof and hardstanding, and was given a pre-development score of **0.06** biodiversity units.

The post-development plans for the site include the retention and making good of the existing, retained biodiverse roof; the planting of new select areas intensive green roof areas, and shrub planting. Taking all of this into consideration, the outcome is a gain of **+2.82%.**

The establishment and ongoing management of the site should be monitored via an annual biodiversity audit, with any remedial actions noted and carried out by the relevant parties.

In order for the site to achieve a 10% BNG, it is recommended that further enhancements are made outside of the application (level 5) boundary, but within the ownership boundary of the Francis Crick.

An area where this could be achieved is the Ossulston Street gardens, whereby using half of the garden area (circa 0.015 ha), and replacing the current planting with a small, species-rich meadow, would ensure the development delivers a gain greater than 10% (the result would be a gain of +82.57%).

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Figure 1 – Pre-development Plans

Figure 2 – Post-development Plans