Ecological Enhancement Plan

Site: Westminster House

Client: Baden Prop Ltd.

Date: December 2024

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Quality Assurance

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Site assessments / surveys (where required) have been restricted to a level of detail required to achieve the stated objectives of the work.

Due to the temporal nature of ecology, the findings of this report should not be relied upon if a significant amount of time has passed, as defined by the Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines.

Contents

1.0 Summary....1
2.0 Introduction....2
3.0 Enhancement Measures....3
4.0 Management, Monitoring and Delivery....8
5.0 Conclusions....9
6.0 References....10
Appendix 1: Site Location Plan....11
Appendix 2: Red Line Boundary Plan....12
Appendix 3: Green Roof Technical Note....13
Appendix 4: Green Roof Plan and Bat and Bird Box Locations....22
Appendix 5: Green Roof Build-up....23

1.0 Summary

1.1 This report presents the Ecological Enhancement Plan (EEP) for the proposed development at Westminster House, Kew Road, Richmond (the site). The proposals are for the approved mixed-use development (Planning Reference: 23/3371/FUL) with the provision of the EEP required to address Planning Condition U0182958 Ecological Enhancements.

1.2 The site comprises the existing Westminster House building, with proposals to include a green roof and bat and bird boxes to provide biodiversity enhancements.

1.3 Details have been provided for appropriate ecological enhancements to be incorporated into the proposed development.

1.4 This document is considered sufficient to satisfy the requirements of Planning Condition U0182958 Ecological Enhancements.

1.5 Through incorporation of the measures set out in this report, it is considered that the proposals can deliver positive residual impacts in line with current wildlife legislation, chapter 15 of the NPPF (DLUHC, 2023); and local planning policies relevant to nature conservation.

2.0 Introduction

2.1 Crossland Ecology Ltd. was commissioned by Baden Prop Ltd. To provide an Ecological Enhancement Plan (EEP) for the proposed development at Westminster House, Kew Road, Richmond (the site). The proposals are for the approved mixed-use development (Planning Reference: 23/3371/FUL) with the provision of the EEP required to address Planning Condition U0182958 Ecological Enhancements whereby:

The roof extensions hereby approved shall not be occupied until an ecological enhancement plan has been implemented in accordance with details to be submitted and agreed in writing by the Local Planning Authority. Details should include specific location (including proposed aspect and height), specific product/dimensions and proposed maintenance.

2.2 This EEP aims to satisfy the above Planning Condition by providing details of the proposed ecological enhancements to be implemented. The EEP provides the required information in respect of the creation and management of ecological enhancements throughout the operational life of the proposed development.

Extent and Location of Proposed Works

2.3 The site comprises the existing Westminster House, centred at Ordnance Survey (OS) Grid Reference TQ 1807 7522 (Appendices 1 and 2), with planning permission approved for the following:

Creation of two additional levels of Class C3 accommodation comprising 7no.units, conversion and excavation of the existing Class E basement and part conversion of existing floorspace at basement, ground, first, second, and third floor levels to provide internal access and ancillary residential floorspace with external alterations and associated development.

2.4 The site currently has no biodiversity interest, comprising and existing four storey building of retail units, office accommodation and car parking. The site is located within an urban context, surrounded by existing commercial and retail buildings and Richmond Station. Proposals for the site include the provision of an extensive green roof, with additional opportunities to provide ecological enhancements within the development.

3.0 Enhancement Measures

3.1 This document has been prepared with reference to British Standards Institution (BSI) BS 42020:2013 'Biodiversity – code of practice for planning and development' (BSI, 2013) and The Chartered Institute of Ecology and Environmental Management's (CIEEM) and Technical Guidance Series 'Ecological Report Writing' (CIEEM, 2017a) and Code of Professional Conduct (CIEEM, 2022).

3.2 In addition to the provision of an extensive green roof, the Design and Access Statement (Child Graddon Lewis, 2023) identifies the inclusion of locations to be provided for bird, bat and swift boxes within the landscaping scheme.

Green Roof

3.3 The proposed green roof will comprise an area of c.70m^2 of extensive green roof, to be made up of a UK grown sedum blanket over an Extensive UK nominal 50mm deep extensive growing medium (or equal approved) (see Appendix 5). Additional design features will be incorporated as recommended in the Green Roof Technical Note (Crossland Ecology, 2024 [Appendix 3]) and shown in Appendix 4, in accordance with Planning Condition U0182956 Green Roof. Additional design features include:

- Provision of a variable (undulating) substrate depth of between 85mm and 150mm, with a minimum depth of 85mm;
- Inclusion of some areas of bare, unplanted substrate;
- Supplementing the sedum blanket with native and locally appropriate plants;
- Use of a broad range of flowering species with a minimum of around 15 species selected from those set out in Table 1; and
- Inclusion of other habitat features such as logs, rocks and boulders, stone piles and invertebrate 'hotels'.

Table 1: Species List for Extensive Green Roof – Minimum 15 Species to be included

Plant species	Common name
Herbs	
Ajuga reptans	Bugle
Anthyllis vulneraria	Kidney vetch
Centaurea nigra	Common knapweed
Centranthus ruber	Red valerian
Daucus carota	Wild carrot
Dianthus spp.	Pinks
Galium verum	Lady's bedstraw
Lamium album	White dead-nettle
Linaria vulgaris	Toadflax
Lotus corniculatus	Bird's foot trefoil
Lunaria annua	Honesty
Myosotis spp.	Forget me not sp.
Oenothera spp.	Evening primrose
Primula veris	Cowslip
Primula vulgaris	Primrose
Saxifraga oppositifolia	Saxifrage

Plant species	Common name
Scabiosa columbaria	Small scabious
Silene dioica	White campion
Silene noctiflora	Night flowering catch-fly
Silene vulgaris	Bladder campion
Thymus serpyllum	Creeping thyme
Trifolium spp.	Clover species
Viola tricolor	Pansy
Grasses	
Anthoxanthum odoratum	Sweet vernal-grass
Briza media	Quaking grass
Cynosurus cristatus	Crested dogstail
Festuca ovina	Sheep's fescue
Succulents – to be provided as part of the sedum blanket	
Sedum acre	Biting stonecrop
Sedum album	White stonecrop
Sedum anglicum	English stonecrop
Sedum fosterianum	
Sedum rupestre	Reflexed stonecrop
Sedum spectabile	Ice plant

Management and Maintenance

3.4 The green roof will be managed and maintained in accordance with the schedule set out in the Flood Risk and SUDS Assessment Rev2 (Base Energy, 2023) as per the requirements of Planning Condition U0182956. This includes regular inspections of soil substrate and vegetation, regular maintenance including replacement of any dead plants, removal of fallen leaves, debris and invasive vegetation, management of planting and removal of any vegetation arisings.

Bat Boxes

3.5 One bat box will be provided within the proposed development, to comprise an appropriate feature fixed onto the building. Whilst integrated features are generally preferred, it will be necessary for the bat box to be externally mounted[1]. This will be placed according to the following requirements:

- Located at a height of at least 4m above ground (preferably 5-7m) and close to the eaves if possible;
- Located at a minimum distance of 3m from any sources of artificial light (further if possible);
- Positioned in a sheltered location, avoiding strong winds; and
- Positioned to be exposed to the sun for at least part of the day – south, south-east or south-west facing.

[1] Due to the location and siting requirements for bat and bird boxes, it will not be possible to provide these as integrated features. The proposed development contains limited availability of appropriate facades for the installation of these features within the correct orientations or elevations. In order to ensure that the boxes are situated to maximise usage, and to fit in with the architectural and design requirements, the only way to provide bat and bird boxes will be to externally mount them; the surfaces with suitability for the boxes do not comprise an appropriate construction to allow integration.

3.6 Based on the above requirements the box would be best placed on the southern façade of the rooftop office plant enclosure as shown in Appendix 4.

3.7 The bat box to be used will comprise the Lela Bat Box or the Beaumaris Woodstone Bat Box (or similar approved) and will be installed as per the manufacturer's installation specifications (see Figures 1 and 2).

Figure 1: Lela Bat Box
Dimensions: 32.5 x 12 x 43cm (L x W x H)
Weight: 11.77kg

Figure 2: Beaumaris Woodstone Bat Box
Dimensions: 29 x 6 x 39cm (L x W x H)
Weight: 4.4kg

Images taken from *www.nhbs.com*

Management and Maintenance

3.8 The bat box will require minimal maintenance; the design and construction of the box ensures longevity and enables bat droppings to fall out, so no cleaning is required. Annual checks on fixtures and fittings will be necessary for safety purposes.

Bird Boxes

3.9 Four swift boxes and one sparrow terrace will be provided within the proposed development. As with the bat box, integrating the bird boxes within the development is not possible[1] therefore, they will need to be externally mounted. The bird boxes will be placed according to the following requirements:

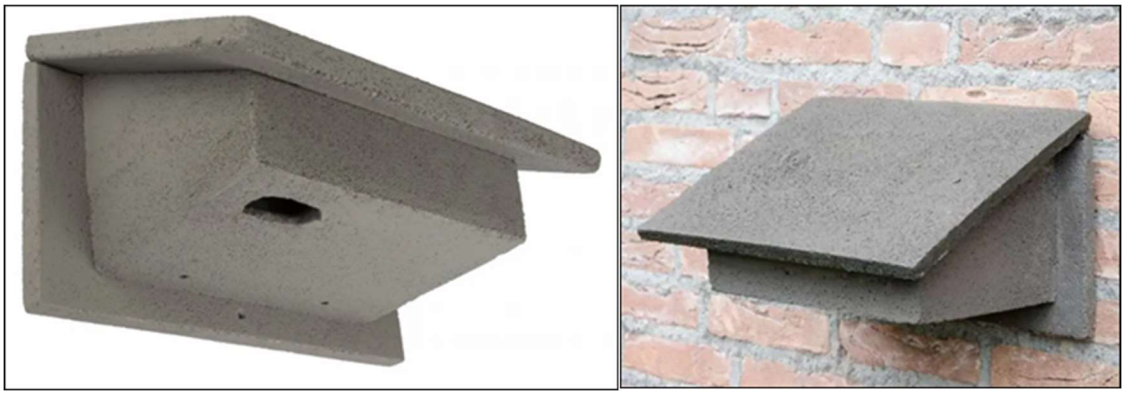
- Located away from direct sunlight, preferably facing between north and east (bird boxes should not be south facing);
- Located at a minimum height of 2.5m and a maximum height of 5m from ground level;
- Located away from windows and sources of artificial light;
- Swift boxes to be installed as per guidance provided in Leaflet 4 issued by Swift Conservation (Swift Conservation, 2019).

3.10 Based on the above requirements the boxes would be best placed on the northern and eastern façades of the rooftop office plant enclosure (Appendix 4).

3.11 The bird boxes to be used will comprise the Vivara Pro Woodstone House Sparrow Nest Box and the Vivara Pro Woodstone Swift Nest Box (or similar approved) and will be installed as per the manufacturer's installation specifications (see Figures 3 and 4).

Figure 3: Vivara Pro Woodstone House Sparrow Nest Box
Dimensions: 29 x 16 x 22cm (L x W x H)
Weight: 7.5kg

Figure 4: Vivara Pro Woodstone Swift Nest Box
Dimensions: 24.5 x 38 x 26.5cm (L x W x H)
Weight: 6kg



Images taken from *www.nhbs.com*

Management and Maintenance

3.12 The bird boxes require minimal management and maintenance; the design and construction of the boxes ensure longevity. Annual clearing of nests (during the autumn, once nesting is finished but before winter) will be required. Annual checks on fixtures and fittings will also be necessary for safety purposes.

4.0 Management, Monitoring and Delivery

Management

4.1 The long-term management of the green roof habitats would be undertaken by an appropriately qualified Management Company.

4.2 The bat and bird boxes to be installed require minimal management and maintenance; the design and construction of the boxes ensure longevity and cleaning is not required of the bat boxes.

4.3 Annual checks on fixtures and fittings of all bat and bird boxes will be required for safety purposes. Annual clearing of bird boxes of any old nests/nesting material will also be necessary (to be undertaken during the autumn, once nesting is finished but before the start of winter).

4.4 Boxes should be checked and cleared out (bird boxes only) by a suitably experienced and licenced ecologist (holder of a Natural England Class licence for bats - Level 1) to ensure boxes, fixtures and fittings are in good condition and remain *in situ*. Any missing boxes will be replaced.

Personnel

4.5 If deemed appropriate, a biodiversity champion can be nominated by the main contractor to be the initial point of contact for any onsite wildlife related matters. It is also recommended that a suitably qualified ecologist is engaged where necessary to liaise with and provide any additional advice and input regarding the delivery of the ecological enhancements.

5.0 Conclusions

5.1 This EEP has been prepared for the proposed development of Westminster House, Kew Road, Richmond, to satisfy Planning Condition U0182958 Ecological Enhancements.

5.2 Information is provided with regards to the provision of ecological enhancements including the specification and proposed locations for bat and bird boxes in addition to management and maintenance information.

5.3 This document is considered sufficient to satisfy the requirements of Planning Condition U0182958.

5.4 Through incorporation of relevant recommendations, it is considered that the proposals can deliver positive residual impacts in line with current wildlife legislation, chapter 15 of the NPPF (DLUHC, 2023); and local planning policies relevant to nature conservation.

6.0 References

Base Energy (2023) *Flood Risk and SUDS Assessment Rev2 Westminster House.*

British Standards Institution (2013) *BS 42020: 2013 Biodiversity – Code of Practice for Planning and Development*. British Standards Institution: London.

Child Graddon Lewis (2023) *Westminster House Design and Access Statement.*

CIEEM (2017a) *Guidelines on Ecological Report Writing 2nd Edition*. Chartered Institute of Ecology and Environmental Management: Winchester.

CIEEM (2022) *Code of Professional Conduct*. Chartered Institute of Ecology and Environmental Management: Winchester.

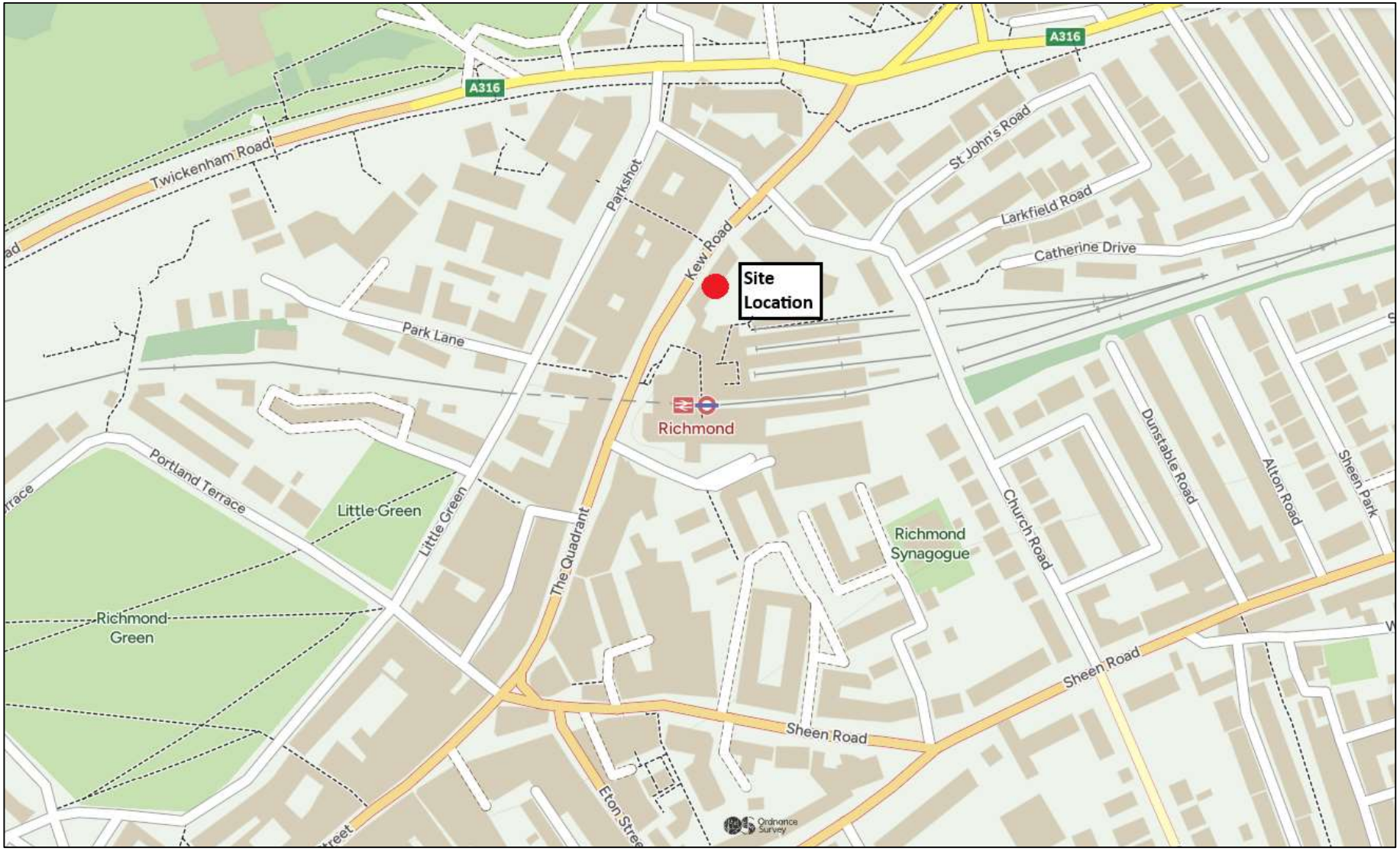
Crossland Ecology (2024) *Technical Note – Green Roof Westminster House.*

DLUHC (2023) Department for Levelling Up, Housing and Communities *National Planning Policy Framework.* [Online]. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2

Swift Conservation (2019) *Leaflet 4: Swift net Box installation and Suppliers* [online] Available at: https://www.swift-conservation.org/Leaflet%204%20-%20Swift%20Nest%20Bricks%20-%20installation%20&%20suppliers-small.pdf

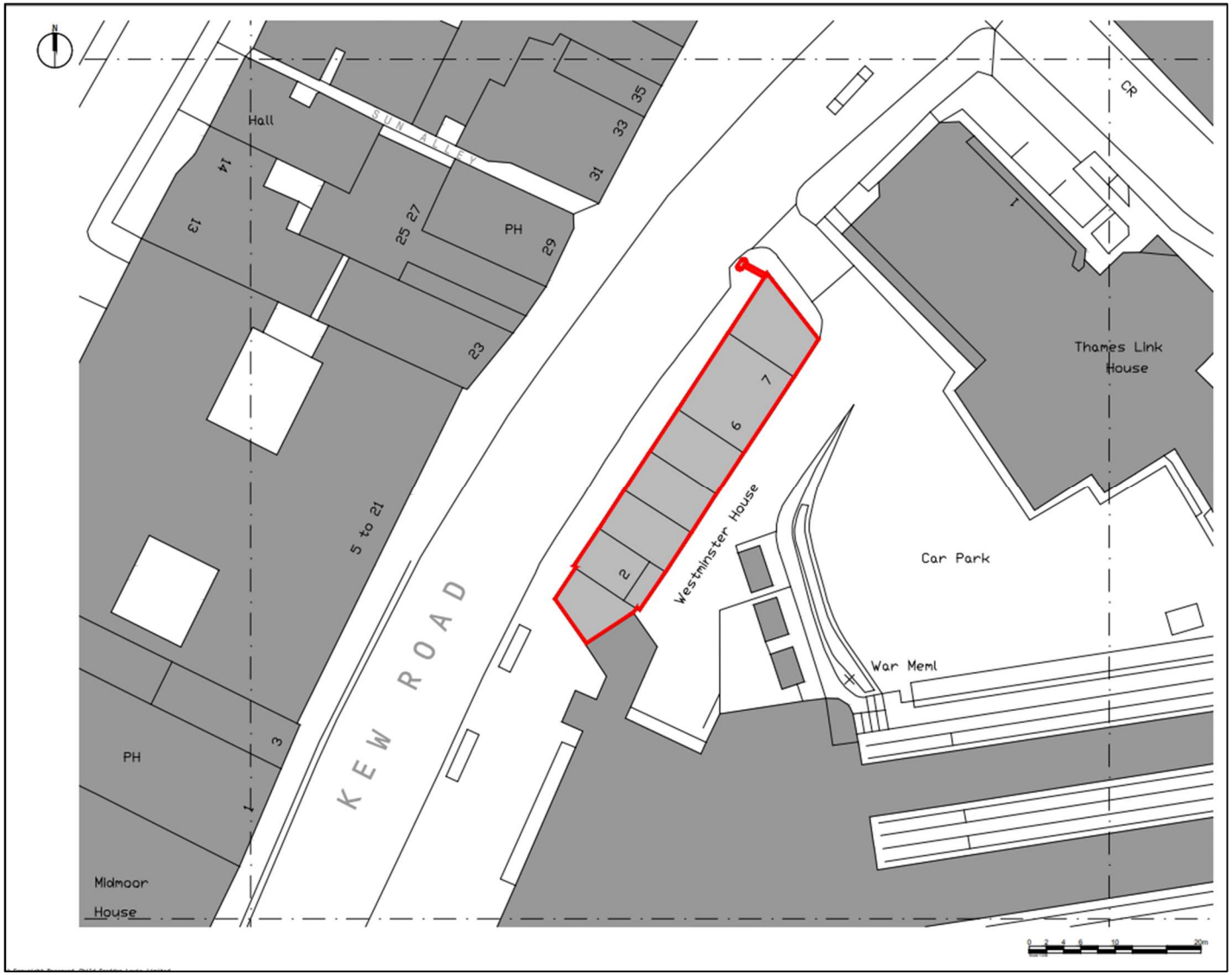
Appendix 1: Site Location Plan

(Reproduced from Ordnance Survey maps online)



Appendix 2: Red Line Boundary Plan

(From Child Graddon Lewis, 2023)



Appendix 3: Green Roof Technical Note

Technical Note – Green Roof

Site: Westminster House

Client: Baden Prop Ltd.

Date: September 2024

Crossland Ecology Ltd. Office 5945, 321 High Road, Chadwell Heath, Essex, RM6 6AX

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Quality Assurance

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A	Issue	09/09/2024	VC	SC

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Introduction

1.1 Crossland Ecology Ltd. Were commissioned by Baden Prop Ltd. to provide ecological advice and input to the design of the proposed extensive green roof for the proposed development at Westminster House, Kew Road, Richmond (the site). The proposals are for the approved mixed-use development (Planning Reference: 23/3371/FUL) with the provision of ecological input required to address Planning Condition U0182956 Green Roof whereby:

Prior to commencement of superstructure works (excluding site investigations and demolition), details of the biodiversity roof(s) shall be submitted to and approved in writing by the Local Planning Authority, including details of maintenance. The biodiversity roof(s) shall be biodiversity based with extensive substrate base (min depth 85mm). The biodiversity roof shall be implemented in accordance with the details approved and planted/seeded with the agreed mix of species within the first planting season following the practical completion of the building works. The green roof shall be maintained in accordance with the schedule set out in the Flood Risk and SUDS Assessment Rev2 (dated 13 December 2023) unless otherwise agreed in writing by the Local planning Authority.

1.2 The proposals include the provision of an area of c.70m^2 of extensive green roof, to be made up of a UK grown sedum mat over an appropriate extensive growing medium.

Green Roof Ecological Advice

1.3 The following green roof design and implementation measures are recommended to maximise the biodiversity benefits of the green roof:

- Provision of a variable (undulating) substrate depth of between 85mm and 150mm, with a minimum depth of 85mm.
- Inclusion of some areas of bare, unplanted substrate.
- Supplementing the sedum blanket with native and locally appropriate plants (see recommended species below[1]).
- Use of a broad range of flowering species with a minimum of around 15 species.
- Inclusion of other habitat features such as logs, rocks and boulders, stone piles and invertebrate 'hotels'.

<u>Recommended Species</u>

1.4 It is recommended that supplementary planting of the sedum blanket is undertaken with appropriate plants such as drought tolerant species, small, hardy succulents, wildflower species suited to low nutrient and free draining soils and small herb species (bulbs and alpines).

1.5 Grasses should generally be limited to avoid outcompeting the wildflowers/sedums and dominating the green roof. Therefore, should grasses be included, they should include only slow-growing and non-aggressive species.

1.6 Table 1 provides details of a range of suitable species for inclusion within the green roof.

[1] The chosen sedum mat should not prohibit the capacity for natural regeneration and supplementary planting, to ensure biodiversity benefits are maximised.

Table 1: Recommended species for extensive green roofs

Plant species	Common name
Herbs	
Ajuga reptans	Bugle
Anthyllis vulneraria	Kidney vetch
Centaurea nigra	Common knapweed
Centranthus ruber	Red valerian
Daucus carota	Wild carrot
Dianthus spp.	Pinks
Galioum verum	Lady's bedstraw
Lamium album	White dead-nettle
Linaria vulgaris	Toadflax
Lotus corniculatus	Bird's foot trefoil
Lunaria annua	Honesty
Myosotis spp.	Forget me not sp.
Oneothera spp.	Evening primrose
Primula veris	Cowslip
Primula vulgaris	Primrose
Saxifraga oppositifolia	Saxifrage
Scabiosa columbaria	Small scabious
Silene dioica	White campion
Silene noctiflora	Night flowering catch-fly
Silene vulgaris	Bladder campion
Thymus serpyllum	Creeping thyme
Trifolium spp.	Clover species
Viola tricolor	Pansy
Succulents	
Sedum acre	Biting stonecrop
Sedum album	White stonecrop
Sedum anglicum	English stonecrop
Sedum fosterianum	
Sedum rupestre	Reflexed stonecrop
Sedum spectabile	Ice plant
Grasses	
Anthoxanthum odoratum	Sweet vernal-grass
Briza media	Quaking grass
Cynosurus cristatus	Crested dogstail
Festuca ovina	Sheep's fescue

Other Habitat Features

1.7 The addition of other habitat features onto the green roof (where possible) could provide further biodiversity benefit, mostly in relation to providing increased habitat diversity for invertebrates. Examples are provided below.

Deadwood/logs – should be native hardwood seasoned logs.

Image from © Hohenschlaeger (from www.zinco-greenroof.co.uk)

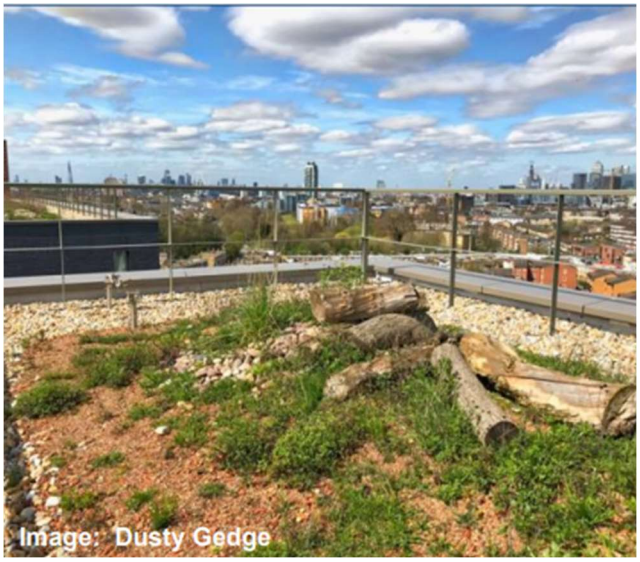


Image of Thurston Road green roof, Lewisham ©Dusty Gedge (from Grant and Gedge, 2019)

Image from https://www.nomuraholdings.com/sdgs/article/008/

Rock, boulder, stone and gravel piles

Image from www.zinco-greenroof.co.uk/systems/biodiversity-green-roof

Image from www.axter.co.uk/range/green-roofs

Invertebrate Features 'Hotels'

Image from https://www.nomuraholdings.com/sdgs/article/008/

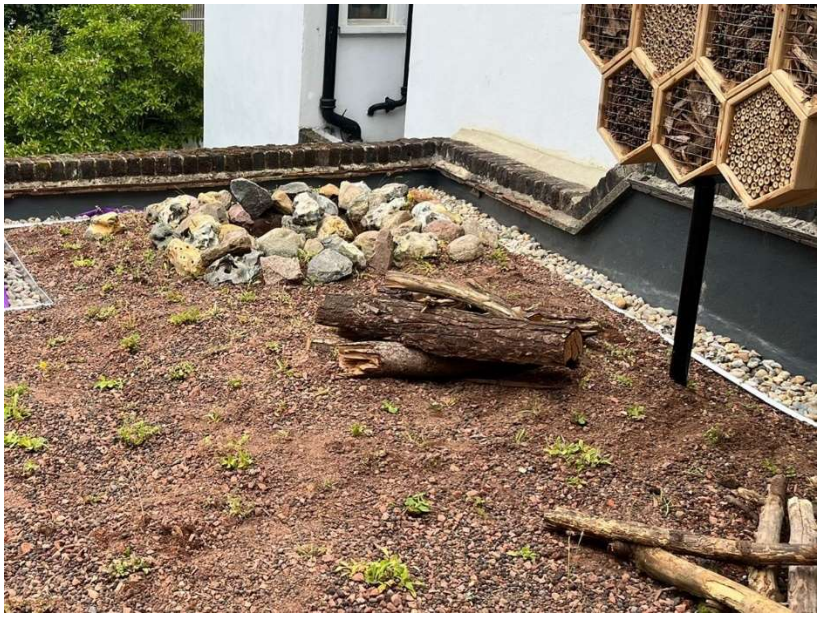


Image from Pritchard & Pritchard https://green-roofs.co.uk/what-are-our-top-five-tips-for-creating-biodiverse-green-roofs/

Bee Banks

1.8 These can be created by using sand and shaping it into mounds. Such features provide burrowing habitat for solitary bees and wasps. They should be south facing to maximise sunshine on the banks.

Conclusions

1.9 The inclusion of the above recommendations into the design and implementation of the proposed green roof at Westminster House is considered suitable to provide biodiversity benefits, and to inform the design enabling approval by the Local Planning Authority.

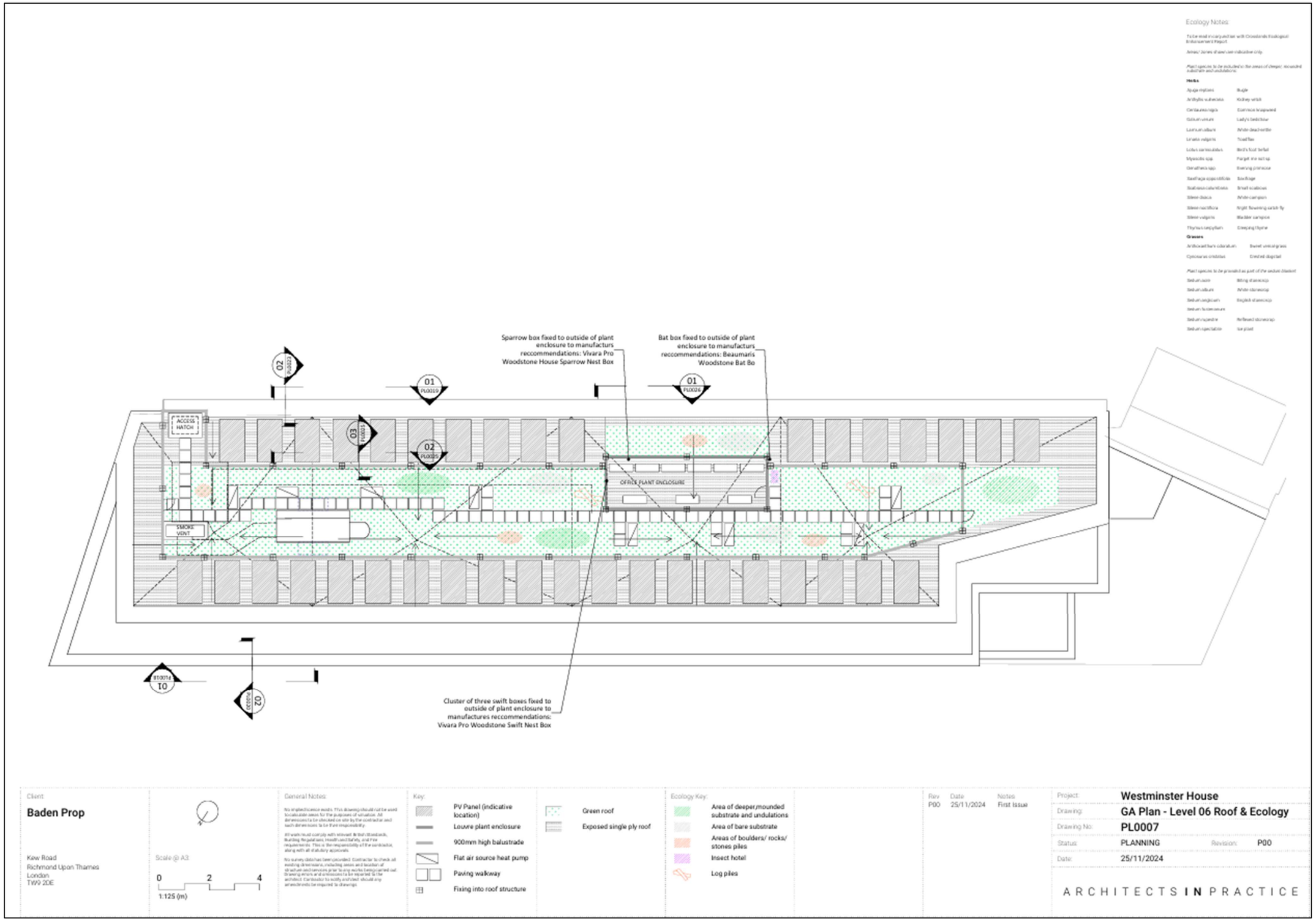
References

Gedge, D., Grant, G., Kadas, Dr. G. and Dinham, C. *Creating Green Roofs for Invertebrates. A Best Practice Guide.* Buglife – The Invertebrate Conservation Trust. Peterborough.

Grant, G. and Gedge, D. (2019) *Living Roofs and Walls from policy to practice. 10 years of urban greening in London and beyond.* European Federation of Green Roof and Green Wall Associations (EFB) and Livingroofs.org (on behalf of the Greater London Authority). London.

Green Roof Organisation Ltd. (2021) *The GRO Green Roof Code.* Green Roof Organisation Ltd. Surrey.

Appendix 4: Green Roof Plan and Bat and Bird Box Locations



Appendix 5: Green Roof Build-up

ROOF TYPE R01

Green roofed areas, single ply membrane roof, fully adhered. To 1:80 falls.