**Land to rear of 224 St Leonard's Road,**
**East Sheen**
**SW14 7BN**

**51.466438, -0.276497**

# Biodiversity Net Gain

**S24-059/BNG**
**June 2024**

Revision 2


***Prepared by :***

**Southwest Environmental Limited**
**80-83 Long Lane**
**Barbican**
**London**
**EC1A 9ET**

***On behalf of :***

**Globe Property**
**433 Mitchell house**
**High Road**
**Chiswick**
**W44AU**

**Land to rear of 224 St Leonard's Road,**
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**Contents**

**Chapters and Appendices**

## 0.0 Commissioning

Southwest Environmental Limited have been commissioned to prepare a Biodiversity Net Gain for the proposed development at Land to the rear of 224 St Leonard's Road.

## 1.0 The Site

Land to the rear of 224 St Leonard's Road is a proposal of new dwellings.

| | |
|---|---|
| **Site Address** | Land to rear of 224 St Leonard's Road,<br>East Sheen<br>SW14 7BN |
| **Grid Reference** | 51.466438, -0.276497 |
| **Site Area** | 0.2 ha Approx. |

## 1.1 Buildings

There is a wooden shed onsite, but there are no hardstanding buildings.

## 1.2 Cover

The majority of the Site area is poor quality grassland containing very loose patches of flora. The proposal as shown in Appendix 1 would affect approx. 370m² of semi-maintained poor grassland, with the plant species at the fringes being previously leftover ornamental planting, or germinated seeds from nearby gardens. The proposal has regularly been cut, providing very limited flora species.

## 1.3 Boundaries

Boundaries are as marked on the site location plan. Approximate description is provided below.

| | | |
|---|---|---|
| **Boundaries** | **North** | Chain Link Fence |
| | **East** | Wooden Fence |
| | **South** | Concrete and Brick Wall, Driveway |
| | **West** | Wooden Fence and Brick Wall Bridge |

## 1.4 Adjoining

The below table shows adjoining land uses.

| **Land Use** | | **Adjoining** | **Proximal** |
|---|---|---|---|
| | **North** | Railway | Residential |
| | **East** | Residential Garden | Residences and Gardens |
| | **South** | Residence Parking | Road Network and Residences |
| | **West** | Main Road and Bridge | Residence and Gardens |

## 2.0 Introduction

A PEA of the site (S24-059/PEA**)** has revealed that the site holds low botanical value, does not contain nationally protected habitat, is of no regional or local importance and does not appear to support or connect habitats for protected species.

Plans for the proposed developments are shown in **Appendix 1**. The proposed development would see the construction of 2 new buildings, and the construction of permeable paving to give access to the new developments. The proposed development of structures include the removal of three semi-mature trees to erect the buildings. The Site currently comprises a small wooden shed, with several mature trees, a poor quality grassland and is situated within a residential area.

Current evaluation has revealed a limited importance of the site to the local ecology of the area. However, with the development of the site and the proposed mitigation measures a positive contribution can be made to the local ecology in the form of a pollinator encouraging habitat creation.

## 3.0 Overview of the estimated ecological losses

The proposed development of the site will only affect poor quality grassland, with the removal of semi-mature Sycamore *Acer pseudoplatanus* and European Horse-Chestnut *Aesculus hippocastanum*. Whilst the other, more mature trees will be retained.

Therefore the impact of the development will be minimal, with the clearance and development taking only poor habitat or ecology away from the site.

## 4.0 Minimum requirements for no net loss

Using the Statutory Biodiversity Metric Tool, **Appendix 1**, it has been calculated that the site has a current habitat value of 0.2603.

To satisfy biodiversity net gain on the site the following objectives will need to be completed with the proposal.

### 4.1 Native Tree and Shrub Species Planting

To replace the semi-mature trees removed during the development there needs to be appropriate repatriation in the form of tree or large shrub planting to negate, and with the selection of a more ecologically beneficial species, improvement in biodiversity. Replacement saplings must be of a native mix, prioritising the species of greatest benefit to the ecology of the area. Saplings should be planted in appropriate conditions depending on the species requirements, and will require protection from rabbits and deer, depending on the maturity of the saplings acquired. Infrequent maintenance and observation of the saplings is needed to maintain herbivore protection as well as to act upon potential changes of health and adverse growth.

Tree saplings could include: Crab Apple *Malus sylvestris*, Rowan *Sorbus aucuparia,* Silver Birch *Betula pendula*, English Oak *Quercus robur*, Hazel *Corylus avellana* and Field Maple *Acer campestre*.

Large flowering shrubs include: Cornelian Cherry (*Cornus mas*), Broom (*Cytisus scoparius*), Viburnum (*Viburum lantana*) and for small flowering shrubs: Rosemary (*Rosmarinus officinalis*), Rock Rose (*Helianthemum*) and Potentilla (*Potentilla fruticosa*).

It is highly recommended to add climbers to the site to cover the brick wall bridge, as the vertical space is rare with site developments. The two most notable species are Honeysuckle *Lonicera periclymenum*, and the Climbing Rose *Rosa spp..* Both these species are native and will continually increase biodiversity and habitat for invertebrates as they grow alongside the Western boundary.

The planting of native tree and shrub species would require moderate preparation and protection, followed by low maintenance (depending on the age of the sapling planted). Following the Royal Horticultural Society's guide is highly recommended.

The additional planting of trees has been calculated at 22 small DBH < 30cm, and 5 medium DBH > 30cm < 60cm.

### 4.2 Additional Native Planting

To further increase the biodiversity onsite and to encourage pollinator species, sowing of a wildflower mix would achieve this goal.

These seedlings would require moderate preparation as the established species will offer some competition as revealed by the habitat survey. Maintenance needed would initially be regular watering, weeding and monitoring for any signs of pests or diseases. After several months maintenance can be more relaxed. Following the Royal Horticultural Society's guide is highly recommended.

If the garden needs to be cut, especially the wildflower mix, a minimum height of 10cm is strongly recommended to preserve habitat for invertebrate species that would potentially be using the habitat. A yearly cutting should take place in July, August or September, after the first year of establishment.

### 4.3 Invertebrate Habitat

As the global invertebrate population is decreasing by 45%[1], it is paramount with biodiversity net gain to identify areas of a development and to promote invertebrate population growth. This can be achieved by retaining the deadwood and log piles onsite. Additionally, the introduction of the aforementioned plant pollinator supporting shrubs, trees and native wildflower mixes can have a positive impact on the invertebrate populations.

[1] Rodolfo Dirzo *et al.,* Defaunation in the Anthropocene.*Science* **345**

## 5.0 Additional Suggestions

### 5.1 Bird Boxes

As the Site is retaining established mature trees and as the location is sub-optimal, it is not recommended to introduce bird boxes however, if the client would be seeking to introduce extra biodiversity increasing opportunities this section has been included.

Different bird boxes can cater for different species, ideally the most appropriate bird species for the local area and habitat should be acquired. However, if the client desires other native species then this is also acceptable and the relevant bird boxes should be sought after. Making a connection to the local biodiversity can be more advantageous to the ecology as further actions to the environment will have a greater awareness of positive or negative changes.

In order to protect against direct sunshine, wind, and rain the nest boxes should be positioned between North and East, for this particular Site the only viable option would be an Eastern facing box as there is a railway line to the North. With the box being at least three metres above the ground. A clear fly route to and from the boxes is required for the nesting birds.

The RSPB website has a guide regarding their bird boxes, species suitability, installation and maintenance.

### 5.2 Green Roof

If the client so desires, another way to further boost the biodiversity of the site is to have the proposal's flat roof to be topped with a sedum mix, consisting of a variety of low-growing and drought-resistant succulent plants. The sedum mix will support pollinator species for the local area, which in turn, will provide a food source for the local predator species.

The sedum roof will require regular watering, weeding, and monitoring for any signs of pests or diseases, especially through the summer months. Additionally, periodic fertilisation and trimming may be necessary to ensure the longevity of the sedum mix green roof.

### 5.3 Lighting

It is highly recommended that the proposal should follow lighting guidelines set by Voigt in the Guidelines for Consideration of Bats in Lighting Projects on light fixtures outside of the property or lighting which could affect spill outside the property. Similar guidelines should be followed from Bruce-White & Shardlow's A Review of the Impact of Artificial Light on Invertebrates. Following these two studies is paramount in allowing the property to not adversely affect local invertebrate populations, as the light directly promotes nocturnal or diurnal foraging activity[2] which is highly detrimental to invertebrate species.

[2] Avalon C.S. Owens, *et al*.,Light pollution is a driver of insect declines, Biological Conservation, Volume 241, 2020

## 6.0 Conclusion

Following the implementation of the aforementioned goals, especially the planting of the small trees and medium trees, the Statutory Biodiversity Metric Tool produces an output of 0.5225 habitat credits. Compared to the initial habitat credit value of 0.2603.

The creation of these habitat credits are >10% as needed for the Biodiversity Net Gain (Minimum 0.2863 needed to satisfy BNG). Therefore the development as proposed will satisfy the mandatory 10% biodiversity gain..

| Sheet Name | Site Details |
|---|---|
| 1. Planning authority: | |
| 2. Site name: | Land to rear of 224 St Leonard's Road |
| 3. Applicant: | |
| 4. Planning application type: | |
| 5. Planning application reference: | |
| 6. Metric completed by (name & job title): | Ecologist - Christopher Canevali |
| 7. Date of metric completion: | 07 June 2024 |
| 8. Revision number: | |
| 9. Masterplan document title / drawing number: | |

**Net Gain Targets**

| | | |
|---|---|---|
| 10. Targeted % increase in Units | *10a. Habitat* | 10.00 |
| | *10b. Hedgerow* | 10.00 |
| | *10c. Watercourses* | 10.00 |

| | | |
|---|---|---|
| 11. Targeted increase in Units if baseline value is zero - agreed with local planning authority | *11a. Habitat units* | 0.00 |
| | *11b. Hedgerow units* | 0.00 |
| | *11c. Watercourse units* | 0.00 |

**For planning authority use only**

| | |
|---|---|
| 12. Planning authority reviewer: | |
| 13. Date of planning authority review: | |

| Site Name: | Land to rear of 224 St Leonard's Road | |
|---|---|---|
| Sheet Name | Desktop Assessment | |

## Development

| | | |
|---|---|---|
| 14. Select the type of proposed development. If Other provide details at Q.25 below | Residential | Site area must be less than 10,000 m2 |
| 15. Site area ($m^2$) | 370 | |
| N/A | | |
| 17. Number of dwellings proposed within the development site | Between 1 - 9 dwellings | |

## Designated sites and priority habitats

| | | |
|---|---|---|
| 18. Any designated sites on or within 500m of the site? | No | |
| 19. Any priority habitats on or within 500m of the site? | No | |
| 20. List the designated sites and/or priority habitats | | |
| 21. Information sources used for assessment of designated sites and priority habitats (See guidance) | MagicMaps | |

## Site walkover

| | | |
|---|---|---|
| 22. Site walkover completed? | Walkover completed by qualified ecologist | |
| 23. Date of site walkover - DD/MM/YY | 04/06/2024 | Site walkover data valid until 04/12/24 |
| 24. Who completed the walkover? (Name and job title) | Ecologist - Christopher Canevali | |

## Additional details

| | |
|---|---|
| 25. Any additional information or notes | |

| Site Name | Land to rear of 224 St Leonard's Road |
|---|---|
| Sheet Name | 5. Area Habitats |

**Instructions:**
1. Enter data into 1a. Baseline habitats table
2. Enter data on habitats to be created into 1b. Habitats to be created
3. Enter data on habitats to be enhanced into 1c. Habitats to be enhanced
4. Enter data on individual trees into 1d. Tree area calculator

**Input Errors Present On Sheet - Red Cells Or ▲ Highlight Errors**

| Lost Units | 0.2603 |
|---|---|
| Created Units | 0.5225 |
| Enhancement Units | 0.0000 |
| Net Change | 0.2622 |

## 1a. Baseline habitats

| Ref | Habitat | | C. Strategic significance | Areas ($m^2$) | | | Baseline results | | | Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | A. Broad Habitat | B. Habitat type | | D. Total Area | E. Area retained | F. Area enhanced | Total habitat units onsite | Area Lost | Units lost | User comments | LPA comments |
| 1 | Grassland | Modified grassland | Area/compensation not in local strategy/ no local strategy | 370.00 | 0.00 | 0.00 | 0.15 | 370.00 | 0.148 | | |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
| 8 | | | | | | | | | | | |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| 11 | | | | | | | | | | | |
| 12 | | | | | | | | | | | |
| 13 | | | | | | | | | | | |
| 14 | | | | | | | | | | | |
| 15 | | | | | | | | | | | |
| 16 | | | | | | | | | | | |
| 17 | | | | | | | | | | | |
| 18 | | | | | | | | | | | |
| 19 | | | | | | | | | | | |
| 20 | | | | | | | | | | | |
| Trees | Individual trees | Urban/rural tree | Formally identified in local strategy | 2455.23 | 2333.15 | | 2.2588 | 122.08 | 0.1123 | | |
| | | | Totals (areas excl trees, green walls and intertidal hard structures) | 370.00 | 0.00 | 0.00 | 2.4068 | 370.00 | 0.2603 | | |
| | | | Error Check 1 | Areas Acceptable ✓ | | | | | | | |
| | | | Error Check 2 | Areas Acceptable ✓ | | | | | | | |
| | | | Error Check 3 | Areas Acceptable ✓ | | | | | | | |

## 1b. Habitats to be created

| Ref | | | Condition Assessment | | D. Strategic significance | E. Total Area ($m^2$) | Habitat units created onsite | Comments | |
|---|---|---|---|---|---|---|---|---|---|
| | A. Broad Habitat | B. Habitat type | Acceptable condition options | C. Targeted condition | | | | User comments | LPA comments |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | | | | |
| 18 | | | | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| Trees | Individual trees | Urban/rural tree | Moderate | Moderate | Area/compensation not in local strategy/ no local strategy | 1709.16 | 0.5225 | | |
| | | | | | Totals (areas excl trees, green walls and intertidal hard structures) | 0.00 | 0.5225 | | |
| | | | | | Error Check 4 | Error - Area of habitat creation must match area lost ▲ | | | |

## 1c. Habitats to be enhanced

| Baseline ref | Existing Habitat Type | | Enhanced Habitat type | | B. Strategic significance | Area Enhanced | Enhanced Condition | Total Units | Net Improvement | Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Broad habitat type | Existing habitat type | Enhancement Type | A. Enhanced habitat type | | | | | | User comments | LPA comments |
| 1 | | | | | | | | | | | |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |
| 4 | | | | | | | | | | | |
| 5 | | | | | | | | | | | |
| 6 | | | | | | | | | | | |
| 7 | | | | | | | | | | | |
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| 10 | | | | | | | | | | | |
| 11 | | | | | | | | | | | |
| 12 | | | | | | | | | | | |
| 13 | | | | | | | | | | | |
| 14 | | | | | | | | | | | |
| 15 | | | | | | | | | | | |
| 16 | | | | | | | | | | | |
| 17 | | | | | | | | | | | |
| 18 | | | | | | | | | | | |
| 19 | | | | | | | | | | | |
| 20 | | | | | | | | | | | |
| | | | | | Totals (areas excl trees, green walls and intertidal hard structures) | 0.00 | | 0.0000 | 0.0000 | | |

## 1d. - Tree area calculator

| Tree size (Diameter at breast height) | A. Total number of trees pre development | B. Number of trees retained (but not enhanced) | C. Number of new trees planted post development | Areas | | |
|---|---|---|---|---|---|---|
| | | | | Area pre development | Area retained | Area of new trees planted post development |
| Small -DBH ≤ 30cm | 4 | 1 | 22 | 163 | 41 | 895 |
| Medium - DBH > 30 to ≤ 60cm | | | 5 | 0 | 0 | 814 |
| Large - DBH > 60 to ≤ 90cm | | | | 0 | 0 | 0 |
| Very Large - DBH > 90cm | 3 | 3 | | 2292 | 2292 | 0 |
| Total | **7** | **4** | **27** | **2455** | **2333** | **1709** |

**Data beyond this row is automated**

## 1e . Trading Summary

| Broad Habitat Type - Medium Distinctiveness Habitats | Trading Rules Satisfied ✓ |
|---|---|
| Medium and Low Distinctiveness Band | Trading Rules Satisfied ✓ |

## 1f . Habitat trading assessment

| Broad habitat types | Distinctiveness band | Baseline units | Onsite provision | Net change | Trading satisfied? |
|---|---|---|---|---|---|
| Cropland | Low | 0.0000 | 0.0000 | 0.0000 | - |
| | Medium | 0.0000 | 0.0000 | 0.0000 | N/A |
| Grassland | Low | 0.1480 | 0.0000 | -0.1480 | - |
| | Medium | 0.0000 | 0.0000 | 0.0000 | N/A |
| Heathland and shrub | Low | 0.0000 | 0.0000 | 0.0000 | - |
| | Medium | 0.0000 | 0.0000 | 0.0000 | N/A |
| Intertidal hard structures | Low | 0.0000 | 0.0000 | 0.0000 | - |
| | Medium | 0.0000 | 0.0000 | 0.0000 | N/A |
| Intertidal sediment | Low | 0.0000 | 0.0000 | 0.0000 | - |
| | Medium | 0.0000 | 0.0000 | 0.0000 | N/A |
| Lakes | Low | 0.0000 | 0.0000 | 0.0000 | - |
| | Medium | 0.0000 | 0.0000 | 0.0000 | N/A |
| Sparsely vegetated land | Low | 0.0000 | 0.0000 | 0.0000 | - |
| | Medium | 0.0000 | 0.0000 | 0.0000 | N/A |
| Urban | Low | 0.0000 | 0.0000 | 0.0000 | - |
| | Medium | 0.0000 | 0.0000 | 0.0000 | N/A |
| Woodland and forest | Low | 0.0000 | 0.0000 | 0.0000 | - |
| | Medium | 0.0000 | 0.0000 | 0.0000 | N/A |
| Coastal saltmarsh | Low | 0.0000 | 0.0000 | 0.0000 | - |
| | Medium | 0.0000 | 0.0000 | 0.0000 | N/A |
| Individual trees | Low | 0.0000 | 0.0000 | 0.0000 | - |
| | Medium | 2.2588 | 2.6690 | 0.4102 | Yes ✓ |

| Distinctiveness band | Baseline units | Onsite provision | Net change | Trading satisfied? |
|---|---|---|---|---|
| Medium distinctiveness | 2.2588 | 2.669 | 0.4102 | Yes ✓ |
| Low distinctiveness | 0.1480 | 0.000 | -0.1480 | Yes ✓ |
| Surplus area habitat biodiversity units after offsetting low distinctiveness units | 0.2622 | | | Yes ✓ |

| | |
|---|---|
| Site Name | Land to rear of 224 St Leonard's Road |
| Sheet Name | Headline Results |

## Headline Results

| | |
|---|---|
| Headline | BNG Targets Met ✓ |
| Trading Rules | Trading Rules Satisfied ✓ |
| Next steps | Check for input errors/rule breaks present in the metric ⚠ |

| | | |
|---|---|---|
| Baseline Units | *Habitat units* | 2.4068 |
| | *Hedgerow units* | Zero Units Baseline |
| | *Watercourse units* | Zero Units Baseline |
| Post-development Units | *Habitat units* | 2.6690 |
| | *Hedgerow units* | 0.0000 |
| | *Watercourse units* | 0.0000 |
| Total net unit change | *Habitat units* | 0.2622 |
| | *Hedgerow units* | 0.0000 |
| | *Watercourse units* | 0.0000 |
| Total net % change | *Habitat units* | 10.89% |
| | *Hedgerow units* | % target not appropriate |
| | *Watercourse units* | % target not appropriate |

| | |
|---|---|
| Habitats units required to meet target | 0.0000 |
| Hedgerow units required to meet target | 0.0000 |
| Watercourse units required to meet target | 0.0000 |

## Chart 1 - Unit change by habitat group