

## BNG FILE NOTE - BROOKLEIGH GREEN CIRCLE

### Introduction

This file note and associated Biodiversity Metrics (ref 552762\_Brookleigh\_Green\_Circle\_BNG\_Metric and 552762\_Brookleigh\_Green\_Circle\_BNG\_Metric 2\_0) have been produced by Greengage Environmental Ltd. to inform the Green Circle Element of the Brookleigh development in Burgess Hill, West Sussex.

The application is a reserved matters application pursuant to outline planning permission ref. DM/18/5114, as amended by planning application ref DM/21/3279, for the provision of the Green Circle traversing Sub-Phases OS1.1a, P1.3, OS1.1b (Freeks Lane) and OS1.2N at the Northern Arc development (now Brookleigh) on land north and north-west of Burgess Hill.

The proposals involve upgrading the existing footpath that is predominantly mud / bare earth, to provide a 3m-wide crushed stone surface. In some areas the path has been narrowed to 2m to minimise ecological impacts.

The approval of reserved matters for outline planning permissions are not formally within the scope of Biodiversity Net Gain (BNG), therefore achieving a 10% net gain is not a statutory requirement for the proposed Green Circle, however a BNG assessment has been requested to inform the wider masterplan for the whole Northern Arc (now Brookleigh) development.

### Methodology

This indicative BNG calculation has been calculated using the Statutory BNG Metric and associated statutory guidance<sup>1</sup>. For consistency with the original BNG calculations for the wider site (reference 51594jc07Sep21FV04\_BIA), a second calculation has been undertaken using the same version of the metric that was used previously (Defra Metric 2.0<sup>2</sup>).

The baseline value has been established by mapping the existing habitats, informed by site walkovers in April and December 2024. Pre-development habitat maps are provided in Figures A:1 and A:2.

The post-development value has been calculated using development maps provided by Allen Pyke Associates, references as follows:

- 3034-APA-ZZ-XX-DT-L-3005-P02 (December 2024)
- 3034-APA-ZZ-XX-SK-L-0014-P03 (January 2025)
- 3034-APA-ZZ-XX-SK-L-0015-P03 (January 2025)
- 3034-APA-ZZ-XX-SK-L-0016-P03 (January 2025)
- 3034-APA-ZZ-XX-SK-L-0017-P03 (January 2025)
- 3034-APA-ZZ-XX-SK-L-0018-P03 (January 2025)
- 3034-APA-ZZ-XX-SK-L-0019-P03 (January 2025)

- 3034-APA-ZZ-XX-SK-L-0020-P03 (January 2025)
- 3034-APA-ZZ-XX-SK-L-0022-P03 (January 2025)
- 3034-APA-ZZ-XX-SK-L-0022-P03 (January 2025)

Post-development habitat maps are provided in Figures A:3 and A:4.

Where the proposed route passes through habitats other than woodland, all habitat within these areas will be replaced by the new footpath, which will be formed of crushed stone.

A section of the proposed route runs along an existing track through woodland, in which the mud / bare earth path will be replaced by crushed stone of width of 2m or 3m. No trees are to be removed, and the woodland will be retained - therefore this is still classed as woodland in the post-development calculations. Further details are provided below. Where assumptions have been made, a precautionary approach has been adopted.

## Constraints

This BNG calculation is indicative only, and has been informed by two site walkovers, conducted at a sub-optimal time of year for botanical identification. Therefore, it is possible that not all plant species have been recorded assumptions have been made relating to some habitat conditions, as detailed below. Where assumptions have been made, a precautionary approach has been adopted.

## Results (Statutory Metric)

The BNG calculations are provided below.

### Baseline Habitats

The baseline habitat value is calculated to be 2.72 Habitat Units (HU).

| Broad Habitat           | Habitat Type                             | Area (Hectares) | Distinctiveness | Condition | Habitat Units |
|-------------------------|------------------------------------------|-----------------|-----------------|-----------|---------------|
| Urban                   | Artificial unvegetated, unsealed surface | 0.0858          | V. Low          | N/A       | 0.00          |
| Grassland               | Other neutral grassland                  | 0.0251          | Medium          | Good      | 0.33          |
| Heathland and shrub     | Mixed scrub                              | 0.0085          | Medium          | Moderate  | 0.07          |
| Heathland and shrub     | Blackthorn scrub                         | 0.0323          | Medium          | Poor      | 0.14          |
| Heathland and shrub     | Bramble scrub                            | 0.0031          | Medium          | N/A       | 0.01          |
| Sparsely vegetated land | Ruderal/Ephemeral                        | 0.0154          | Low             | Moderate  | 0.07          |

| Broad Habitat       | Habitat Type                     | Area (Hectares) | Distinctiveness | Condition | Habitat Units |
|---------------------|----------------------------------|-----------------|-----------------|-----------|---------------|
| Woodland and forest | Lowland mixed deciduous woodland | 0.151           | High            | Moderate  | 2.08          |
| Urban               | Bare ground                      | 0.0015          | Low             | Poor      | 0.00          |
| Total units         |                                  |                 |                 |           | 2.72          |

- **Artificial unvegetated, unsealed surface:** The majority of the route in the south is existing 'artificial unvegetated, unsealed surface', in the form of a crushed stone path, much of which is already >3m wide. This habitat type has no condition assessment in the metric.
- **Other neutral grassland:** Grassland verges are present in some areas of the path edges. These are small areas, with varied height, and species present include false oatgrass (*Arrhenatherum elatius*), cocksfoot (*Dactylis glomerata*), creeping bent (*Agrostis stolonifera*), timothy (*Phleum pratense*), ragwort (*Senecio jacobaea*), creeping buttercup (*Ranunculus repens*), and common nettle (*Urtica dioica*). During the surveys, fewer than 10 species per m<sup>2</sup> were observed, however due to the time of year of survey, a precautionary approach has been adopted, and >10 species per m<sup>2</sup> is assumed. Condition criteria are as follows:
  - Condition A (the parcel represents a good example of its habitat type): PASS
  - Condition B (sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm): PASS
  - Condition C (Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens): FAIL
  - Condition D (cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%): PASS
  - Condition E (Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area): PASS
  - Condition F (There are 10 or more vascular plant species per m<sup>2</sup> present, including forbs that are characteristic of the habitat type): PASS (assumed)

Other neutral grassland passes 5 of 6 criteria which equates to 'good' condition.

- **Mixed scrub:** This habitat type represents small areas (outside of the woodland) that will be pruned back to allow for the 3m path. This contains a mix of species, including hazel (*Corylus avellana*), holly (*Ilex aquifolium*), bramble (*Rubus fruticosus*), elder (*Sambucus nigra*), wild privet (*Ligustrum vulgare*) and blackthorn (*Prunus spinosa*). Condition criteria are as follows:
  - Condition A (good example of its habitat type, >80% native, at least three woody species, no single species dominant): PASS

- Condition B (seedlings, saplings, young and mature shrubs present): PASS
- Condition C (Absence of invasive non-native plant species and species indicative of suboptimal condition make up less than 5% of ground cover): PASS
- Condition D (The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat): PASS
- Condition E (There are clearings, glades or rides present within the scrub, providing sheltered edges): FAIL

Mixed scrub passes 4 of 5 criteria which equates to '**moderate**' condition.

- **Blackthorn scrub:** An area of blackthorn scrub was historically present in the north of the site, and although now cleared, this has been included in the baseline. This was cleared under a dormouse licence in 2023 (licence ref. 2023-66035-EPS-MIT), which included a description of the habitat. This was dominated by dense blackthorn scrub of uniform height and age, with very few other species present. Condition criteria are as follows:

- Condition A (good example of its habitat type, >80% native, at least three woody species, no single species dominant): FAIL (blackthorn dominates, making up more than 75% cover)
- Condition B (seedlings, saplings, young and mature shrubs present): FAIL - uniform age
- Condition C (Absence of invasive non-native plant species and species indicative of suboptimal condition make up less than 5% of ground cover): PASS
- Condition D (The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat): PASS
- Condition E (There are clearings, glades or rides present within the scrub, providing sheltered edges): FAIL (dense scrub with no clearings or glades)

Blackthorn scrub passes 2 of 5 criteria which equates to '**poor**' condition.

- **Bramble scrub:** A small area of bramble scrub was also recorded during the survey to inform the dormouse licence, as shown in Figure 1. Bramble scrub has no condition assessment in the metric.
- **Ruderal/Ephemeral:** Some small areas of ruderal/ ephemeral vegetation are present, containing common nettle, broad-leaved dock, ragwort, burdock, creeping buttercup, rosebay willowherb and cow parsley. Common nettle is dominant in these areas, accounting for more than 80% of the total area. Condition criteria are as follows:
  - Condition A (Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area): FAIL
  - Condition B (The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year): PASS

- Condition C (Invasive non-native plant species and others which are to the detriment of native wildlife cover less than 5% of the total vegetated area): PASS

Ruderal/ephemeral passes 2 of 3 criteria which equates to 'moderate' condition.

- **Lowland mixed deciduous woodland:** This habitat type is assessed using 13 categories, which are scored between 1 and 3. The existing path (and proposed route) runs through the western edge of the woodland, and is bare ground with scrub and woodland understorey vegetation at the edges. There is no ancient woodland within the site, although it is present in the vicinity. The existing path appears well-used, and is liable to flooding, which causes users to create 'desire paths' into the adjacent areas of woodland to avoid flooded areas, including into areas of ancient woodland. A stream runs through the woodland, which is crossed via a wooden footbridge.

No trees will be removed, and no trunks are present within the site, however overhanging canopy species include oak (*Quercus robur*), holly, hazel, silver birch (*Betula pendula*) and ash (*Fraxinus excelsior*), of varying sizes and ages. Ash die-back was noted in some of the ash trees. Scrub present at the field margins includes holly, bramble, blackthorn, wild privet, and ivy (*Hedera helix*).

Ground flora was dominated by wild garlic (*Allium ursinum*), with English bluebell (*Hyacinthoides non-scripta*), male fern (*Dryopteris filix-mas*) and ivy also present.

- The habitat condition is based on the overall score from these 13 criteria.
  - Condition A - age distribution of trees: Three age classes present - score 3
  - Condition B - Wild, domestic and feral herbivore damage - no significant damage - score 3
  - Condition C - Invasive plant species - none noted - score 3
  - Condition D - Number of native tree species - 5 or more recorded - score 3
  - Condition E - Cover of native tree and shrub species - >80% native - score 3
  - Condition F - Open space within woodland - the woodland does not appear to be managed / coppiced to produce open space, with canopy cover of almost 100%, however condition assessment guidance states that if woodland of less than 10 ha has less than 10%, see 'good' category. Although the whole woodland is >10ha, the site is less, so scored as 3 as a precaution. - score 3
  - Condition G - Woodland regeneration - saplings and seedlings present, but no advanced coppice regrowth - score 2
  - Condition H - Tree health - A high-risk disease present (ash die-back) - score 1
  - Condition I - Vegetation and ground flora - some ancient woodland indicators in the ground flora, dominant wild garlic in places - a spring/summer survey may reveal additional ancient woodland indicators - score 3
  - Condition J - Woodland vertical structure - two noticeable storeys - the canopy layer and scrub layer - score 2
  - Condition K - Veteran trees - two or more veteran oak trees noted per hectare - score 3

- Condition L - Amount of deadwood - some deadwood noted, but recorded in less than 25% of survey plots - score 1
- Condition M - Woodland disturbance - significant damaged ground from frequent recreational use within the site itself and extending into adjacent woodland - score 1

Overall, the woodland scores 31 out of a possible 39 points and therefore is classed as **'moderate'** condition.

- Bare ground is an area of the path to the north of the woodland that is heavily trampled with little or no vegetation, therefore is considered to be **'poor'** condition.

### Strategic Significance

Woodland is specifically referenced in the Mid Sussex District Plan<sup>3</sup> (Policy DP37: Trees, Woodland and Hedgerows), and has therefore been assigned a strategic significance of high. Other habitats (except bare ground and artificial unsealed surface) are not formally identified in the District Plan policies, however are in ecologically desirable locations and are therefore considered to be medium strategic significance.

### Post-development Habitats

The post-development habitat value is calculated to be 2.08 HU.

| Broad Habitat       | Habitat Type                                | Area (Hectares) | Distinctiveness | Condition | Habitat Units |
|---------------------|---------------------------------------------|-----------------|-----------------|-----------|---------------|
| Urban               | Artificial unvegetated, unsealed surface    | 0.1716          | V. Low          | N/A       | 0.00          |
| Woodland and forest | Lowland mixed deciduous woodland (Retained) | 0.151           | High            | Moderate  | 2.08          |
| Total units         |                                             |                 |                 |           | 2.08          |

**Artificial unvegetated, unsealed surface:** Outside of the woodland, all habitats will be removed and replaced with crushed stone pathway. This habitat type has no condition assessment in the metric.

**Lowland mixed deciduous woodland:** Condition will remain as **'moderate'**, as replacing the existing mud / bare earth path with crushed stone, (widening to 2m or 3m in some areas), is not considered to significantly affect the condition.

Some areas of ground flora will be cleared, therefore the post-development score for Condition I above (vegetation and ground flora) has been reduced from the maximum 3 points to the minimum 1 point. This reduces the overall condition score for the woodland from 31 to 29, which is still **'moderate'** condition.

Some scrub will require trimming back, but the scrub understorey will remain, and additional scrub planting is proposed within the associated protected species mitigation strategy for the development (Greengage, January 2025, report ref 552762pw16Jan25FV04). Log piles are proposed as part of this

strategy, which will increase the amount of standing dead wood, and selective branch clearance around the adjacent pond will provide a clearing. Furthermore, the new footpath will likely significantly reduce the need for recreational users to stray off the path into the surrounding woodland, which will have a positive impact on the adjacent ancient woodland.

A small area in the north-west corner of the proposed route has not been included in the above calculation, and is shown as white in the maps in Figures A:2 and A:4. This is where the route enters the residential development plots, and is therefore considered already accounted for in the main BNG calculations for the scheme.

## Defra 2.0 Metric

The original BNG calculations for the wider masterplan area were calculated using the Defra 2.0 version of the BNG metric (Greengage, 2021, report reference 51594jc07Sep21FV04\_BIA).

For consistency, and to enable accurate comparison with the original BNG calculations, the calculations for the Green Circle have also been calculated using the 2.0 version, and the results are provided below.

### Baseline (Using 2.0)

| Broad Habitat           | Habitat Type                             | Area (Hectares) | Distinct-iveness | Condition   | Ecological Connectivity | Habitat Units | Notes                                                                                                                                                  |
|-------------------------|------------------------------------------|-----------------|------------------|-------------|-------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Urban                   | Artificial unvegetated, unsealed surface | 0.0858          | V. Low           | N/A - Other | N/A                     | 0.00          | -                                                                                                                                                      |
| Grassland               | Other neutral grassland                  | 0.0251          | Medium           | Moderate    | High                    | 0.25          | Closest match is 'moderate condition' from the 2.0 Technical Supplement. (semi-improved grassland, wildflowers and sedges <30%), rye-grass cover <25%. |
| Heathland and shrub     | Mixed scrub                              | 0.0085          | Medium           | Moderate    | High                    | 0.09          | Meets 4 of the 4 criteria: at least 3 woody species, good age range, invasives < 5%, well developed edge but no glades / rides                         |
| Heathland and shrub     | Blackthorn scrub                         | 0.0323          | Medium           | Poor        | High                    | 0.16          | Dominated by a single species (blackthorn), uniform age range                                                                                          |
| Heathland and shrub     | Bramble scrub                            | 0.0031          | Medium           | Poor        | High                    | 0.02          | Dominated by a single species (bramble), uniform age range                                                                                             |
| Sparsely vegetated land | Ruderal/Ephemeral                        | 0.0154          | Low              | Moderate    | High                    | 0.08          | Habitat dominated by common nettle, but other species also present. Moderate condition                                                                 |

| Broad Habitat       | Habitat Type                      | Area (Hectares) | Distinct-iveness | Condition | Ecological Connectivity | Habitat Units | Notes                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|-----------------------------------|-----------------|------------------|-----------|-------------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Woodland and forest | Lowland mixed deciduous woodland  | 0.151           | High             | Moderate  | High                    | 2.40          | Complete canopy cover, native species dominant, age range present, free from damage, evidence of regeneration, limited dead wood, no wetland within the site, area protected from agriculture, ruts & compaction evident from recreational use, invasives absent, no signs of enrichment, more than 3 tree and 3 shrubs in 10m radius. 9 passed, - moderate condition. |
| Urban               | Vacant/derelict land/ bare ground | 0.0015          | Low              | Poor      | N/A                     | 0.00          | -                                                                                                                                                                                                                                                                                                                                                                      |
| Total units         |                                   |                 |                  |           |                         | 3.00          |                                                                                                                                                                                                                                                                                                                                                                        |

Post-development (Using 2.0)

| Broad Habitat       | Habitat Type                                | Area (Hectares) | Distinct-iveness | Condition | Ecological Connectivity | Habitat Units | Notes                        |
|---------------------|---------------------------------------------|-----------------|------------------|-----------|-------------------------|---------------|------------------------------|
| Urban               | Artificial unvegetated, unsealed surface    | 0.1716          | V.Low            | N/A       | N/A                     | 0.00          | -                            |
| Woodland and forest | Lowland mixed deciduous woodland (retained) | 0.151           | High             | Moderate  | High                    | 2.40          | Condition criteria as above. |
| Total units         |                                             |                 |                  |           |                         | 2.40          |                              |

### Net Score and Discussion

Using the Statutory Metric, installation of the Green Circle path will result in a loss of 0.63 HU, which equates to a net loss of 23.29%.

Using Metric 2.0, installation of the Green Circle path will result in a loss of 0.60 HU, which equates to a net loss of 20.03%.

There are no linear features within the site.

The woodland path crosses a stream, however the stream will not be affected by the proposals and is therefore beyond the scope of this indicative BNG calculation, as noted within the original BNG calculations.

This BNG assessment is indicative only, intended to show how the Green Circle reserved matters application fits into the BNG of the wider scheme. As demonstrated within the 2021 Greengage report (reference 51594jc07Sep21FV04\_BIA), overall the scheme delivers a significant net gain of over 50 HU. Therefore, the loss of 0.63 HU (or 0.60HU if calculated using Metric 2.0) will not result in a significant change to the overall BNG, and a net gain will continue to be delivered over the wider masterplan area.

As approval of reserved matters for outline planning permissions is not subject to the biodiversity gain condition (as it is not a grant of planning permission)<sup>4</sup>, a Biodiversity Gain Plan and 30-year Habitat Management and Monitoring Plan would not be required to support the application.

<sup>1</sup> Gov.UK (2024). Statutory biodiversity metric tools and guides, available at:

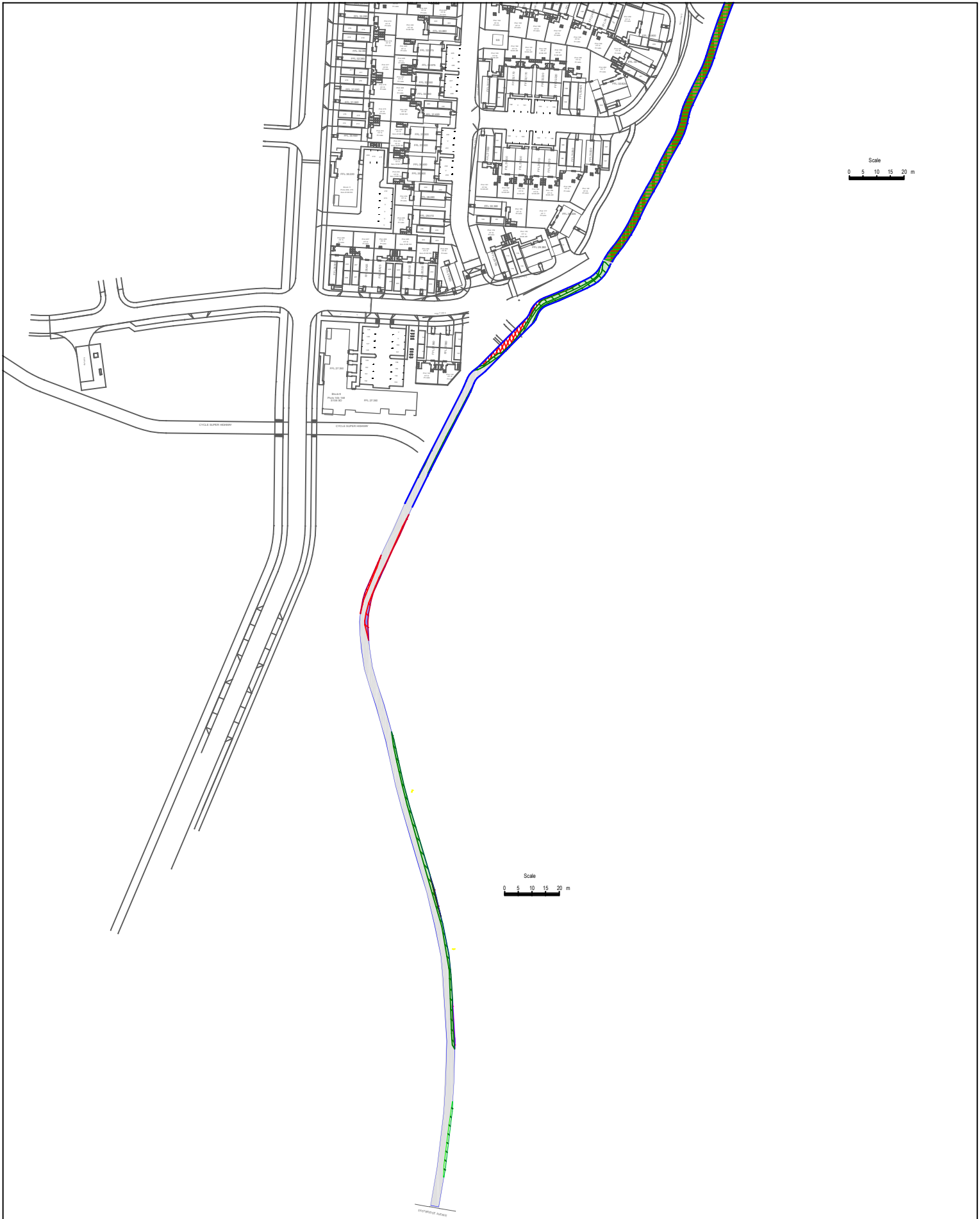
<https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

<sup>2</sup> Defra Metric 2.0 and Technical Supplement (Archived), available at

<https://publications.naturalengland.org.uk/publication/5850908674228224>

<sup>3</sup> Mid Sussex District Council (2018). Mid Sussex District Plan 2014 – 2031

<sup>4</sup> <https://www.gov.uk/guidance/biodiversity-net-gain>



Project Title : Brookleigh Green Circle  
Drawing Title : Figure A1 - Pre-Development Habitats (South)  
Date : 21/01/25  
Status : Final  
Job Reference : 552762  
Scale : NTS  
Drawn : PW  
Checked: MH

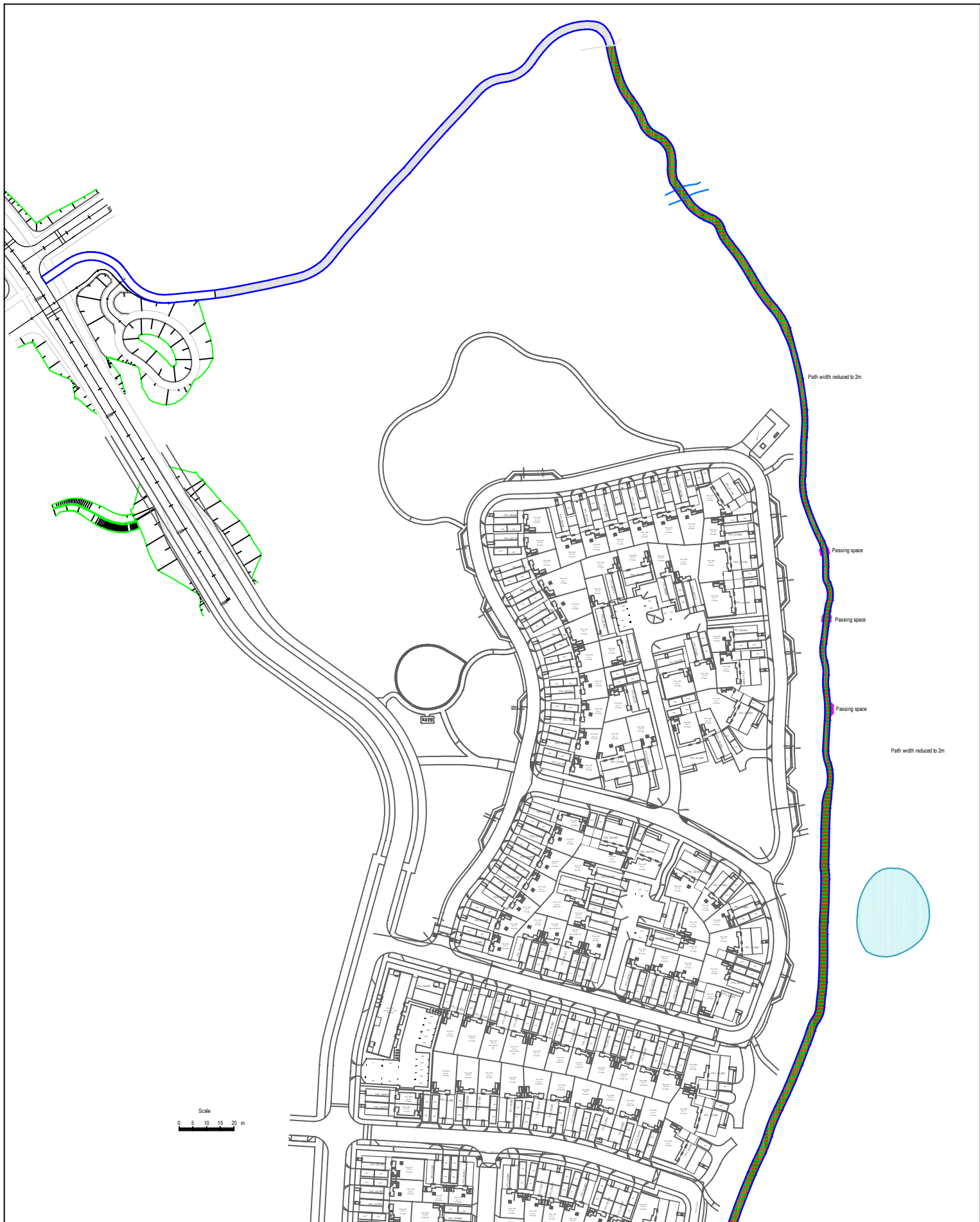
No dimensions are to be scaled from this drawing.  
All dimensions are to be checked on site. All measurements are for indicative purposes only.

- |                           |                             |
|---------------------------|-----------------------------|
| Path edge (site boundary) | Bramble Scrub               |
| Other Neutral Grassland   | Woodland                    |
| Ruderal / Ephemeral       | Bare Ground                 |
| Mixed Scrub               | Artificial Unsealed Surface |
| Blackthorn scrub          |                             |









Project Title : Brookleigh Green Circle

Job Reference : 552762

Drawing Title : Figure A4 - Post-Development Habitats (North)

Date : 21/01/25

Status : Final

Scale : NTS

Drawn : PW

Checked: MH

-  Path edge (site boundary)
-  Woodland
-  Artificial Unsealed Surface



No dimensions are to be scaled from this drawing.  
All dimensions are to be checked on site. All measurements are for indicative purposes only.