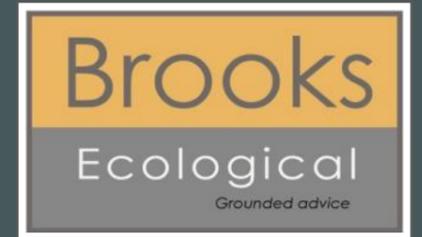


# Biodiversity Management Plan



**Westgate, Cleckheaton**

**Strata**

ER-4666-06B

Report Reference:	Biodiversity Management Plan Westgate Cleckheaton
Report Reference:	ER-4666-06B
Written by:	Micah Duckworth BA MSc MCIEEM CSJK Biodiversity Manager
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Approved for issue:	Peter Brooks BSc (Hons) MA, MCIEEM, CEnv Managing Director
Date:	05-09-2023 16.10.2023 Rev A 28.05.2025 Rev B

# Introduction

This site has been subject to baseline studies which have informed the layout, demonstrating its engagement with the 'mitigation hierarchy'. Designs have been drawn up that allow the scheme to deliver biodiversity units through habitat creation and management.

The plan is produced to aid the discharge of planning Condition 22.

The final layout has been assessed under the Defra Metric 3.1 for Biodiversity Net Gain showing the proposed development can achieve 13.88 habitat units and 5.05 hedgerow units on site. This report is the final delivery document, and shows how retained and created habitats can attain the condition scores that were predicted in the Biodiversity Net Gain proposals.

In addition to meeting habitat condition objectives, this document presents all additional measures to enhance the value of the Site for fauna.

The Plan is produced in accordance with Chapter 11 of British Standard 42020 defining Biodiversity Management Plans reports which set out how wildlife interests will be enhanced, restored and maintained.

In producing this plan the following sources have been referred to:

- Preliminary Ecological Appraisal Report, Brooks Ecological ER-4666-01, August 2020
- Ecological Impact Assessment, (including Biodiversity Net Gain calculations) Brooks Ecological ER-4666-03-C February 2023
- Landscape Masterplan R/2487/1Q, FDA Landscape, May 21



Figure 1 Landscape Masterplan

## Aims

The aim of this plan is to maximise delivery of the wildlife potential and condition of habitats on site, creating areas of robust semi-natural landscape that offset some pre-existing habitat lost through development and provide enhancements which benefit invertebrates, mammals and birds

## Objectives

The following sections of the Plan detail management objectives relevant to each habitat or ecological feature as appropriate. These include management options and monitoring to ensure features achieve their target objectives and habitat conditions over the course of the management period. An overall work schedule is provided to summarise annual works for the initial 5 years.

## Scope of Plan

This plan relates to the whole development as contained within the red line illustrated in Figure 1. The plan relates primarily to the areas of new and enhanced habitat within public open space to the south. The creation and maintenance of some features which also deliver biodiversity units are specified separately in the Landscape Masterplan as these features fall within built and amenity spaces subject to landscaping standards and estate maintenance. This includes individual trees, ornamental hedges, lawns (modified grassland) and introduced shrubs beds as shown right.

## Delivering the Plan

The Developer is responsible for the creation, establishment and maintenance works for a 30 year period.

The Developer will appoint either a Specialist Ecological Management Company (SEMC) or a company working under the direction of an Ecological Clerk of Works (ECoW) to oversee the delivery of this plan prior to any work commencing on site.

The ECoW would be a qualified Ecologist and member of the Chartered Institute of Ecology and Environmental Management, or be otherwise approved by the LPA.

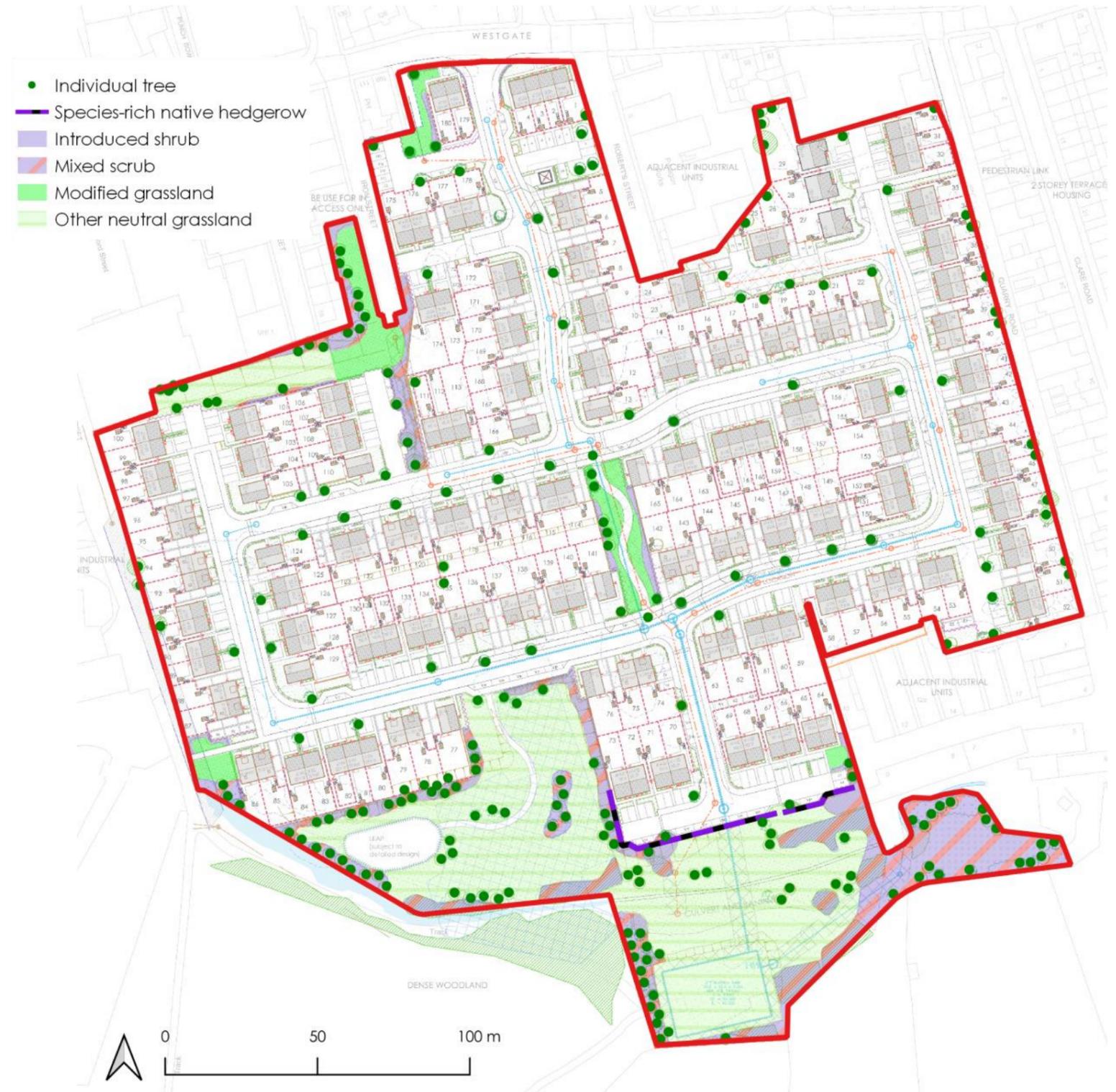


Figure 2 Landscape plan highlighting habitat areas and features relevant to the BMP

# Native Hedgerow

## Rationale

Creating species rich linear features which can provide forage, shelter and nesting resources to birds, small mammals and invertebrates.

### Objectives

Reaching a DEFRA\* condition score of **Moderate** by year 5.

### Specification

**Soil** Protected *in situ*.

**Weeds** Maintain a weed free strip under establishing hedge.

**Seeding** N/A.

**Planting** From Landscape Plan schedule . Plant hedge as staggered double row where larger gaps exist. Plant at rate of 5 per linear metre. Plant in staked tree tubes.

### Management

**Year 1** Keep a 1m strip centered on the hedge free of weed growth using translocated no persistent herbicide. Two visits in the growing season.

**Year 2** No further weed treatment. Under sow with Emorsgate seeds Hedgerow mix EH1 at 4g per m square. Lightly rake.

**Year 3** Cut 50% of hedge in late winter. Identify any trees that can be left to grow into hedgerow standards. Mark with a flag to prevent cutting. Look to achieve a random scattering of standards averaging at 1 per 40m.

**Years 4-10** Cut the remaining uncut 50% of each identifiable hedge in late winter. Keep flags to prevent cutting until a very obvious standard has developed. Repeat cutting treatment alternating areas cut between years.

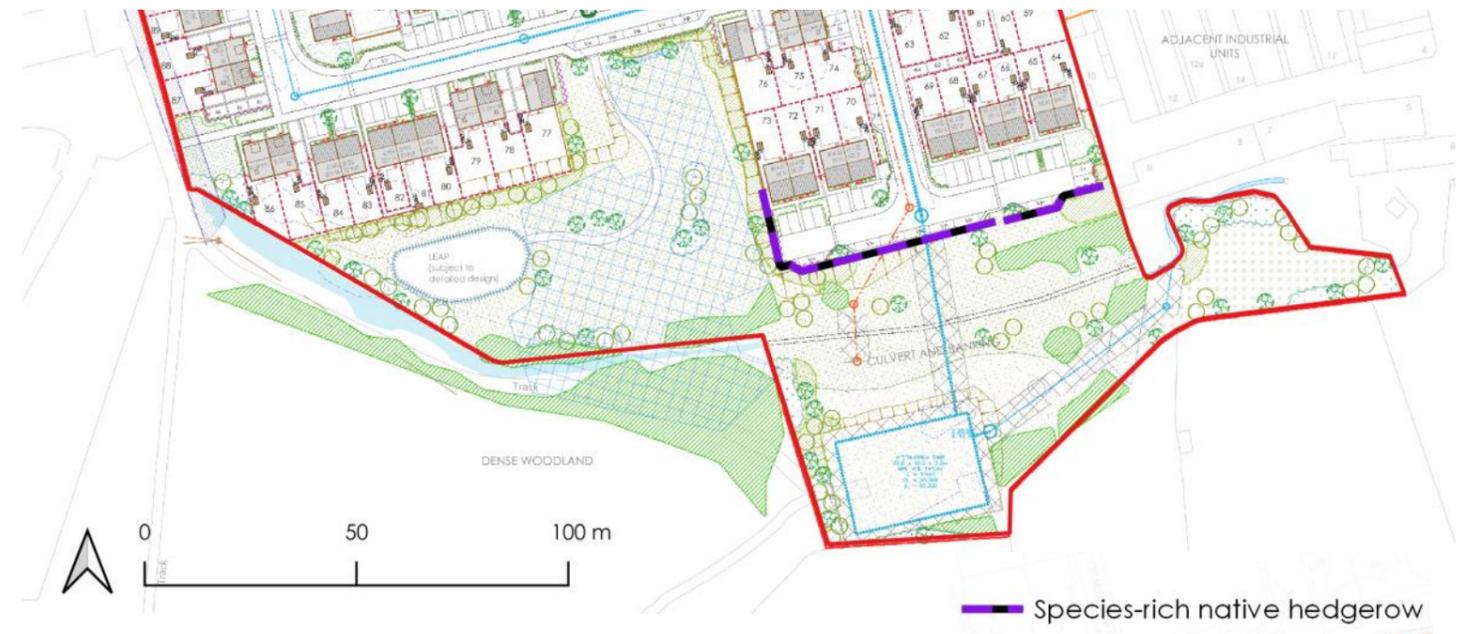
### Monitoring

ECoW or SEMC to conduct monitoring visits in years 3 and 5 to check trajectory to Moderate condition.

### Remedial action options

- Increase weed control if undesirable species establish.
- Re-seed and replant locally.
- Vary cutting profile.

	Attribute	Targeted	Score	Criteria for favourable condition
A1	Height	Yes	1	>1.5m average along length
A2	Width	Yes	1	>1.5m average along length
B1	Gap - hedge base	Yes	1	Gap between ground and base of canopy <0.5m for >90% length
B2	Gap - hedge canopy continuity	Yes	1	Gaps make up <10% of total length and no canopy gaps >5m
C1	Undisturbed ground and perennial vegetation	Yes	1	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length, measured from the outer edge of the hedgerow & present on one side of hedge at least
C2	Undesirable perennial vegetation	Yes	1	Plant species indicative of nutrient enrichment of soils dominate <20% cover of area of undisturbed ground
D1	Invasive and neophyte species	Yes	1	>90% of hedgerow and undisturbed ground is free of invasive non-native and neophyte species
D2	Current damage	Yes	1	>90% of hedgerow of undisturbed ground is free of damage caused by human activities
<b>Overall condition target: Moderate - = No more than 4 fails overall and on more that one group with both failing</b>				
Refer to <i>The Biodiversity Metric 3.1 Technical Supplement</i> for assessment criteria details				



\* Department of Environment Food and Rural Affairs (DEFRA) Metric 3.1 Technical Supplement

# Public Open Space (POS) grassland

## Rationale

The POS areas provide an opportunity to incorporate areas of more biodiverse semi-natural grassland with a long flowering sward.

## Objectives

Reaching a DEFRA condition score of **Moderate** by year 5.

## Specification

**Soil** Checked by ECoW for suitability: this to be a friable, low nutrient load, neutral soil. Spread using back actor spread and firmed. Not driven over or compacted. All soil handling and spreading to be supervised and sanctioned by ECoW.

**Weeds** If the soil is likely to support viable weed seeds it should be allowed to grow to first flush, then killed off with translocated non-persistent weedkiller.

**Seeding** Seed with Emorsgate seeds (or ECoW approved equivalent) to supplier's specification:

POS grassland (green areas in plan right)

- Emorsgate Seeds EL1 Flowering Lawn Mixture at 4gm/square metre.

Attenuation tank areas (yellow in plan right)

- Emorsgate Seeds EM2 Standard General Purpose Meadow Mixture at 4gm/square metre.

## Management

**Year 1–All grassland areas:** Five cuts, collect arisings and remove from Site. Use a weed wipe three times in year 1 to kill off weeds—spear thistle, creeping thistle, broad-leaved dock, clustered dock, wood dock, curled dock, nettle, ragwort, and others according to ECoW recommendations. Operatives must be proven competent in identifying.

### Years 2 onwards

POS grassland:

Marginal areas left to grow tall long until May. Regular cuts through the season in higher use amenity areas.

Attenuation tank area:

Two cuts, once in August and again in October—remove arisings. Continue to spot-treat competitive weed species each year until under control according to ECoW.

## Monitoring

ECoW or SEMC to conduct monitoring visits in years 2, 3 and 5 to check trajectory to target condition.

## Remedial action options

- Increase weed control if undesirable species establish.
- Soil scrape to reduce nutrients.
- Re-seed and replant locally.

Condition Assessment Criteria: Grassland broad habitat type		Targeted	Score	Notes
1	Appearance and composition of vegetation closely matches UKHabs characteristics of specific grassland type. Wildflowers, sedges and indicator species are clearly and easily visible throughout the sward	No	0	
2	Sward height is varied (at least 30% under 7cm and at least 20% over 7cm)	Yes	1	
3	Cover of bare ground between 1% and 5%, including localised areas like rabbit warrens	Yes	1	
4	Cover of bracken under 20%; cover of scrub, including bramble, under 5%	Yes	1	
5	Absences of INNS. Combined cover of undesirable species and physical damage accounts for under 5% of total area	Yes	1	
<b>Overall condition</b>			<b>3 or more</b>	<b>Moderate</b>
Refer to <i>The Biodiversity Metric 3.1 Technical Supplement</i> for assessment criteria details				

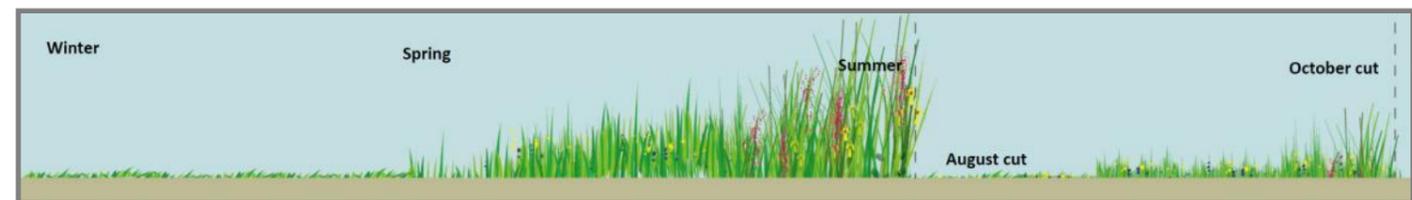


Figure 3 Illustration of mowing regime for grassland areas (annual mowing areas shown below)



# Mixed scrub

## Rationale

New scrub planting and management of existing habitat to create a diverse ecotone habitat between the Site's wooded boundaries and its internal grasslands.

## Objectives

Reaching a DEFRA condition score of **Moderate** by year 5.

## Specification

**Soil** Retained and protected, or stored and respread for created areas.

**Weeds** Treat weeds in new tree and shrub planting stations.

**Planting** in areas shown on the Landscape Masterplan as 'mixed native shrub' and 'mixed native shrub with trees'. Shrub species to be included from Schedule NS1 see (Appendix) with native trees from Landscape Plan.

## Management

**Years 1-2** Keep a 0.5m diameter area weed-free with herbicide. Check shelters are fitted properly, stakes are firm and ties in place. Hand weed grasses and weeds in tree shelters if present. Replace failures next growing season. Monitor for competitive weed growth away from planting stations. Spray or weed wipe as required to keep cover to less than 10%.

**Years 3-5** Monitor for competitive weed growth away from planting stations. Spray or weed wipe as required to keep cover to less than 10%. Remove tree guards before year 5.

**Year 10** Thin by 20% to remove canopy trees if these are outcompeting scrub. Must be ECoW directed. Leave all felled timber *in situ* to rot down. Selectively seed with 1kg of native woodland seeds at ECoW discretion in locations with suitable soil and light conditions (10-40% ambient daylight in summer).

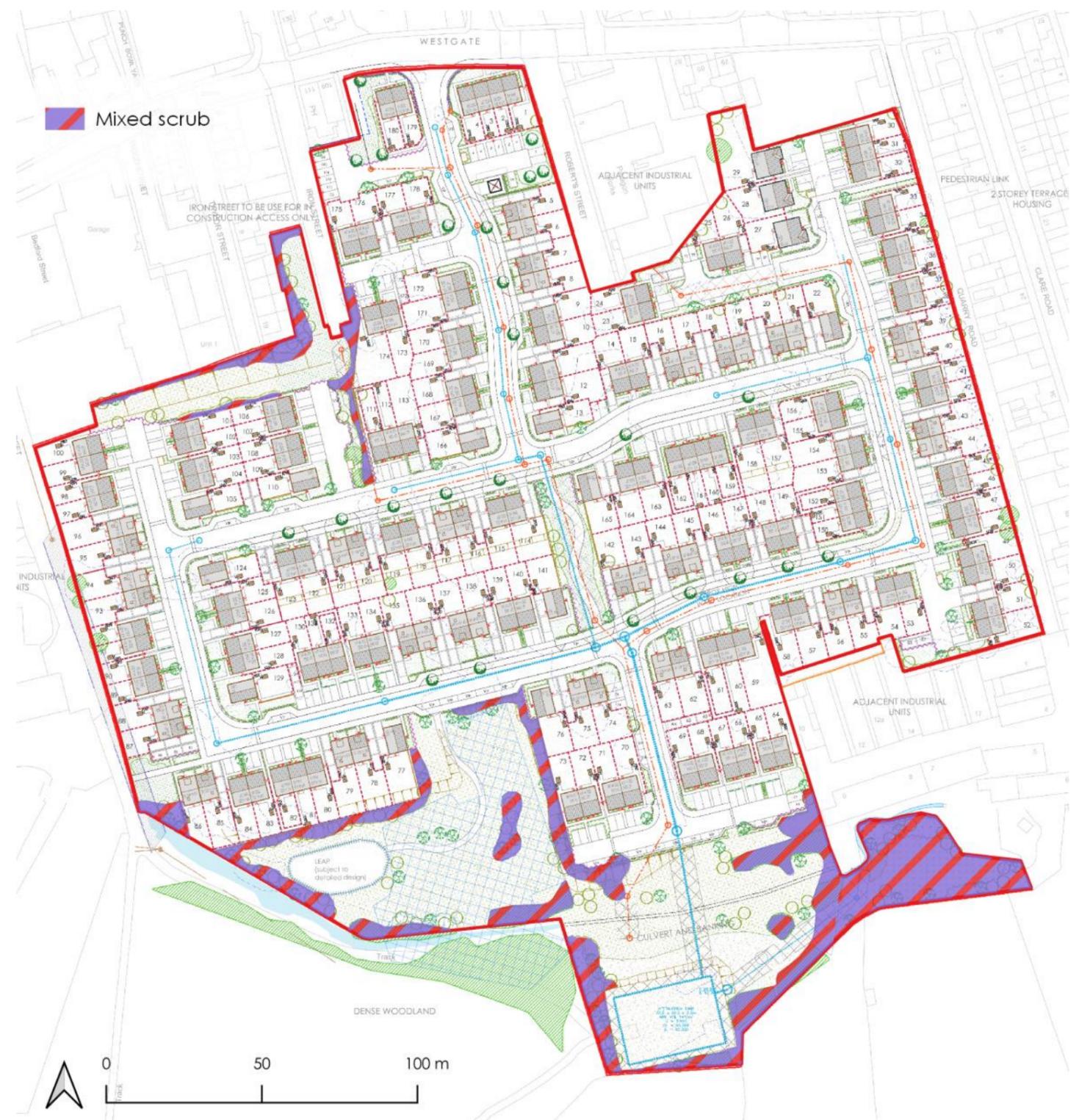
## Monitoring

ECoW or SEMC to conduct monitoring visits in years 2 and 5 to check trajectory to Moderate condition.

## Remedial action options

- Increase weed control if undesirable species establish.
- Re-seed and replant locally.
- Increased thinning of canopy species.

Condition Assessment Criteria: Scrub broad habitat type		Targeted	Score	Notes
1	Representative of UKHabs description (where in natural range). 3+ woody species, none exceeding 75% cover (except common juniper, sea buckthorn, or box, up to 100% cover permissible)	Yes	1	
2	There is a good age range—a mixture of seedlings, saplings, young shrubs and mature shrubs	Yes	1	
3	Absence of INNS, and undesirable species make up <5% of ground cover	Yes	1	
4	Well-developed edge with scattered scrub and tall grassland and/or herbs between scrub and adjacent habitats	Yes	1	
5	Clearings, glades, or rides present within the scrub, providing sheltered edges	Yes	1	
<b>Overall condition</b>			<b>3 or more</b>	<b>Moderate</b>
Refer to <i>The Biodiversity Metric 3.1 Technical Supplement</i> for assessment criteria details				



# Nesting Boxes for Birds

## Rationale

Ready made nesting boxes will be incorporated into building walls to provide shelter and breeding sites for declining birds such as swifts. Boxes are proposed on a ratio of one per property in accordance the British Standard (BS 42021:2022) but since swifts are colony species, they are best installed in groups within end gables in the locations indicated right.

**Swift bricks**

**Specification**  
<https://www.nhbs.com/vivara-pro-cambridge-swift-nest-box>  
 Or equivalent approved by the Ecological Clerk of Works

**Location Notes**  
 Swift bricks will be positioned as high up on buildings as possible, ideally below the verges of gables. Boxes will not be positioned above windows, to prevent potential conflict with new homeowners.

**Number:** 180 (3 per indicated property)

**When erected?** Prior to sale

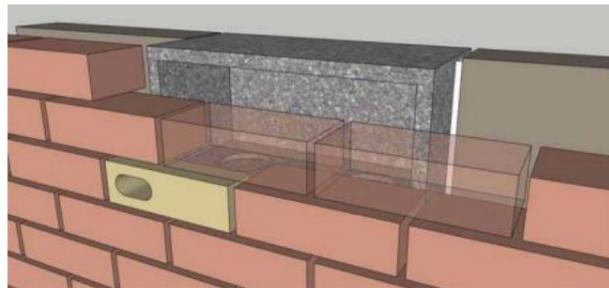
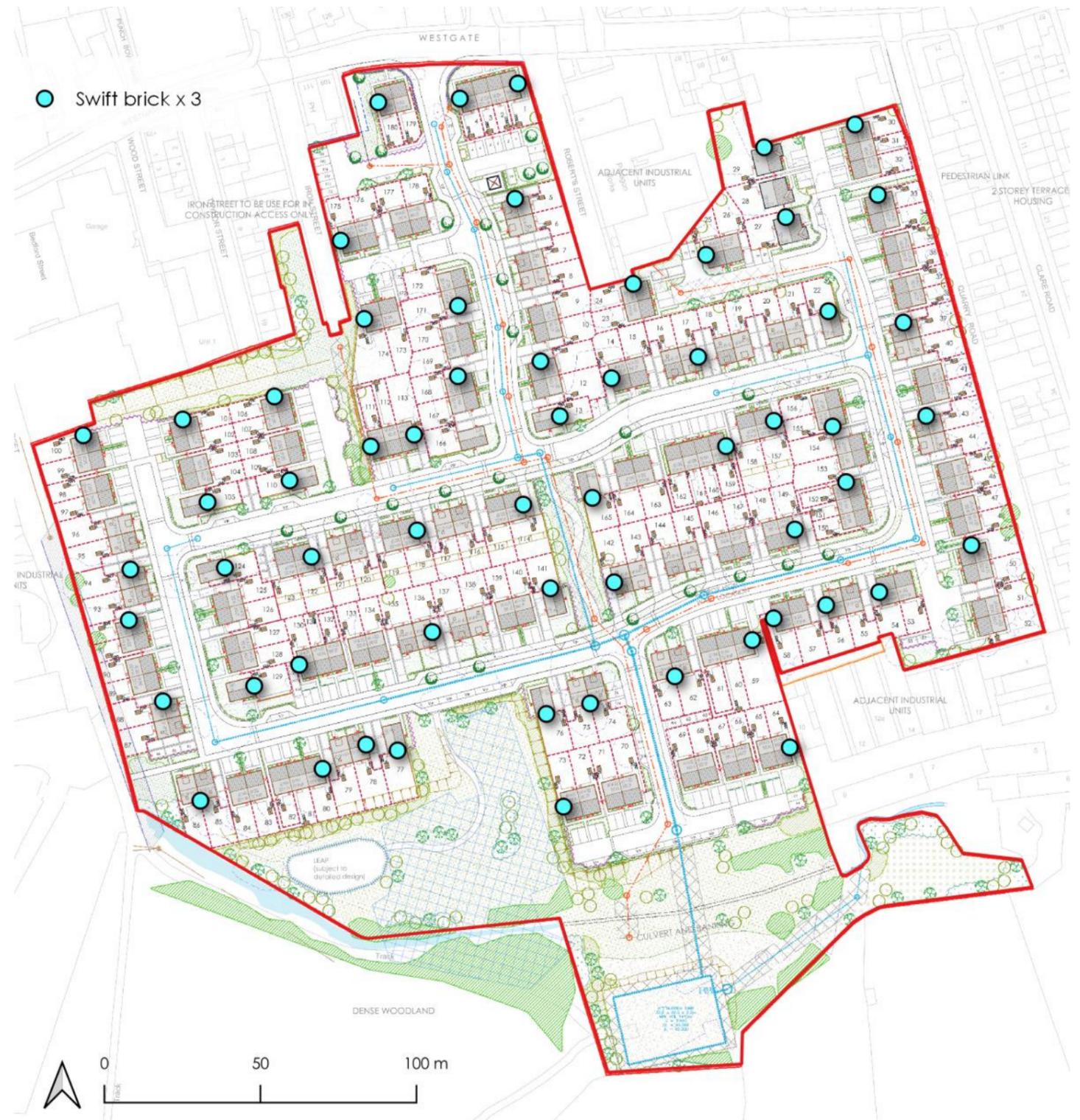


Photo credits: Dick Newall; Action for Swifts

Note all locations and specifications may be varied under agreement with ECOw



# Roosting Boxes for Bats

## Rationale

Ready made roosting boxes will be incorporated into building walls to provide shelter and breeding sites for declining fauna.

### Integrated Bat boxes



#### Specification

<https://www.nhbs.com/ibstock-enclosed-bat-box-c>  
Or equivalent approved by an Ecologist

#### Location Notes

Locations on properties as illustrated by pink dots in plan.

Sited as high as possible under the eaves with good access to unlit vegetated corridors.

**Number:** 30  
**When erected?** During construction.

### Tree Mounted Bat boxes



#### Specification

Kent Bat Box <https://www.nhbs.com/nhbs-kent-bat-box>  
Or equivalent approved by an Ecologist

#### Location Notes

Located in trees according to the ECoW instructions at minimum of 4m with clear flight-lines and providing a range of orientation (Purple dots).

Note we specify these boxes rather than Schwegler 2FF as we find these to be more successful for bats and less attractive to nesting birds.

**Number** 20  
**When erected?** Prior to construction

Note: all locations and specifications may be varied under agreement with the ECoW.



# Faunal Access

## Rationale

Hedgehogs have seen significant declines over the last few decades, with one of the major factors being loss of habitat. This species is listed under Section 41 of the NERC Act (2006) as a 'Species of Principle Importance'.

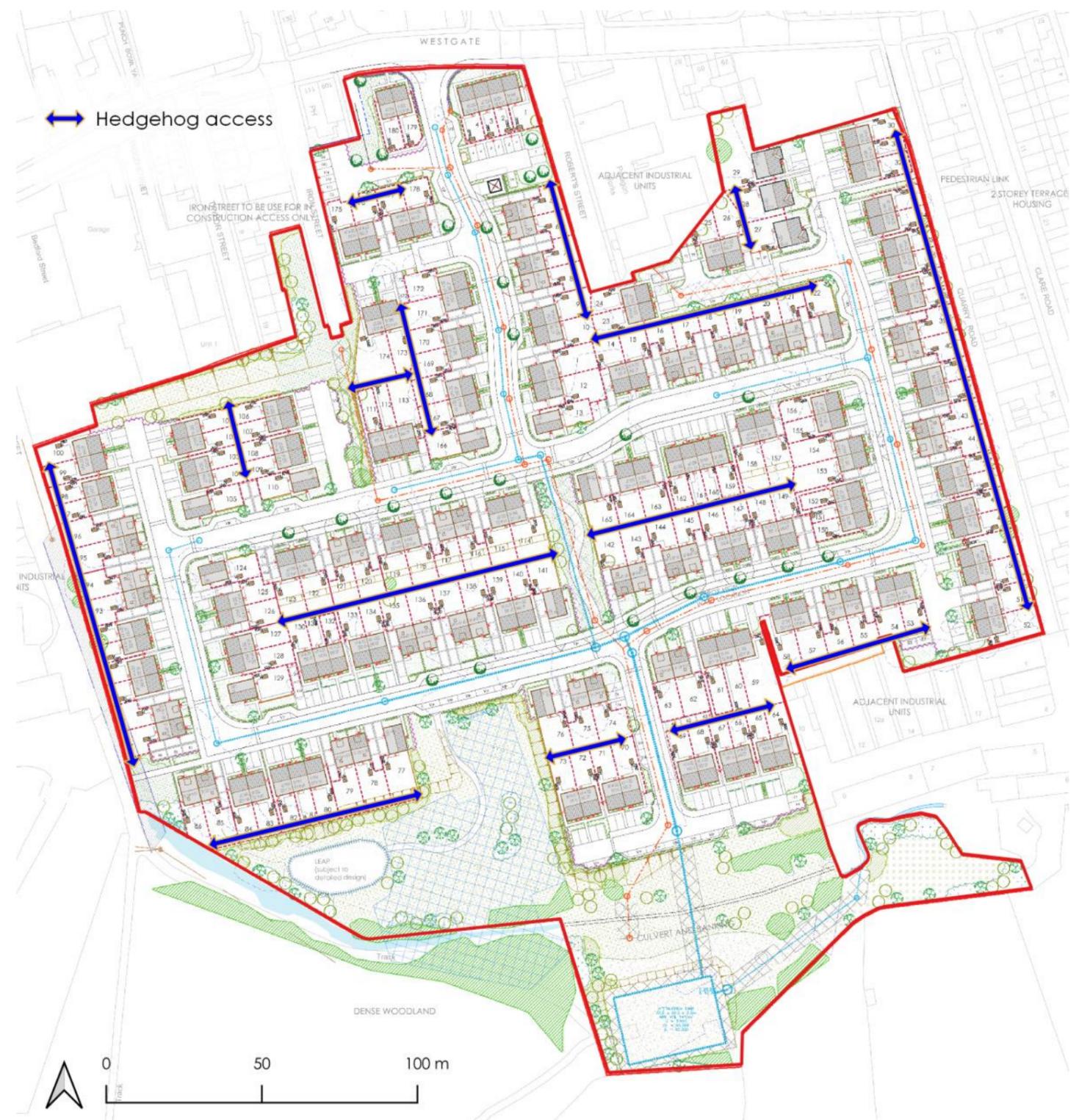
New gardens can provide excellent hedgehog habitat and whereas previously, these gardens were accessible to this species by virtue of hedgerow planting, a shift in industry practice to hard borders (fences and walls) has inadvertently excluded hedgehog from this extensive foraging resource. Simply providing a means of access, into and between these new gardens, can very easily and cheaply increase the amount of habitat available to hedgehogs.

## Hedgehog access holes

Dependant upon appropriate levels between gardens, at least one hedgehog access hole (measuring at least 13cm x 13cm) will be installed in each new garden and boundary fence line, allowing rear gardens and open green spaces to remain connected. This will allow hedgehogs to move through the Site, as shown in the figure opposite (blue arrows).

This will be done by contractors during the fence's installation. These will be either purpose made panels such as those supplied by Jackson Fencing or be cut into standard fences, by contractors, during installation. Where concrete gravel boards are used, either purpose built ramps to access holes in the fence panels or underpasses beneath the boards will be made.

All holes will be simply labelled 'Hedgehog Highway' (see photos below) so home owners know why there are there. This will reduce the risk of holes being sealed.



# Timeline



Task	ECoW to direct	ECoW to carry out	Year 1	Year 2	Year 3	Year 4	Year 5	6 – 30
Soiling of new grassland habitats–POS and attenuation tank area	Yes		To construction programme	To construction programme				
Weed treatment of spread soils	Yes		During growing season	During growing season				
ECoW checks weed treatment has been carried out			Prior to seeding	Prior to seeding				
Seeding and planting of new habitats	Yes		October-February	October-February				
Manage wildflower grassland	Yes (in year 1-2)			April-Sept	April-Sept	April-Sept	April-Sept	April-Sept
Manage scrub and native hedgerows	Yes (in year 1-2)			October-February	October-February	October-February	October-February	October-February
Erect faunal boxes and hedgehog access			As built	As built				
ECoW verification faunal boxes			As built	As built				
ECoW Monitoring		Yes	Yes	Yes	Yes		Yes	5 yearly to 30

# Appendix

NS1 Native Shrub Schedule to include in scrub planting					
Scientific	English	%	Stock	Groupings	Centres and style
<i>Corylus avellana</i>	Hazel	25	1+1 BR	groups 3-5	1m to 3m naturalistic
<i>Prunus spinosa</i>	Blackthorn	20	1+1 BR	groups 3-5	1m to 3m naturalistic
<i>Ilex aquifolium</i>	Holly	5	1ltr Pot	Scattered individuals	-
<i>Crataegus monogyna</i>	Hawthorn	20	1+1 BR	groups 3-5	1m to 3m naturalistic
<i>Rosa canina</i>	Dog Rose	10	1+1 BR	Scattered individuals	-
<i>Malus sylvestris</i>	Crab apple	5	1+1 BR	Scattered individuals	-
<i>Viburnum opulus</i>	Guelder Rose	5	1+1 BR	Scattered individuals	-
<i>Sorbus aucuparia</i>	Rowan	10	1+1 BR	Scattered individuals	-