



ECOLOGICAL MITIGATION STRATEGY

PHASE 3B
BEREWOOD
WATERLOOVILLE
HAMPSHIRE
PO7 7PS

OCTOBER 2021

ON BEHALF OF BLOOR HOMES SOUTHERN



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1.0 EXECUTIVE SUMMARY

1. LC Ecological Services Limited (LCES) were commissioned by Bloor Homes Southern to produce an Ecological Mitigation Strategy to discharge condition 6 (ii) (f) of outline planning consent 10/02862/OUT for the development of approximately 2,550 dwellings, employment land, infrastructure, public services and green and blue infrastructure on the site known as Berewood, located in Waterlooville, Hampshire.
2. This report is related to a Reserved Matters application on land known as Phase 3B of the development at Berewood, Waterlooville, Hampshire, PO7 7PS (central grid reference: SU 67585 09237), for the construction of 122 dwellings, including affordable housing.
3. One of the conditions (condition 6 (ii) (f)) that Winchester City Council has attached to the outline planning permission requires details of ecological mitigation measures to support each Reserved Matters application. This report will cover the delivery of the approved ecological mitigation, compensation and enhancement measures for the development throughout its entire lifespan, which includes management prescriptions that will continue in perpetuity to maintain the condition and functionality of the habitats within the site and offsite. A full, yet concise, summary of all the approved ecological mitigation, compensation and enhancement measures is provided in this mitigation strategy, including details on the timings and methods of implementation and materials required, which will serve as a direct guide to fulfilling the biodiversity objectives for the site whilst also adhering to the relevant wildlife legislation, policies and guidance.
4. Bloor Homes Southern will be responsible for the overall implementation of the mitigation strategy and will appoint suitable professionals to undertake all ecological mitigation, compensation and enhancement measures, and ongoing habitat management prescriptions.

2.0 INTRODUCTION

LC Ecological Services (LCES) Limited were commissioned by Bloor Homes Southern to produce an Ecological Mitigation Strategy to discharge condition 6 (ii) (f) of outline planning consent 10/02862/OUT for the development of approximately 2550 dwellings, employment land, infrastructure, public services and green and blue infrastructure on the site known as Berewood, Waterlooville, Hampshire. This report relates to a Reserved Matters application on land known as Phase 3B of the development at Berewood, Waterlooville, Hampshire, PO7 7PS (central grid reference: SU 67585 09237), for the construction of 122 dwellings, including affordable housing.

One of the conditions (condition 6 (ii) (f)) that Winchester City Council has attached to the outline planning permission requires details of ecological mitigation measures to support each Reserved Matters application. The condition states:

'Details of ecological mitigation measures (informed by up-to-date ecological surveys and assessment, the details of which shall be submitted to and approved by the Local Planning Authority) required for each reserved matters application, including both ecological works directly related to that reserved matters area and any works associated with that development area but outside of the boundary of the area. Ecological mitigation measures should be in accordance with measures set out within the approved Environmental Statement.'

A concise summary of the ecological mitigation, compensation and enhancement strategies for the development is provided in section 3 of this report and a timetable for the delivery of these strategies and the specific measures is provided in section 4. Section 5 includes the roles and responsibilities for delivery of the Ecological Mitigation Strategy.

3.0 ECOLOGICAL MITIGATION, COMPENSATION AND ENHANCEMENT

This section summarises the approved mitigation, compensation and enhancement measures for each of the identified ecological features that may be impacted by the development proposals.

The plan included as appendix I illustrates the development layout, whilst appendix II includes the results of the update ecological appraisal survey which was conducted in September 2021. A phase 1 habitat map has been provided in appendix III, and photographs of the site are provided in appendix IV.

3.1 Designated sites

Special Protection Area and Ramsar sites

The proposed development lies within 5 kilometres of the Portsmouth Harbour Special Protection Area (SPA) and Ramsar site, and Chichester and Langstone Harbours SPA and Ramsar site, and will therefore potentially contribute to an increase in recreational visitor pressure on the sites covered by these international designations.

In accordance with the approved Environmental Statement (2010), recreational disturbance will be mitigated by the high-quality green infrastructure implemented across the Berewood development, diverting recreational pressures away from the SPA and Ramsar sites. The planting within the River Wallington Nature Reserve located in the north of the wider Berewood site, was completed in 2021, and the discharge of conditions of reserved matters relating to the Newlands Community Nature Reserve were approved in June 2021 (20/01035/REM). Multiple footpaths have been created across the wider Berewood development including accessible pathways, sign posting, and dog waste bins.

The Berewood development, with its extensive high-quality green infrastructure, is considered to assist in reducing impacts on these designated sites by providing local natural spaces for recreational use by the public.

Sites of Importance for Nature Conservation

A series of Sites of Importance for Nature Conservation (SINC) are located within and adjacent to the wider Berewood development site boundary. Newlands Row and Plant Row SINC is located 0.41 kilometres west of the Phase 3B development site. This SINC is an ancient semi-natural woodland which supports hazel dormouse (*Muscardinus avellanarius*).

As identified within the Environment Statement (2010), potential impacts from development on the SINC habitats include damage to root protection zones during construction, and recreational disturbance during the operational phase. The development is located a sufficient distance from the SINC boundary to ensure there will be no damage to

the woodland trees, and the high-quality green infrastructure being created across the wider Berewood development site, will help mitigate recreational pressures.

3.2 Hedgerows

The proposed development will retain both hedgerows 1 and 2 (refer to Phase 1 habitat results and map in appendix II and III) within the design. The following will be implemented to protect and enhance the hedgerows.

- Heras fencing will be installed adjacent to the hedgerow in accordance with British Standards Institute guidance BS5837:2012 (2012). Where standard trees are present (particularly along hedgerow 1) the Heras fencing will include the root protection zones.
- Where hedgerows back onto residential gardens, close boarded fencing will be installed to ensure the hedgerow cannot be removed or altered by the residents and that it is protected in the long term.
- Where there is any damage or dead shrubs within the hedgerow, these will be replaced, or infilled following the recommended species for planting and planting proportions summarised in table 1 below, with shrub whips to be sourced from suppliers of local provenance where possible.

Table 1: Species to be included in hedgerow planting

Species	Proportion within hedgerow
Spindle	15%
Hawthorn	10%
Blackthorn	5%
Field maple	25%
Elm	5%
Hazel	15%
Elder	5%
Crab apple	5%
Guelder-rose	15%

- The infilling will be planted between November and March. Hedgerow species will be planted as whips. All species will be sourced from British-grown stock. Bare root specimens will be kept moist either by using a damp cloth or placing the roots in a bucket of water prior to planting.
- All planted hedgerow whips need to be well heeled in after planting and watered. The planted whips will also be protected from rodent damage with the use of recyclable green shrub shelter in line with standard horticultural best practice.
- Whips will be slot planted, with approximately 335 millimetres between plants in the same row, and 335 millimetres between rows.

- Weed control is essential for establishment of the hedgerow and will be undertaken for the first 3 years.
- Any planted saplings that die during the first 3 years will be replaced.

In the long term, the retained hedgerows, will be lightly flailed or trimmed on a 2 to 3-year rotation and sculpted into an “A-shape” or a “topped A-shape” during such management. The aim of this approach is to create tall bushy hedgerows which have maximum connectivity and value for wildlife.

3.3 Badgers

No evidence of badger (*Meles meles*) was recorded during the walkover survey conducted in September 2021. Badgers however are a highly mobile mammal and numerous setts are known to be present within the wider Berewood development site, with substantial foraging and commuting habitat recorded.

It is recommended that prior to commencement of development an update badger survey is undertaken, to ensure the proposed development will not disturb badgers or impact upon any setts.

3.4 Bats

No buildings or trees with potential to support roosting bats were identified on site. The site however will be enhanced for roosting bats with the installation on a minimum of 50% of the new dwellings of ‘Ibstock enclosed bat box B’ (or similar design) within the walls of the new dwellings. This will significantly increase the availability of roosting opportunities for the local bat populations.

There are records of common and widespread bat species from the site, and these species are known to utilise the habitats on site for foraging and commuting. The existing boundary hedgerows will be retained and will continue to provide connectivity for foraging and commuting bats across the wider Berewood site.

In accordance with *Bats and Lighting in the UK* (BCT, 2018) published guidance, any new external lighting to be installed as part of the development will incorporate the following measures to minimise disturbance impacts on foraging and commuting bats:

- Directing lighting only to areas where it is needed and away from any retained, newly created and/or enhanced habitats which are of value to foraging/commuting bats. The retained hedgerows on site will be maintained as dark/unlit zones as far as possible.

- Considered selection/design of the lighting systems, use of alternative lighting systems such as low height bollard lamps or other downward directional luminaires, and by using accessories such as cowls or hoods to minimise light spill.
- Use of low intensity LED luminaires which lack UV elements, are of a warm white spectrum (ideally <2700Kelvin), and with peak wavelengths higher than 550nm.
- Restricting the height of any lighting columns as far as possible.
- Use of low level bollard lamps as an alternative.
- Preferentially using security lighting that is on a timer and only triggered at waist height.

3.5 Birds

The proposed retention of the existing boundary hedgerows will provide good quality and well-connected nesting and foraging habitat of suitability for a wide range of common bird species, including UKBAP species such as house sparrow (*Passer domesticus*), dunnock (*Prunella modularis*), starling (*Sturnus vulgaris*) and song thrush (*Turdus philomelos*).

The following mitigation will be implemented for breeding birds:

- Initial ground clearance, and any vegetation removal should ideally be conducted outside of the bird nesting season which is considered to run between March and August (inclusive). Where this is not possible, a suitably qualified ecologist will check any potential nesting habitat immediately prior to clearance work. Where nesting birds are encountered, clearance must be postponed until either the chicks have fledged, or the nest is abandoned. An exclusion of a 5-metre buffer will be put into place should any nesting birds be encountered.
- A total of 30 bird nesting boxes will be installed on site on both the new dwellings and on retained suitably mature trees located within hedgerow 1. This will include ten 'Vivara Pro WoodStone House Sparrow Nest Box' (or similar design), five 'WoodStone Build-in Swift Nest Box Deep' (or similar design) and ten 'No. 13 Schwegler Modular House Martin Nest' (or similar design) to be installed on the new dwellings, and five 1B or 3S Schwegler bird boxes (or similar design) to be installed on retained suitably mature trees on site. These measures will significantly increase the availability of nesting opportunities on site for birds.

3.6 Great crested newt

The hedgerows and ditches on site provide potential terrestrial habitat for great crested newts (*Triturus cristatus*). Great crested newts are present within the wider Berewood development site with the main breeding ponds located over 500 metres to the south west

of this particular phase site. The breeding pond is also separated from this phase of the development by herpetosure fencing. The ditch present within the site boundary is not considered suitable to support breeding great crested newts due to the lack of any standing water.

A pond is located approximately 50 metres to the west of the site within an adjacent woodland. As part of the wider Berewood monitoring programme, this pond was surveyed for great crested newt using eDNA, and the results came back negative for this species. Great crested newts are therefore considered absent from this phase of the development site. To ensure great crested newt cannot colonise the site, the grassland habitat should continue to undergo regular cutting to maintain a short sward height at all times.

Two sustainable drainage systems (SuDs) will be created outside of the development phase (illustrated in appendix V), with one located along the northern boundary and one on the western boundary. SuDs features overtime may become suitable as breeding habitat for great crested newts, which may colonise these features. Where great crested newts do colonise these features, maintenance will only take place in late September/October to avoid impacting upon the species whilst breeding and the offspring at different life stages.

3.7 Hazel dormouse

The hedgerows within the site boundary provide suitable habitat for the hazel dormouse, with good habitat structure and availability of suitable food plants. The hazel dormouse is known to be present within the wider Berewood development, with multiple mitigation licences currently in place with an associated Berewood site-wide masterplan, which has been approved by Natural England. The hedgerows within this particular phase of the development will be retained.

The mitigation measures to protect and enhance the hedgerows, as described in section 3.2 above, and the lighting strategy detailed in section 3.4, will ensure the protection of hazel dormice, in the event that they colonise this part of the site.

3.8 Hedgehog

The UK BAP species European hedgehog (*Erinaceus europaeus*) will be considered within the development scheme as follows:

- If any excavations are left open overnight during construction, wooden boards or planks will be provided as a means of escape for any animals that fall in.
- The proposed retention of the existing boundary hedgerows will provide good quality foraging, commuting, and sheltering habitat for hedgehogs in the long term.

- Hedgehog-friendly gravel boards with holes of 13 x 13 centimetres will be included in all garden fencing between houses on site to allow hedgehogs to freely move between gardens.

3.9 Reptiles

The hedgerows, mound and ditches on site provide potentially suitable refuge habitat for common UK reptile species. The grassland habitat which forms the majority of the site, is currently managed to a short sward height and does not provide the structural diversity required by reptiles. Common reptiles including slow-worm (*Anguis fragilis*) and grass snake (*Natrix helvetica*) are known to be present across the wider Berewood development site.

The adjacent surrounding habitats include an allotment which is located on the eastern boundary, and residential dwellings to the north and west. To ensure reptiles are safeguarded from harm during construction and do not colonise the site from adjacent areas, the grassland habitat should continue to undergo regular cutting to maintain a short sward height.

3.10 General site enhancements

The following general enhancements will be implemented to increase the ecological value of the development:

- Grassland seed mixes from a supplier of seeds of local provenance such as a wildflower lawn mix Emorsgate EL1 or similar will be used to seed any new amenity grassland areas within the design of the development. Such grassland provides better nectar sources for invertebrates and hence is of greater value for foraging birds and mammals.
- Use of native shrubs and trees within the landscaping scheme, such as field maple (*Acer campestre*), dog-rose (*Rosa canina*), hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), blackthorn (*Prunus spinosa*), elder (*Sambucus nigra*), small-leaved lime (*Tilia cordata*), pedunculate oak (*Quercus robur*) and beech (*Fagus sylvatica*). These species will enhance the biodiversity and green infrastructure value of the site.
- Shrub and groundcover planting will be provided for privacy and year-round interest, as well as for biodiversity. Species such as bugle (*Ajuga reptans*), foxglove (*Digitalis* sp.), hemp-agrimony (*Eupatorium cannabinum*), lavenders (*Lavandula* spp.), evening primrose (*Oenothera* sp.), roses (*Rosa* spp.), betony (*Stachys officinalis*), thyme (*Thymus* sp.) and native ferns (*Asplenium*, *Dryopteris*, *Athyrium* spp.) can be planted.

4.0 TIMETABLE OF WORKS

The proposed schedule for all of the ecological mitigation, compensation and enhancement measures for the development is summarised in table 2 below. The roles and responsibilities for these works are defined in section 5.

Table 2: Timetable of works

Ecological receptor or feature	Ecological mitigation, compensation, or enhancement measure (including habitat management prescriptions)	Year (before, during or after construction)	Timing
Designated sites and SINCs	A site-wide Green Infrastructure, including creation of River Wallington Nature Reserve and Newlands Community Nature Reserve.	Completed and ongoing.	No timing restrictions.
Hedgerows	Installation of Heras fencing to protect existing hedgerows.	Prior to construction.	No timing restrictions.
	Gap infill planting on existing retained hedgerows, using a variety of native woody species.	At the earliest opportunity either prior to or during construction.	All planting should be completed between September and November as this is an optimal time of year for tree/shrub planting to ensure successful establishment of saplings.
	Annual weed control around the planted shrub whips and checks for/replacement of any dead whips.	Over 3 years following the initial planting of the shrub whips.	These tasks should be completed between September and November as this is an optimal time of year for tree/shrub planting to ensure successful establishment of saplings.

	Native hedgerow management, comprising light flailing or trimming of hedgerows on a 2 to 3-year rotation, with the hedgerows sculpted into an “A-shape” or a “topped A-shape” during such management. Any newly planted sections of native hedgerow should first be left to become sufficiently established after a period of approximately five years before any management is applied.	Ongoing and in perpetuity following commencement of the development.	Between September and February (inclusive) (to avoid conflict with the nesting bird season).
	Installation of close boarded fencing between hedgerows and gardens of dwellings	During construction	No timing restrictions.
Badger	Update site inspection	Prior to construction	No timing restrictions.
Bats	Installation of ‘Ibstock enclosed bat box B’ (or similar design) within the walls of 50% of the new dwellings.	During construction.	No timing restrictions.
	Installation of ten ‘Schwegler General Purpose bat boxes 2F/2FN’ (or similar design) on retained suitably mature trees.	Prior to and/or during construction.	No timing restrictions.
	Design of a suitable external lighting strategy for the development that will minimise impacts on foraging and commuting bats (as well as other fauna).	Prior to construction during the planning process.	No timing restrictions.
Birds	Protection of nesting birds during initial ground clearance, and any vegetation removal.	Prior to and/or during construction.	Clearance of any suitable bird nesting habitat should ideally be conducted outside of the bird nesting season which is considered to run between March and August (inclusive).

			Where this is not possible, a suitably qualified ecologist will be required to undertake nesting bird checks.
	Installation of ten 'Vivara Pro WoodStone House Sparrow Nest Box' (or similar design), five 'WoodStone Build-in Swift Nest Box Deep' (or similar design) and ten 'No. 13 Schwegler Modular House Martin Nest' (or similar design) on the new residential dwellings.	During construction.	No timing restrictions.
	Installation of five 1B or 3S Schwegler bird boxes (or similar design) on retained suitably mature trees on site.	Prior to and/or during construction.	No timing restrictions.
Great crested newts	Continuous management of grassland habitat to retain short sward height. This will create and maintain unsuitable terrestrial habitat on site, thereby discouraging great crested newts from foraging and utilising this area.	Prior to and/or during construction.	No timing restrictions.
Hazel dormouse	Installation of Heras fencing to protect existing hedgerows	Prior to construction	No timing restrictions.
	Design of a suitable external lighting strategy for the development that will minimise disturbance impacts on dormice.	Prior to construction during the planning process.	No timing restrictions.
Hedgehog	Safeguarding measures for hedgehog during construction (refer to section 3.8).	Must be implemented throughout the duration of the construction phase.	No timing restrictions.

	Installation of hedgehog-friendly gravel boards with holes of 13 x 13 centimetres in all garden fencing between all garden fencing between houses on site to allow hedgehogs movement between gardens.	During construction.	No timing restrictions.
Reptiles	Continuous management of grassland habitat to retain short sward height. This will create and maintain unsuitable habitat on site for reptiles.	Prior to and/or during construction	No timing restrictions.
General site enhancements	General site enhancement measures to be incorporated into the layout of the development (refer to all enhancements detailed in section 3.10).	During construction.	No timing restrictions.

5.0 ROLES & RESPONSIBILITIES

Bloor Homes Southern will be responsible for the overall implementation of the Ecological Mitigation Strategy and will appoint suitable contractors to undertake all ecological mitigation, compensation, and enhancement measures, including any ongoing habitat management prescriptions.

Bloor Homes Southern will also ensure that a suitable level of information about the Ecological Mitigation Strategy and the wider site's ecological interest features is included within a welcome pack for all new homeowners. This information will include details about the ecological mitigation strategies, as well as advice to minimise impacts from recreation, such as keeping to designated walkways, keeping dogs on leads, cleaning up dog fowl, not to litter, and not to pick any wildflowers. Advice will also be provided on how homeowners can encourage hedgehogs and other wildlife into their gardens, and maps of local walking routes.

6.0 REFERENCES

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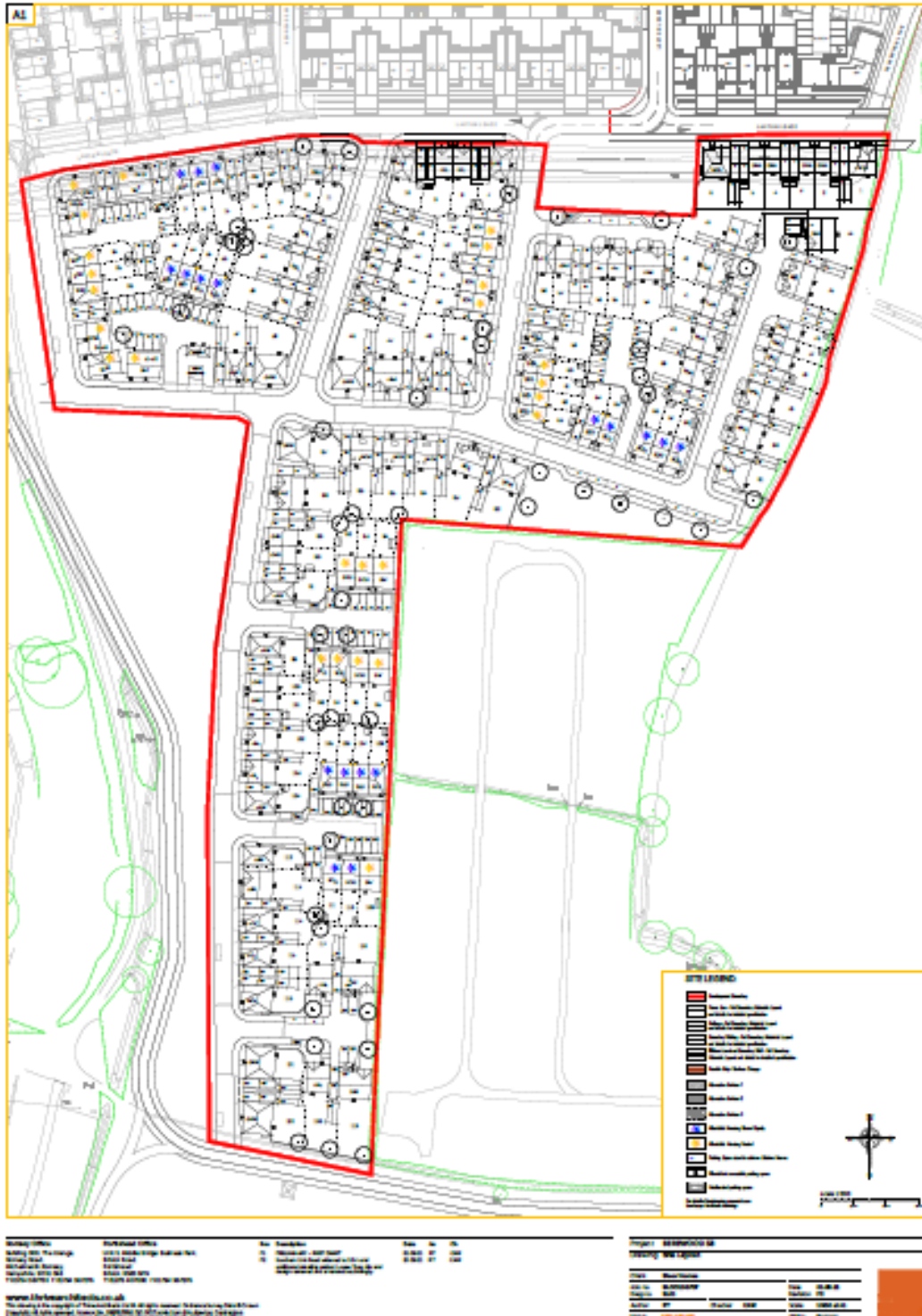
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APPENDIX I: SITE PROPOSALS



APPENDIX II: PHASE 1 HABITAT SURVEY

Descriptions of the habitats recorded on site during the 2nd September 2021 site visit by Stuart Woodley are provided below:

Poor semi-improved grassland (Target notes 1 & 2)

Regularly managed poor semi-improved grassland (T1)

The majority of the site comprises poor semi-improved grassland, which is regularly managed. It comprises a regularly mown, species-poor sward approximately 5 to 8 centimetres in height. Species present include grasses such as dominant perennial rye-grass (*Lolium perenne*), locally dominant Yorkshire fog (*Holcus lanatus*), and frequent creeping bent (*Agrostis stolonifera*), annual meadow-grass (*Poa annua*), and red fescue (*Festuca rubra*). Herbaceous species include locally dominant white clover (*Trifolium repens*), and locally abundant red clover (*Trifolium pratense*), and meadow vetchling (*Lathyrus pratensis*). A full list of species present in the regularly poor semi-improved grassland are shown in table 3.

Table 3: Species present in the regularly maintained poor semi-improved grassland

Common name	Scientific name	Abundance	Status
<i>Grasses and rushes</i>			
Creeping bent	<i>Agrostis stolonifera</i>	F	Common in grasslands of all kinds except on most acidic soils
False oat-grass	<i>Arrhenatherum elatius</i>	O	Common & widespread
Cock's foot	<i>Dactylis glomerata</i>	F	Common & widespread
Red fescue	<i>Festuca rubra</i>	F	Common & widespread
Yorkshire fog	<i>Holcus lanatus</i>	LD	Common & widespread
Compact rush	<i>Juncus conglomeratus</i>	LF	Common but more restricted to acid soils
Perennial rye-grass	<i>Lolium perenne</i>	D	Common & widespread
Annual meadow-grass	<i>Poa annua</i>	F	Abundant in grasslands, cultivated ground & wasteground
Smooth meadow-grass	<i>Poa pratensis</i>	R	Common in dry grasslands, roadsides & waste places
<i>Herbaceous plants</i>			
Daisy	<i>Bellis perennis</i>	R	Common & widespread
Creeping thistle	<i>Cirsium arvense</i>	LF	Common & widespread
Willowherb species	<i>Epilobium</i> sp.	R	-
Cut-leaved crane's-bill	<i>Geranium dissectum</i>	R	Common & widespread
Meadow vetchling	<i>Lathyrus pratensis</i>	LA	Common & widespread
Bristly ox-tongue	<i>Picris echioides</i>	R	Common on clay or chalk soils

Common name	Scientific name	Abundance	Status
Ribwort plantain	<i>Plantago lanceolata</i>	O	Common & widespread
Greater plantain	<i>Plantago major</i>	R	Common & widespread
Redshank	<i>Polygonum maculosa</i>	R	Common in wasteland, arable & wet habitats
Selfheal	<i>Prunella vulgaris</i>	R	Common & widespread
Common fleabane	<i>Pulicaria dysenterica</i>	R	Common on clay & wet soils
Broad-leaved dock	<i>Rumex obtusifolius</i>	R	Common & widespread
Common ragwort	<i>Senecio jacobaea</i>	R	Common & widespread
Dandelion	<i>Taraxacum officinale</i> agg.	R	Common & widespread
Red clover	<i>Trifolium pratense</i>	LA	Common & widespread
White clover	<i>Trifolium repens</i>	LD	Common & widespread
Scentless mayweed	<i>Tripleurospermum inodorum</i>	R	Common in arable & wasteland habitats
Common field speedwell	<i>Veronica persica</i>	R	Common on arable & wasteland
Tufted vetch	<i>Vicia cracca</i>	R	Common in hedgerows, woodland borders & scrub
Common vetch	<i>Vicia sativa</i>	R	Common & widespread

Rough poor semi-improved grassland (T2)

Areas of rough poor semi-improved grassland which comprises a species-poor sward with a height of approximately 20 to 30 centimetres is located around the hardstanding in the north west of the site, and on the mounds in the north and north west of the site. Species present include grasses such as dominant perennial rye-grass, frequent rough meadow grass (*Poa trivialis*), and occasional red fescue, with herbaceous species including abundant bristly ox-tongue (*Picris echinoides*), locally abundant broad-leaved dock (*Rumex obtusifolius*), and frequent scentless mayweed (*Tripleurospermum inodorum*) and creeping buttercup (*Ranunculus repens*). A full list of species present in the regularly poor semi-improved grassland are shown in table 4.

Table 4: Species present in the rough poor semi-improved grassland

Common name	Scientific name	Abundance	Status
Grasses			
False oat-grass	<i>Arrhenatherum elatius</i>	O	Common & widespread
Soft brome	<i>Bromus hordeaceus</i>	R	Common on moist, dry grassland & wasteland
Cock's foot	<i>Dactylis glomerata</i>	O	Common & widespread
Red fescue	<i>Festuca rubra</i>	O	Common & widespread
Yorkshire fog	<i>Holcus lanatus</i>	O	Common & widespread
Perennial rye-grass	<i>Lolium perenne</i>	D	Common & widespread
Annual meadow-grass	<i>Poa annua</i>	O	Abundant in grasslands, cultivated ground & wasteground

Common name	Scientific name	Abundance	Status
Rough meadow-grass	<i>Poa trivialis</i>	F	Abundant in meadows, woods, marshes & wasteground
Herbaceous plants			
Creeping thistle	<i>Cirsium arvense</i>	O	Common & widespread
Willowherb species	<i>Epilobium</i> sp.	R	-
Perforate St John's-wort	<i>Hypericum perforatum</i>	O	Common & widespread, found on rough grassland, road verges and hedgebanks
Meadow vetchling	<i>Lathyrus pratensis</i>	R	Common & widespread
Black medick	<i>Medicago lupulina</i>	O	Common on grassland & roadsides, especially on base-rich soils
Bristly ox-tongue	<i>Picris echioides</i>	A	Common on clay or chalk soils
Ribwort plantain	<i>Plantago lanceolata</i>	O	Common & widespread
Greater plantain	<i>Plantago major</i>	R	Common & widespread
Selfheal	<i>Prunella vulgaris</i>	R	Common & widespread
Common fleabane	<i>Pulicaria dysenterica</i>	LA	Common on clay & wet soils
Creeping buttercup	<i>Ranunculus repens</i>	F	Common & widespread
Curled dock	<i>Rumex crispus</i>	O	Common & widespread
Broad-leaved dock	<i>Rumex obtusifolius</i>	LA	Common & widespread
Common ragwort	<i>Senecio jacobaea</i>	F	Common & widespread
Dandelion	<i>Taraxacum officinale</i> agg.	R	Common & widespread
Red clover	<i>Trifolium pratense</i>	R	Common & widespread
White clover	<i>Trifolium repens</i>	R	Common & widespread
Scentless mayweed	<i>Tripleurospermum inodorum</i>	F	Common in arable & wasteland habitats
Tufted vetch	<i>Vicia cracca</i>	O	Common in hedgerows, woodland borders & scrub
Common vetch	<i>Vicia sativa</i>	R	Common & widespread

Mounds (Target note 3)

Two vegetated mounds are present on site. One is situated in the north of the site and runs east to west adjacent to Laxton Lease. The other follows the boundary of the large piece of hardstanding situated in the north west of the site. The vegetation recorded, and species present are shown in table 4 above.

Dry ditch (Target note 4)

There is a dry ditch situated near to the northern boundary of the site. The ditch will provide a drainage channel for excess surface-water. The ditch channel is approximately 0.5 metres in depth and 1 metre in width. The ditch is vegetated with poor semi-improved grassland vegetation, as described in the relevant section above, with a number of additional ruderals

also present, including wild teasel (*Dipsacus fullonum*), sneezewort (*Achillea ptarmica*) and greater bird's-foot-trefoil (*Lotus pedunculatus*). It is considered that this ditch will hold water for short periods during persistent wet weather. A full list of species present in the regularly poor semi-improved grassland are shown in table 5.

Table 5: Species present in the dry ditch (vegetated with poor semi-improved grassland)

Common name	Scientific name	Abundance	Status
Grasses			
False oat-grass	<i>Arrhenatherum elatius</i>	R	Common & widespread
Soft brome	<i>Bromus hordeaceus</i>	R	Common on moist, dry grassland & wasteland
Red fescue	<i>Festuca rubra</i>	R	Common & widespread
Yorkshire fog	<i>Holcus lanatus</i>	R	Common & widespread
Perennial rye-grass	<i>Lolium perenne</i>	D	Common & widespread
Annual meadow-grass	<i>Poa annua</i>	O	Abundant in grasslands, cultivated ground & wasteground
Rough meadow-grass	<i>Poa trivialis</i>	F	Abundant in meadows, woods, marshes & wasteground
Herbaceous plants			
Creeping thistle	<i>Cirsium arvense</i>	O	Common & widespread
Field bindweed	<i>Convolvulus arvensis</i>	R	Common & widespread
Sneezewort	<i>Achillea ptarmica</i>	O	Fairly frequent throughout Britain, found in damp grassy habitats and meadows, marshes and water margins
Wild teasel	<i>Dipsacus fullonum</i>	O	Common & widespread, especially of clay soils
Willowherb species	<i>Epilobium</i> sp.	R	-
Hedge bedstraw	<i>Galium mollugo</i>	R	Common & widespread on richer soils
Perforate St John's-wort	<i>Hypericum perforatum</i>	O	Common & widespread, found on rough grassland, road verges and hedgebanks
Greater bird's-foot-trefoil	<i>Lotus pedunculatus</i>	LA	Common in damp habitats, streamsides, especially on acid soils
Black medick	<i>Medicago lupulina</i>	O	Common on grassland & roadsides, especially on base-rich soils
Bristly ox-tongue	<i>Picris echioides</i>	F	Common on clay or chalk soils
Ribwort plantain	<i>Plantago lanceolata</i>	O	Common & widespread

Common name	Scientific name	Abundance	Status
Redshank	<i>Polygonum maculosa</i>	R	Common in wasteland, arable & wet habitats
Selfheal	<i>Prunella vulgaris</i>	R	Common & widespread
Common fleabane	<i>Pulicaria dysenterica</i>	O	Common on clay & wet soils
Creeping buttercup	<i>Ranunculus repens</i>	O	Common & widespread
Curled dock	<i>Rumex crispus</i>	O	Common & widespread
Common ragwort	<i>Senecio jacobaea</i>	O	Common & widespread
Dandelion	<i>Taraxacum officinale</i> agg.	R	Common & widespread
White clover	<i>Trifolium repens</i>	R	Common & widespread

Bare ground (target note 5)

An area of bare ground runs adjacent to the ditch and mound in the northern end of the site and was used as a footpath until recently. The bare ground is beginning to be colonised by vegetation such as the grasses perennial rye-grass, red fescue, and Yorkshire fog.

Hardstanding (target note 6)

Hardstanding is present and recorded in the north west of the site, and small areas of the road along the northern boundary of the site.

Native hedgerows (target note 7)

Two native hedgerows were recorded on site, which includes one established species-rich native hedgerow (H1) and one more recently planted native hedgerow (H2). The established native hedgerow (H1) is situated on the north east boundary, and comprises a good variety of woody species, including standard oak (*Quercus robur*) and ash (*Fraxinus excelsior*) trees, and a moderately diverse field layer comprising common and widespread species. This hedgerow is approximately 5 metres in height.

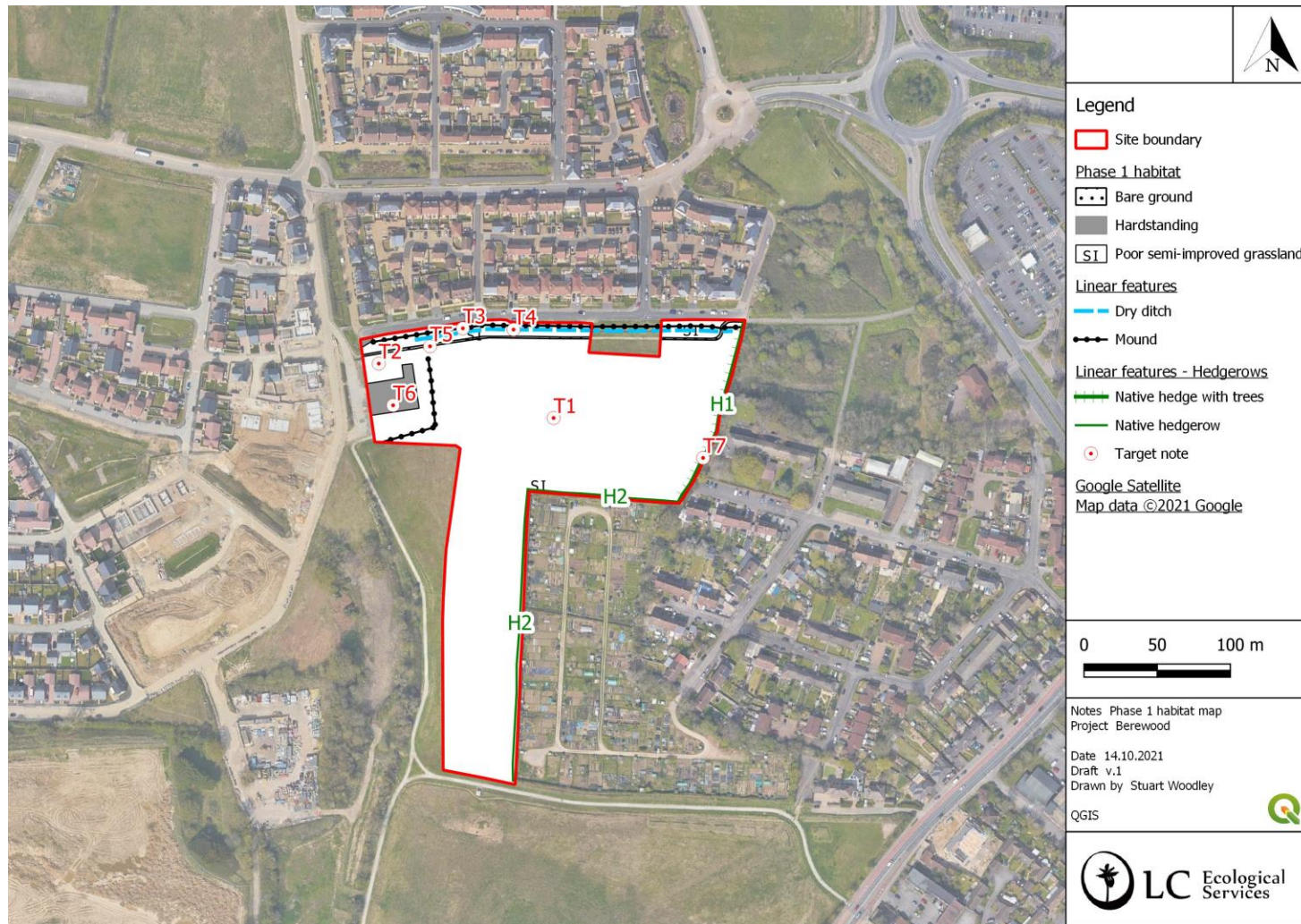
The more recently planted native hedgerow (H2) is situated along the eastern boundary of the site adjacent to the allotments and comprises a mixture of native shrubs with a mostly species poor field layer. This hedgerow is approximately 3 to 4 metres in height. Species present are shown in table 6 below.

Table 6: Native hedgerows recorded on site

Key (see Phase 1 map)	Woody species	Ground flora	BAP status (80% native woody species)	General description
H1	Field maple (<i>Acer campestre</i>) Dogwood (<i>Cornus sanguinea</i>) Hazel (<i>Corylus avellana</i>) Hawthorn (<i>Crataegus monogyna</i>) Ash (<i>Fraxinus excelsior</i>) Holly (<i>Ilex aquifolium</i>) Blackthorn (<i>Prunus spinosa</i>) Pedunculate oak (<i>Quercus robur</i>) Rose species (<i>Rosa</i> sp.) Goat willow (<i>Salix caprea</i>) Grey willow (<i>Salix cinerea</i>)	Cow parsley (<i>Anthriscus sylvestris</i>) False oat-grass (<i>Arrhenatherum elatius</i>) Lord's-and-ladies (<i>Arum maculatum</i>) Soft brome (<i>Bromus hordeaceus</i>) Hedge bindweed (<i>Calystegia sepium</i>) Common mouse-ear (<i>Cerastium fontanum</i>) Cleavers (<i>Galium aparine</i>) Wood avens (<i>Geum urbanum</i>) Cut-leaved crane's-bill (<i>Geranium dissectum</i>) Ivy (<i>Hedera helix</i>) Hogweed (<i>Heracleum sphondylium</i>) Honeysuckle (<i>Lonicera periclymenum</i>) Bristly oxtongue (<i>Picris echioides</i>) Rough meadow-grass (<i>Poa trivialis</i>) Creeping buttercup (<i>Ranunculus repens</i>) Bramble (<i>Rubus fruticosus</i> agg.)	Yes	Intact, species-rich native hedgerow with mature standard oak and ash trees.
H2	Field maple Sycamore (<i>Acer pseudoplatanus</i>) Dogwood Wild plum (<i>Prunus domestica</i>) Hawthorn Rose sp. Elder (<i>Sambucus nigra</i>) Guelder rose (<i>Viburnum opulus</i>)	Sterile brome (<i>Anisantha sterilis</i>) Cow parsley Soft brome Creeping thistle (<i>Cirsium arvense</i>) Hedge bindweed Willowherb species (<i>Epilobium</i> sp.) Cleavers Ivy Hogweed Rough meadow-grass Common fleabane (<i>Pulicaria dysenterica</i>) Broad-leaved dock (<i>Rumex obtusifolius</i>)	Yes	More recently planted, intact, species-poor hedgerow

		Bramble Tansy (<i>Tanacetum vulgare</i>) Common nettle Bush vetch (<i>Vicia sepium</i>)		
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APPENDIX III: PHASE 1 HABITAT MAP



APPENDIX IV: SITE PHOTOGRAPHS

	
Photo 1: View of managed poor semi-improved grassland, looking east	Photo 2: View of poor semi-improved grassland on mound with new build houses and roads to the north, and managed grassland to south, view looking east
	
Photo 3: Native hedgerow H1, view looking south	Photo 4: Native hedgerow H2, view looking south

APPENDIX V: LOCATION OF SUDS

