



LIZARD

Landscape Design and Ecology

BATCHELLER MONKHOUSE

Land to the West of Thornlea, Wick, West Sussex

- Preliminary Ecological Appraisal Survey
- Day-time Bat Roost Assessment

Planning Issue

Prepared by	CO
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The Old Bank, 34 South Street, Tarring, Worthing, West Sussex, BN14 7JH

SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Batcheller Monkhouse to undertake a preliminary ecological appraisal survey and protected species assessment of the land proposed for development at Old Mead, Wick (*Grid Reference: TQ 021 042*— hereafter referred to as '*the site*'). A preliminary ecological appraisal (PEA) was undertaken of the site on 09th August 2017 to appraise the existing ecological resource within the site and the surrounding area.

The site is dominated by grassland. Improved grassland to the site frontage is well maintained resulting in a uniform sward which offers little in the way of biodiversity value. Tall ruderal and species-poor semi-improved grassland to the northern sector of the property could offer some suitable reptile habitat. This is negated by the fact that the grassland is cut annually for hay, while the lack of established trees, hedges or scrub within the site provides no opportunity for hibernation or shelter.

The survey revealed water vole field signs along the eastern section of site frontage onto Black Ditch. 3 no. latrines were located, as well as feeding remains. Development proposals should avoid any impacts to the ditch and banks, while a buffer of at least 3.0m from the toe of the bank should be maintained within the development. This buffer should be allowed to develop into tussocky grassland while areas of woody scrub should also be cleared from the banks to maintain optimal water vole habitat.

Should any works be proposed which would affect the banks / watercourse a full water vole survey would be required. A Licence from Natural England would be required before any works which may affect the ditch can be undertaken.

2 no. bird nests were located within Building B2. All active birds' nests are protected against damage / destruction under *The Wildlife and Countryside Act 1981 (as amended)* therefore it is advised that this building is demolished outside of the bird nest season (*Season: March-August*) or after careful inspection to ensure no active birds' nests are present.

No further ecological constraints were noted within or adjacent the site. Given a suitable soft landscape scheme and management plan, it is felt that development of the site could provide biodiversity gains.

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Batcheller Monkhouse to undertake a preliminary ecological appraisal survey and protected species assessment of the land proposed for development at Old Mead, Wick (*Grid Reference: TQ 021 042 – hereafter referred to as 'the site'*).
- 1.2 A preliminary ecological appraisal (*PEA*) was undertaken of the site on 09th August 2017 to appraise the existing ecological resource within the site and the surrounding area. The *PEA* was comprised of a baseline survey conforming broadly to the *JNCC Ecology Phase 1 Habitat Survey protocol*, to identify the existing habitats. In addition, a protected species assessment was undertaken to identify the potential for European and nationally protected species within and adjacent to the site.
- 1.3 The field survey data and analysis contained in this report were undertaken and prepared by Catherine O'Reilly (*BSc; Project Ecologist; NE Class 2 Bat Licence Holder; Lizard Landscape Design and Ecology*). The report has been reviewed by Joe Jackson; (*Principal; Landscape Architect BA (Hons) LA DipLA CMLI; Lizard Landscape Design and Ecology*).

Site Information

- 1.4 The proposed development site is formed of a single residential dwelling set in a large plot covering c. 1.0 hectares. The habitats present are typical of this land use type, being dominated by grassland, hard / bare ground and existing buildings.
- 1.5 The site is located c. 4.0 metres above sea level and is bordered to the north by Black Ditch; the east by a caravan park; a large glasshouse; and residential property to the west and farmland to the south.

Surrounding Landscape

- 1.6 The site is semi-rural, being situated to the western edge of Lyminster. Land to the north and west is dominated by a matrix of arable and pastoral farmland while the residential areas of Lyminster and Wick extend for approximately 1.5 km to the south and east.

Development Proposals

- 1.7 The development proposals consist of the construction of a number of new park homes on the site with associated access and areas of hard and soft landscape. The existing bungalow on site is to remain untouched within the current proposals.

2.0 SCOPE OF THE SURVEY

- 2.1 The aim of the preliminary ecological appraisal survey has been:
- *To identify and display the main habitat types and plant communities;*
 - *To provide a species list for the major habitats;*
 - *To identify habitats with potential for protected species;*
 - *To provide recommendations for surveys of protected species and / or ecological enhancement / compensation.*
- 2.2 The aims of the day-time bat roost assessment survey were:
- *To identify the potential for roosting bats;*
 - *Identify areas where future detailed survey effort would be required and should be focused;*
 - *To establish whether other habitat features for different species groups exist to warrant further investigation.*
- 2.3 This report establishes the potential ecological resource within the site and outlines where any ecological constraints may occur.

3.0 METHODOLOGY

- 3.1 A preliminary ecological appraisal was undertaken on 09th August 2017 and the site subjected to an ecology survey using guidelines set out in the *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit (JNCC, 2003)*. This has resulted in a Site Habitat Plan (*Figure No. 01*); Species Lists for Habitat Parcels (*Table No. 04*); and Target Notes (*Table No. 03*).
- 3.2 Habitats within the site were classified and the presence, or potential presence, of certain protected and / or notable species of flora and fauna were identified. A summary description of the habitat within the site following the ecology phase 1 habitat survey methodology is presented in *Section 4.0*.
- 3.3 Due to the field survey consisting of only one site visit, certain species particularly some of the flowering plants may not have been visible or may have been otherwise inconspicuous at the time of survey and hence overlooked. These are accepted constraints associated with the standard ecology phase 1 habitat survey methodology.
- 3.4 Habitats within and immediately adjacent to the site were assessed for their potential for uncommon and protected fauna including mammals, birds, reptiles and amphibians. This involved identifying features that may be used by protected species, potential foraging areas and other signs of use. Water bodies were recorded wherever possible within 500 metres of the proposed development site.
- 3.5 The results are summarised and accompanied in large part by photographic evidence contained in *Appendix No. 01 – Site Photographs*. Recommendations for further investigation and survey are made in the following report.

Day-Time Bat Roost Assessment Survey

3.6 A day-time bat roost assessment survey was undertaken on 09th August 2017 by an experienced bat surveyor who undertook an internal and external examination of the existing outbuildings to the south of the site. The bat surveyor assessed the existing building visually and searched for evidence such as:

- *Staining beneath or around a hole caused by natural oils in bat fur;*
- *Bat droppings beneath a hole, roost, or resting area;*
- *Bat droppings and / or insect remains beneath a feeding area;*
- *Audible squeaking from within a hole;*
- *Insects (especially flies) around a hole;*
- *Dead bats.*

3.7 Existing trees were visually identified from the ground, using binoculars where necessary, for features that could be used by bats such as:

- *Woodpecker Holes;*
- *Knot Holes;*
- *Tear-outs;*
- *Flush Cuts;*
- *Double Leaders;*
- *Dense Ivy Covering.*

3.8 Once features had been assessed, trees were then categorised in accordance with *Table 8.4 of the Bat Conservation Trust's Good Survey Guidelines:*

- | | |
|-------------------|---|
| <i>'High'</i> | <i>Trees with multiple highly suitable features capable of supporting large numbers of bats;</i> |
| <i>'Moderate'</i> | <i>Trees with definite bat roost potential supporting fewer features than high suitability trees;</i> |
| <i>'Low'</i> | <i>Trees with no obvious features but of a size and age conducive to supporting a bat roost.</i> |

4.0 RESULTS

4.1 Desk Study – Background Information

Designated Sites and Habitats

- 4.1.1 The following section outlines the ecological context of the development site, describing any designated nature conservation sites in the vicinity of the development site. The following designated sites and habitats are not necessarily representative of the existing site's ecology, but are indicative of the ecological context of the surrounding area; a factor that may be important when assessing the presence / absence potential of certain species groups.

Statutory Protected Sites

- 4.1.2 The following statutory protected sites are located within 2.0km of the proposed development site.

Table No. 01 – Statutory Protected Sites

Site	Description	Location
South Downs National Park.	A large area of varying habitat including chalk grassland and woodland, which in turn supports various protected species of fauna and flora.	1.8km N

- 4.1.3 There are no further statutory protected areas within 2.0 kilometres of the proposed development site. The site is within the *Impact Risk Zone* of *Arundel Park SSSI* however proposals do not meet the threshold which would trigger consultation with Natural England.

Non-Statutory Protected Areas

- 4.1.4 *Sites of Nature Conservation Importance (SNCI's)* are designations applied to the most important non-statutory nature conservation sites. They are recognised by the *National Planning Policy Framework (2012)* and as such are material considerations when assessing planning applications. The development site is not located within any non-statutory protected area; nor are there any SNCI's located within 2.0km of the site area.

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UK Priority Habitats

- 4.1.5 Within 2.0 kilometres of the site lie *Priority Habitats* of *coastal and floodplain grazing marsh and deciduous woodland*. It is not envisaged that development within this area would be detrimental to the *UK Priority Habitats* that surround it.

UK Priority Species

- 4.1.6 Numerous records of protected species exist within 2.0 metres of the site. Species most likely to be impacted upon by this development include crevice dwelling species of bats such as common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*).
- 4.1.7 All species of bats and their roosts are protected under *Regulation 41* of *The Conservation of Habitats and Species Regulations 2010 (as amended)*. It is an offence for anyone to intentionally kill or injure a bat; disturb a roosting bat; damage, destroy or obstruct access to any place used by bats for shelter; and / or to significantly alter the local distribution of bats.
- 4.1.8 Water Voles have previously been recorded along Black Ditch. Water Voles are fully protected under *The Wildlife and Countryside Act 1981*, protecting them against killing and /or injuring while damaging, destroying or blocking access to burrows is also prohibited.

4.2 Field Survey

- 4.2.1 The following habitats and features were recorded within the development site and the extended survey area. The general site character has been described along with a brief description of the habitat's physical characteristics. These are shown on the Site Habitat Plan in *Figure No. 01*. Species Lists for Habitat Parcels are listed in *Table No. 04* and *Table No. 03* contains Target Notes.

4.2.2 Habitats within and adjacent to the development site area include:

- *Tall Ruderal Habitat*;
- *Improved Grassland*;
- *Species-Poor Semi-improved Grassland*;
- *Scattered Trees*;
- *Hard / Bare Ground*;
- *Existing Buildings*.

Site Description (Refer to Appendix No. 01 – Site Photographs)

4.2.3 The site is typical of a large residential property, with access from Old Mead to the south; a residential property to the centre; and grassland to the south, north and west.

Improved Grassland

4.2.4 The southern sector of the site is formed of improved grassland dominated by perennial rye-grass interspersed with abundant species indicative of nutrient enrichment including white clover (*Trifolium repens*) and creeping buttercup (*Ranunculus repens*). The sward is maintained to a height of c. 10cm and appears to be poorly drained.

Tall Ruderal

4.2.5 Land to the east of the driveway and margins of the northern parcel of land are dominated by tall ruderal species including bristly ox-tongue (*Picris echioides*); common hogweed (*Heracleum sphondylium*); and ragwort (*Jacobaea vulgaris*). Vegetation along the driveway reaches c. 50cm in height while borders of the northern section of land are much taller (>1m).

Species-Poor Semi-Improved Grassland

4.2.6 The northern parcel of land is dominated by rank grassland with a sward length of c. 60cm. Grasses are abundant including cocks-foot (*Dactylis glomerata*); false oat (*Arrhenatherum elatius*); and perennial rye-grass. Forbs include abundant meadow vetchling (*Lathyrus pratensis*); scentless mayweed (*Tripleurospermum inodorum*);, red clover (*Trifolium pratense*); and sorrel (*Rumex acetosa*).

Scattered Trees

- 4.2.7 A limited number of scattered trees can be found around the site, the majority of which lie to the northern site boundary. Species present include cedar (*Cedrus* sp.); elm (*Ulmus* sp.); hawthorn (*Crataegus monogyna*); and willow (*Salix* sp.).

Hard / Bare Ground

- 4.2.8 The site is accessed via a small concrete driveway which runs along the eastern edge of the property. A further small rectangle of concrete lies to the southern boundary of the site.

4.3 Water Course Assessment

- 4.3.1 The site is bordered to the north by Black Ditch, a large stream c. 2.5 metres wide and 1.0 metre deep. The stream exhibited a slow flow rate at the time of the survey with low turbidity. Margins of the water course are dominated by dense rush vegetation while tall ruderal vegetation dominates the bank top within the site. Species present include broadleaf willowherb (*Epilobium ciliatum*); nettle (*Urtica dioica*); bristly ox-tongue (*Picris echioides*); and bramble (*Rubus fruticosus*).
- 4.3.2 The bank within the site was extensively searched for signs of water vole or otter including spraints / latrines; feeding remains; burrows / holts and prints. 3 no. water vole latrines were recorded to the eastern edge of the site area while feeding remains were also located within this area. In addition, a characteristic 'plop' was heard whilst on site, a noise characteristic of a water vole entering the water.

4.4 Day-time Bat Roost Assessment

- 4.4.1 The following buildings were assessed as part of the day-time bat roost assessment at the site. Descriptions of these buildings can be found in Table No. 02 below.

Table No. 02 – Day-time Bat Roost Assessment

Ref.	External Assessment	Internal Assessment	Suitability
B1	Large former battery unit constructed of breeze block and corrugated metal with corrugated concrete roof. Single skin construction. Western section of roof has collapsed.	High light levels due to 10 no. skylights. No enclosed roof void. No evidence of bat usage.	'Negligible'
B2	Large former battery unit of wooden construction in poor condition. Large holes to all walls. Section of roof has collapsed to the west.	High light levels internally. No enclosed roof void. 2 no. bird nests recorded. No evidence of bats.	'Negligible'

5.0 EVALUATION

- 5.1 The site is dominated by grassland. Improved grassland to the site frontage is well maintained resulting in a uniform sward which offers little in the way of biodiversity value. The homogenous sward is dominated by grasses, offering little of interest for invertebrates. The loss of areas of improved grassland could easily be mitigated through the implementation of a sensitive landscape scheme which incorporates areas of wildflower meadow as well as nectar rich plants such as those listed on the RHS perfect for pollinators list.

- 5.2 Tall ruderal habitat and species-poor semi-improved grassland to the northern sector of the property could offer some suitable reptile habitat. This is negated by the fact that the grassland is cut annually for hay, while the lack of established trees, hedges or scrub within the site provides no opportunity for hibernation or shelter. It is suggested that any long grassland remaining on site should be cut in stages; a suitably qualified ecologist should be contacted should any reptiles be encountered during site clearance. Grassland on site should be kept short prior to development ($<5\text{cm}$) to ensure the area remains sub-optimal for reptile species.
- 5.3 All buildings which will be effected by development were assessed during the course of this survey. **Buildings B1 and B2** were both assessed as providing 'negligible' bat roost suitability. All trees on site were also assessed and found to offer no discernible potential roost features. No further survey work with regards bats is required for this site area.
- 5.4 Lighting of the scheme should be carefully designed so as to avoid light spill onto any ecologically sensitive areas such as waterbodies and hedge / tree lines. Any lighting used within the scheme should be angled down and away from these areas to allow their continued ecological functionality.
- 5.5 The survey revealed water vole field signs along the eastern section of site frontage onto Black Ditch. 3 no. latrines were located, as well as feeding remains. It was not possible to assess the western section due to dense vegetation. Development proposals should avoid any impacts to the ditch and banks, while a buffer of at least 3.0m from the toe of the bank should be maintained. This buffer should be allowed to develop into tussocky grassland while areas of woody scrub should also be cleared from the banks. These areas should be re-planted with favoured food and shelter plants such as yellow flag iris (*Iris pseudacorus*); reed canary-grass (*Phalaris arundinacea*); and sedges (*Carex* sp).

- 5.6 Should any works be proposed which would affect the banks / watercourse a full water vole survey would be required. The scope of this survey would vary depending upon the scale of the works proposed. A Licence from Natural England would be required before any works which may affect the ditch can be undertaken.

6.0 PROTECTED SPECIES – CONCLUSIONS AND RECOMMENDATIONS

Reptiles

- 6.1 Vegetation on site should be kept short to ensure the site remains unsuitable for reptile colonisation.

Bats

- 6.2 Development proposals would not remove any areas which may be utilised for bat roosting or foraging. No further bat surveys are recommended for this site.

Birds

- 6.3 2 no. bird nests were located within **Building B2**. All active birds' nests are protected against damage / destruction under *The Wildlife and Countryside Act 1981 (as amended)* therefore it is advised that this building is demolished outside of the bird nest season (*Season: March-August*) or after careful inspection to ensure no active birds' nests are present.

Water Voles

- 6.4 A population of water vole has been confirmed as being present along Black Ditch. Development proposals should avoid any impacts to the ditch and banks, while a buffer of at least 3.0m from the toe of the bank should be maintained. This buffer should be allowed to develop into tussocky grassland while areas of woody scrub should also be cleared from the banks. These areas should be re-planted with favoured food and shelter plants such as yellow flag iris (*Iris pseudacorus*); reed canary-grass (*Phalaris arundinacea*); and sedges (*Carex* sp).

- 6.5 Should any works be proposed which would affect the banks / watercourse a full water vole survey would be required. The scope of this survey would vary depending upon the scale of the works proposed. A Licence from Natural England would be required before any works which may affect the ditch can be undertaken.

Others

- 6.6 No habitat suitable for supporting other protected species was noted on site. No rare / unusual / protected flora was recorded on this site.

7.0 ECOLOGICAL ENHANCEMENTS

7.1 The design of the proposed development should consider ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*. Recommendations for ecological enhancements that could be considered as part of development proposals could include:

- *The use of native berry and seed-producing shrubs / trees within the planting scheme to provide a foraging resource for birds, such as: hawthorn (*Crataegus monogyna*); whitebeam (*Sorbus aria*); guelder rose (*Viburnum opulus*); rowan (*Sorbus aucuparia*); wayfaring tree (*Viburnum lantana*); alder (*Alnus glutinosa*); beech (*Fagus sylvatica*); and hazel (*Corylus avellana*);*
- *The use of flowering shrubs as listed within the RHS 'Perfect for Pollinators' plant list to provide year-round interest for invertebrates;*
- *The provision of nesting boxes for a variety of bird species and the incorporation of open fronted areas / access holes to outbuildings to allow swallow access;*
- *The provision of bat boxes within existing mature trees;*
- *Use of a sympathetic lighting scheme across the site, with lighting angled down and away from Black Ditch;*
- *Holes of 12cm x 12cm should be left at the base of new walls / fencing to allow free movement of hedgehogs across the site. These should be clearly signed with 'hedgehog highway' signs to prevent their closure. (<https://ptes.org/shop/hedgehog-highways-signs/hedgehog-highway-labels/>);*
- *Incorporation of area of wildflower grassland or the use of flowering lawn mix;*
- *Banks of the ditch should be maintained in such a way to maximise habitat suitability for water vole. Vegetation should be trimmed in sections during the winter to prevent scrub encroachment and over-shading.*

8.0 REFERENCES

JNCC: Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit; (2003)

Collins J (ed): Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed.) The Bat Conservation Trust (2016)

Mitchell-Jones and McLeish: Bat Workers Manual; JNCC, 3rd Edition (2004)

Streeter, D.: The Most Complete Guide to the Flowers of Britain and Ireland; Harper Collins, London (2010)

Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) The Water Vole Mitigation Handbook. The Mammal Society, London.



Land Adjacent to Thornlea, Old Mead, Wick

Table No. 3 – Target Notes (TN) for Ecology Phase 1 Habitat Survey and Protected Species Assessment

TN	Description	Protected Species	Potential
<i>TN 01</i>	Location of water vole latrines	<i>Water Vole</i>	<i>‘Confirmed’</i>
<i>TN 02</i>	Location of water vole feeding remains	<i>Water Vole</i>	<i>‘Confirmed’</i>

Land Adjacent to Thornlea, Old Mead, Wick

Table No. 04 – Species List - Preliminary Ecological Appraisal Survey

Improved Grassland

Common Name	Scientific Name	DAFOR
Bristly Ox-tongue	<i>Picris echioides</i>	O
Broadleaf Plantain	<i>Plantago major</i>	O
Cocks-foot	<i>Dactylis glomerata</i>	A
Creeping Buttercup	<i>Ranunculus repens</i>	A
Daisy	<i>Bellis perennis</i>	LF
Dandelion	<i>Taraxacum officinale</i>	LF
Dock	<i>Rumex obtusifolius</i>	LF
Ground Ivy	<i>Glechoma hederacea</i>	LF
Hogweed	<i>Heracleum sphondylium</i>	O
Perennial Rye Grass	<i>Lolium perenne</i>	A
Red Deadnettle	<i>Lamium purpureum</i>	O
Self-heal	<i>Prunella vulgaris</i>	O
Sorrel	<i>Rumex acetosa</i>	LF
Spotted Medic	<i>Medicago arabica</i>	LA
Spurge	<i>Euphorbia sp.</i>	LO
Thistle	<i>Cirsium sp.</i>	O
White Clover	<i>Trifolium repens</i>	A

Tall Ruderal Vegetation

Common Name	Scientific Name	DAFOR
Bristly Ox-tongue	<i>Picris echioides</i>	LD
Broadleaf Willowherb	<i>Epilobium ciliatum</i>	LA
Cocks-foot	<i>Dactylis glomerata</i>	LD
Common Mallow	<i>Malva sylvestris</i>	O
Common Nettle	<i>Urtica dioica</i>	LD
False Oat	<i>Arrhenatherum elatius</i>	LD
Hedge Bindweed	<i>Calystegia sepium</i>	LD
Hogweed	<i>Heracleum sphondylium</i>	O
Knot-grass	<i>Polygonum sp.</i>	LD
Ragwort	<i>Jacobaea vulgaris</i>	LA
Smooth Sowthistle	<i>Sonchus oleraceus</i>	O
Spear Thistle	<i>Cirsium vulgare</i>	LD
Wall Barley	<i>Hordeum murinum</i>	O

DAFOR SCALE:

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Table No. 04 – Species List - Preliminary Ecological Appraisal Survey

Species-Poor Semi-Improved Grassland

Common Name	Scientific Name	DAFOR
Cocks-foot	<i>Dactylis glomerata</i>	LD
Creeping Buttercup	<i>Ranunculus repens</i>	O
Crested Dogs-tail	<i>Cynosurus cristatus</i>	O
Field Mustard	<i>Sinapis arvensis</i>	O
Lesser Stitchwort	<i>Stellaria graminea</i>	O
Meadow Vetchling	<i>Lathyrus pratensis</i>	LD
Red Clover	<i>Trifolium pratense</i>	LA
Sorrel	<i>Rumex acetosa</i>	O
Spotted Medic	<i>Medicago arabica</i>	LA
Wall Barley	<i>Hordeum murinum</i>	LD

Scattered Trees

Common Name	Scientific Name	DAFOR
Apple	<i>Malus domestica</i>	R
Cedar	<i>Cedrus sp.</i>	R
Elm	<i>Ulmus sp.</i>	R
Hawthorn	<i>Crataegus monogyna</i>	R
Willow	<i>Salix sp.</i>	R

DAFOR SCALE:

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Appendix No. 1 – Site Photographs

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APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 1 - View of improved grassland and existing buildings to the southern sector of the site area.

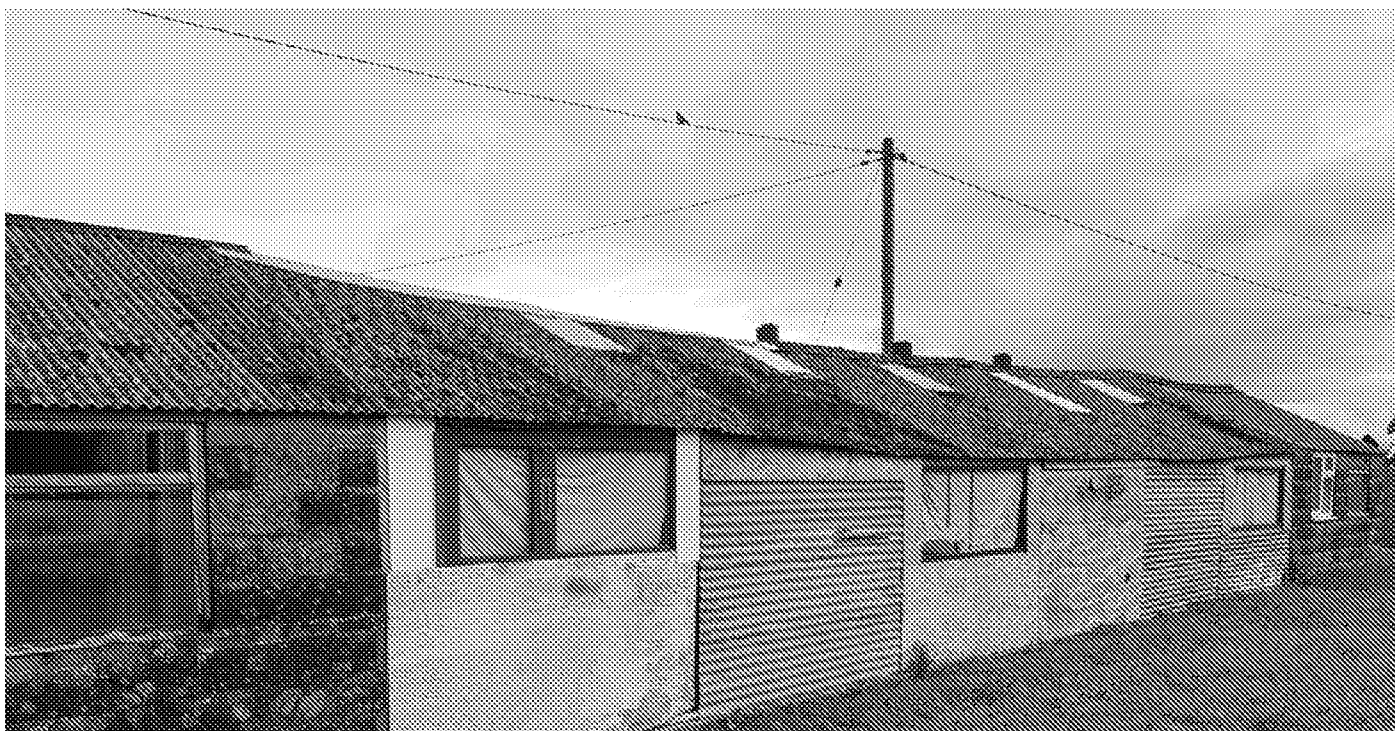


Photograph No. 2 - Species-poor semi-improved grassland to the northern sector of the site area.

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APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 3 - Building B1, assessed as providing 'negligible' bat roost potential.



Photograph No. 4 - Building B2, assessed as providing 'negligible' bat roost potential.

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APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 5 - Disused bird nest located within Building B2.



Photograph No. 6 - View of Black Ditch which runs along the northern boundary of the site.

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APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 7 - Evidence of water vole feeding remains located to the north-east of the site.



Photograph No. 8 - Water vole latrine located to the north-east of the site.

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