

LAND OFF COBBETT WAY, BOTELY SOUTHAMPTON

PRELIMINARY ECOLOGICAL APPRAISAL



A Report to: The Trustees of The
Mulberry Investments Pension Scheme

Date: November 2023

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1. INTRODUCTION

1.1 BACKGROUND

In March 2023, The Trustees of The Mulberry Investments Pension Scheme commissioned MMEcology to undertake a Preliminary Ecological Appraisal at a parcel of land off Cobbett Way, in Botley, Southampton. This assessment is required to inform a planning application associated with a new housing development of up to 34 dwellings, along with new access from Cobbett Way and landscaping. Figure 1 below shows the Illustrative Masterplan.



Figure 1. Illustrative masterplan

To fulfil the above brief, it was necessary to assess the existing ecological interest of the site. Therefore, a walkover survey was undertaken on 17 March 2023. An updated walkover survey was carried out on 12 June 2023 as part of the Biodiversity Net Gain Assessment of the site, with further monitoring surveys to record any changes in the habitats present on site during the monthly bat activity surveys of the site.

1.2 SITE DESCRIPTION

The application site is located at National Grid Reference SU 50437 13058, to the south of Broad Oak, between the residential areas of Botley to the east and Hedge End to the west. To the east of the site is residential dwellings with their private gardens, with paddocks located to the west. To the south is a small, wooded area, with dwellings and their gardens forming the northern boundary of the site.

The application site is covered by a grass field, with a mature tree line and dry ditch located immediately outside the western boundary of the site. A small area of woodland is located immediately to the south of the site. The field boundaries support managed

bramble scrub, with a small section of a stream located within the north-eastern corner. The site is approximately 2.9 hectares in size.

The site is situated within a semi-urban setting with paddocks to the west, beyond which are densely populated residential buildings. Whilst there is a row of dwellings to the north, beyond Broad Oak is an industrial estate, grass fields and wooded pockets. To the south is a mix of grass fields and woodland, with low-density residential buildings. To the east is a small residential area with more grass fields, wooded areas and low-density commercial residential units, grass fields and wooded pockets. Figure 2 shows the site location plan, with Figure 2a showing the location of the site in the wider landscape.

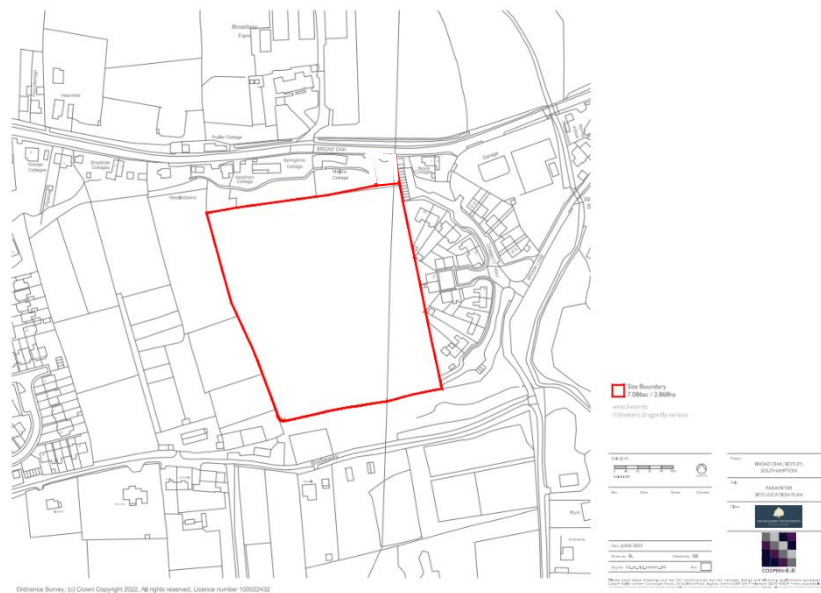


Figure 2. Site location plan



Figure 2a. Location of the proposed site (Source: Google maps)

2. METHODOLOGIES

2.1 DESK STUDY

An ecological desk study was conducted in March 2023 to determine the presence of any designated nature conservation sites and protected species within a 2km radius of the site. This involved obtaining information from statutory and non-statutory organisations which hold ecological data relating to the survey area, including:

- Natural England - Multi Agency Geographic Information for the Countryside (MAGIC) online database (<http://magic.defra.gov.uk>)
- Hampshire Biological Information Centre (HBIC)

The desk study included a search for European and UK statutory nature conservation sites, non-statutory local designations and protected/notable species records within a 2km radius of the site. A summary of the results is provided in Section 4.

The desk study also included a review of the relevant local planning policy with regard to biodiversity and nature conservation.

2.2 PHASE 1 HABITAT / UKHAB SURVEY

The walkover survey was conducted following the Phase 1 Habitat Survey methodology of the Joint Nature Conservation Committee (JNCC, 2010) and the Institute of Environmental Assessment (IEA, 1995). Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are present on site. During the survey, the presence, or potential presence, of protected species was noted.

Whilst Phase 1 Habitat Survey is the most widely used habitat classification system, UKHab has been designed to build on this existing system. *It is a fully translatable, hierarchical system that integrates with all major classifications in use in the UK. The system includes translation tables that allow legacy datasets to be translated into UKHab and for habitat data collected using other systems to be seamlessly integrated. The combination of primary habitats and secondary codes is a major strength of the system, allowing habitat mosaics, habitat management, origins and other environmental and species features to be added directly to each coded primary habitat. This removes the need for complex target notes and substantially increases consistency and spatial accuracy of recording important features by attaching secondary codes directly to habitat polygons or linear features.* Therefore, for each habitat type recorded on site, the equivalent UKHab category was also added. The habitat map provided in Appendix 1 is based on UKHab classification.

Based on the Guidelines for Ecological Impacts Assessment in the UK and Ireland (CIEEM, September 2018), valuation involves assigning a receptor to a geographic frame of reference, i.e. International, UK/National, Regional, County, and District, Local or Parish so that the level

of weight or importance attached to any impact can be appropriately assessed. Therefore, each receptor on site was appointed a value.

An impact assessment was then carried out based on the proposals known for the site at the time this report was produced. This involved identifying impacts, incorporating measures to avoid and mitigate negative impacts and identifying opportunities for ecological enhancement, in accordance with the National Planning Policy Framework.

2.3 PROTECTED AND NOTABLE SPECIES APPRAISAL

A preliminary appraisal of the site to support protected and notable species was carried out. During the walkover survey, the potential presence of the following species was assessed:

Badgers *Meles meles*

An assessment of the habitats on site was undertaken to identify the suitability of the site for use by foraging and sett building badgers. This takes the nature of the surrounding landscape and connectivity with other areas of suitable habitat into account. The site was therefore subject to a comprehensive walkover assessment for the presence of badger field signs such as badger setts, footprints, runs, hairs, snuffle holes and latrines. Any signs recorded were plotted on the Phase 1 Habitat Map. Any setts found were classified according to the criteria used in the National Badger Surveys.

Bats

In line with the specifications detailed in the Bat Mitigation Guidelines (English Nature, 2004) and Good Practice Guidelines (Collins, 2016), a Preliminary Bat Roost Assessment of the trees on site was conducted. A ground level visual assessment of the trees was undertaken to determine the presence of any Potential Roost Feature (PRF), together with a general appraisal of the suitability of the site for foraging and commuting bats. Potential PRFs include cracks/splits in stems or branches, knot holes, cavities created by branches tearing out from parent stems, rot holes, woodpecker holes and loose bark.

Based on the PRF's present, the trees within the survey area were then assessed using the suitability classes detailed within the Good Practice Guidelines (Collins, 2016), including high, moderate, low and negligible suitability. Table 1 below provides further information.

Suitability	Description
High	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
Low	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Negligible	Negligible habitat features on site likely to be used by roosting bats.

Table 1: Classification of Trees with Bat Potential (Collins, 2016)

Reptiles

An assessment of the suitability of the site to support reptile species was undertaken, based on a review of habitat characteristics and other parameters known to influence reptile distribution such as site management and disturbance, vegetation structure, presence of refugia and potential hibernation habitat and connectivity to surrounding habitats of potential value to reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as tussocky grassland for shelter and compost heaps and rubble piles for hibernation.

Great Crested Newts *Triturus cristatus*

Available ordnance maps were reviewed to identify the potential presence of waterbodies within a 500m radius of the site. Particular attention was paid to the presence of suitable connective, habitat linking the application site and the waterbodies. Any ponds separated by the presence of barriers to their dispersal such as busy roads (e.g. A roads) and running water (e.g. rivers) were subsequently scoped out.

Dormice *Muscardinus avellanarius*

A habitat and connectivity survey were conducted to determine the likelihood of dormouse being present within the site. This involved a walkover assessment of the site and the immediate environs. Particular attention was paid to the presence of key food sources such as hazel *Corylus avellana*, presence of large gaps in the vegetation, structural diversity of the habitats on site, presence of understorey habitat and connectivity to adjacent areas of woodland/scrub.

Nesting Birds

An assessment of the suitability of habitats present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests was carried out.

Invertebrates

An assessment was made of the suitability of the site to support invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora and waterbodies.

Other Species

An assessment was made of the sites' suitability for notable species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and as listed in the England Biodiversity List, and Local Biodiversity Action Plan (LBAP) species, such as hedgehogs *Erinaceus europaeus*.

Invasive Species

During the field survey, any invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) such as Japanese knotweed *Fallopia japonica* and giant hogweed *Heracleum mantegazzianum* were recorded and mapped.

3. POLICY

3.1 NATIONAL PLANNING POLICY FRAMEWORK

The adopted National Planning Policy Framework (NPPF) was revised in July 2021.

Paragraph 180 of the adopted NPPF states “*when determining planning applications, local planning authorities should apply the following principles:*”

- a) *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and,*
- d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.”*

3.2 LOCAL PLANNING POLICY

Eastleigh Borough Local Plan (2016-2036)

Policy DM11 ‘Nature conservation’ of the adopted Local Plan states that the council will aim to *protect, conserve and enhance all international, national and local nature conservation designations, networks of natural habitats and features including the Local Ecological Network, Priority Biodiversity Areas and Priority Biodiversity Links, watercourses, wetland complexes, woodland trees, and trees and hedgerows important to biodiversity and local character*. This policy also confirms that a net gain of biodiversity on all development sites (including sites for redevelopment) will be sought.

Policy DM11 also clarifies that the Council will protect international and European sites from the direct and indirect effects of development through the implementation of:

- the Solent Recreation Mitigation Strategy (requiring contributions from residential developments within 5.6 kilometres of the Solent Special Protection Area to the Strategy); and
- the interim and any future New Forest Recreation Mitigation Strategy if required.

This policy also states that *“Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on priority habitats, protected or priority species, or on the local ecological network unless it can be demonstrated that:*

- a. there are no alternative solutions;*
- b. the adverse effects are unavoidable;*
- c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;*
- d. there is an overall biodiversity net gain; and*
- e. if there are any residual adverse effects, the benefits of the development clearly outweigh the adverse effects on priority habitats, priority and protected species, and the local ecological network.”*

4. DESK STUDY RESULTS

4.1 STATUTORY DESIGNATED SITES

There are six statutory designated sites of international or national importance, located within a 2km radius of the development site. These include Solent and Southampton water Special Protection Area (SPA) and Ramsar, Solent Maritime Special Area of Conservation (SAC), Upper Hamble Estuary and Woods Site of Special Scientific Interest (SSSI), all located approximately 1.2km south-east of the site, with Manor Farm Local Nature Reserve (LNR) Located 850m south of the site and Wilderne LNR situated 1.4km west.

Solent and Southampton Water qualifies as a SPA for its breeding and wintering bird species. As breeding species, the site contains Common Tern, Little Tern, Mediterranean Gull, Roseate Tern and Sandwich Tern. Over wintering birds include Black-tailed Godwit, Dark-bellied Brent Goose, Ringed Plover and Teal.

Solent and Southampton Water also qualifies as a Ramsar site under four criteria, including:

- Supporting many wetland habitats such as saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs.
- Supporting an important assemblage of rare plants and invertebrates.
- Supporting avian assemblages of international importance
- Regularly supporting 1% of the individuals in a population of one species or subspecies of water bird (in this case, dark-bellied Brent goose).

The qualifying features of the Solent Maritime SAC includes:

- Estuaries - The Solent encompasses a major estuarine system on the south coast of England. The Solent and its inlets are unique in Britain and Europe for their hydrographic regime of four tides each day, and for the complexity of the marine and estuarine habitats present within the area.
- Spartina swards - The Solent contains the second-largest aggregation of Atlantic salt meadows in south and south-west England.
- There are also a number of Annex I habitats and Annex II species (qualifying feature, but not a primary reason for selection of this site) such as mudflats and sandflats not covered by seawater at low tide, coastal lagoons, Desmoulin's whorl snail etc.

Upper Hamble Estuary and Woods SSSI comprises the uppermost section of the estuary of the River Hamble and its flanking zones of saltmarsh, reedswamp and ancient semi-natural woodland. Twelve types of ancient broad-leaved woodland occur in the SSSI and collectively comprise one of the most ecologically diverse woodland areas in central southern England. Of particular interest is the transition between zones of pedunculate oak/birch/hazel through sessile oak/birch/hazel to sessile oak/birch in response to changes from heavy London Clay soils to light, well-drained valley sands and gravels. The Hamble woodlands are notable for their stands of small-leaved lime *Tilia cordata*. The diversity of woodland types has given rise to an exceptionally species-rich ground flora.

Manor Farm LNR supports abundant wildlife from roe deer in the woods to curlews along the river and skylarks in the fields, plus an amazing array of wildflowers, insects and reptiles.

Wilderne LNR is a 10ha wetland habitat featuring a mosaic of ponds, two flooded meadows, woodlands and a valley mire all linked by the streams which flow through the site. Bird species common to the site include various finches; Goldfinch, Chaffinch, Greenfinch, Bullfinch and Siskin, the rarities being Lesser Redpoll and Brambling. Other species include Great Spotted Woodpeckers and Nuthatches and sightings of the Green Woodpecker and Treecreeper. Commonly sighted dragonflies include Southern Hawker, Broad-bodied Chaser, Golden-ringed Dragonfly, Emperor Dragonfly and Beautiful Demoiselle Damselfly. Butterfly regulars include Green-veined White, Common Blue, Holly Blue, Small Copper, Brown Argus, Large Skipper (one of 3 types of Skipper in the area), and perhaps notably, Purple Hairstreak, these are just some of the 26 species of butterfly recorded in 2018.

The location of the above sites is shown in Figure 3:

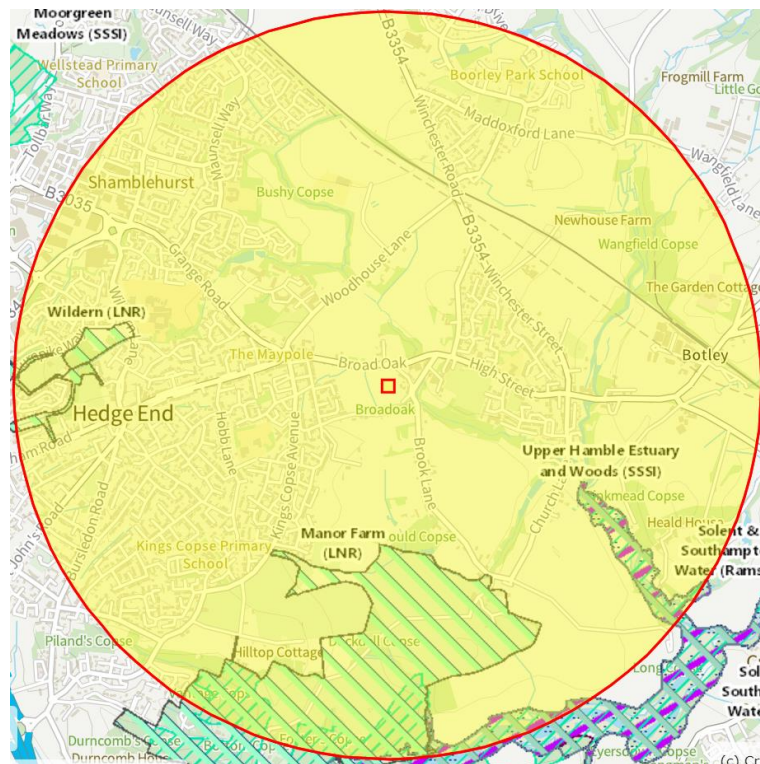


Figure 3. Location of statutory designated sites within a 2km radius of the site (Source: MAGIC website)

4.2 NON-STATUTORY DESIGNATED SITES

There are a large number of non-statutory designated sites (Sites of Importance for Nature Conservation - SINCs) located within 2km of the application site; the closest of which is Woodhouse Gully Wood, located approximately 55m north-east of the site. This SINC is however separated from the application site by Broad Oak (A334) which is a busy road and therefore there is limited ecological connectivity between this designation and the application site. Other nearby SINCs within a 500m radius include Puddbrook Lake (445 m south-east) and Bottom Copse/Bushy Copse (465m north).

There are also a number of Ancient Woodlands located within 2km of the site, with the nearest one being Bottom Copse, located 465m north-west of the site.

The nearest Solent Waders and Brent Goose Strategy site is 'Low Use' site E19, located 890m south of the site. All Low Use sites have the potential to be used by waders or Brent geese. These sites have the potential to support the existing network and provide alternative options and resilience for the future network.

HBIC has produced a detailed Ecological Network Map (ENM) for Hampshire on behalf of the Local Nature Partnership. An ENM is a group of habitat patches that species can move easily between, maintaining ecological function. Through appropriate management, ecological networks can provide a connected collection of refuges for wildlife. Establishing

the network will enable biodiversity to recover from recent declines and create a more resilient natural environment. The application site is not part of this ENM; however, the woodland located immediately to the south of the site has been identified as a Core Non-Statutory site with the qualifying feature including lowland mixed deciduous woodland. Figure 4 shows the location of the ENM within a 1km radius of the site.

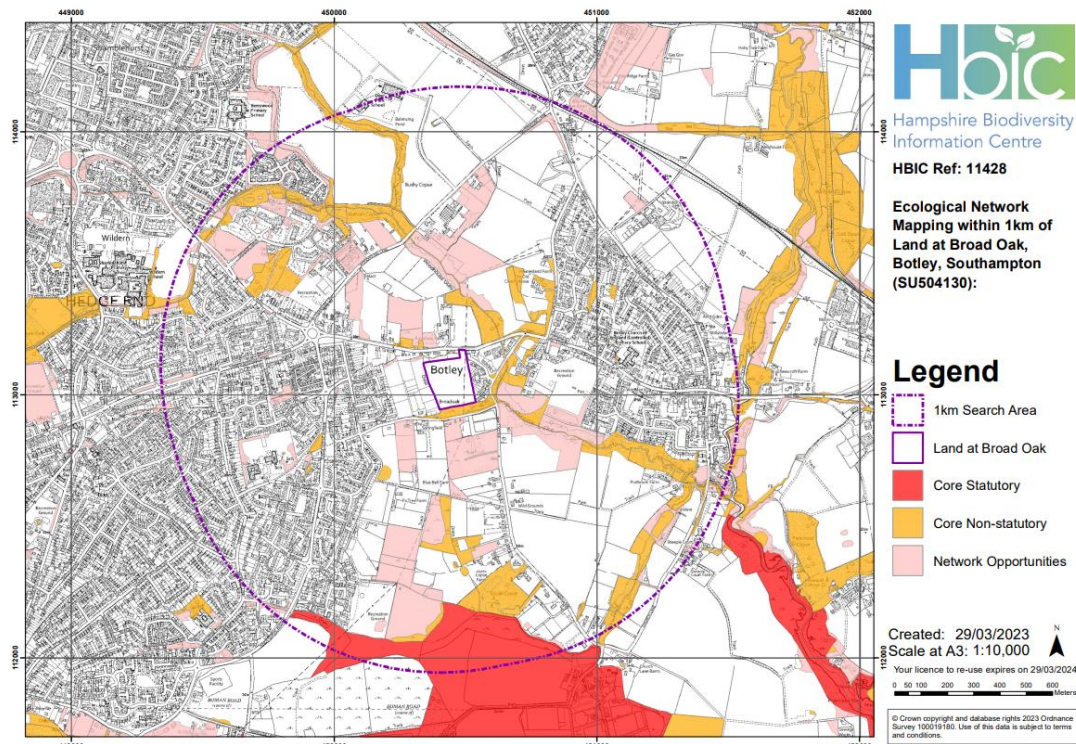


Figure 4. Location of ENM within a 1km radius of the site (Source: HBIC)

4.3 PROTECTED / NOTABLE SPECIES

Records of bats, otters, hedgehogs, notable birds, reptiles, amphibians, badger, invertebrates, fish and notable plants have been returned from a 2km radius of the application site, provided by HBIC.

Bats - In summary, records of bats belonging to at least 10 species, including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, brown long-eared bat *Plecotus auratus*, noctule *Nyctalus noctula*, western barbastelle *Barbastella barbastellus*, serotine *Eptesicus serotinus*, Whiskered/Brandt's bat *Myotis mystacinus*/*M. brandtii*, Natterer's bat *M. nattereri*, Leisler's bat *Nyctalus leisleri* and Nathusius' pipistrelle *Pipistrellus nathusii*, have been returned by HBIC. The nearest records to the site relate to common, soprano and Nathusius' pipistrelle, long-eared bat, western barbastelle, serotine and Leisler's bat, located approximately 65m south-east of the site, within an area of woodland (recorded in 2022).

Dormice - No records of dormouse have been returned, with only two records of yellow-necked mouse *Apodemus flavicollis* located approximately 420m to 460m to the site (recorded in 2004).

Otters - Six records of otters have been returned, with the nearest one located approximately 460m from the application site. This record is of a single spraint identified in May 2017 on a partly submerged log in a side channel of Woodhouse Gully.

Hedgehogs - Numerous records of hedgehogs have been returned from 2km of the site, with a roadkill record in close vicinity, likely to be associated with Broad Oak.

Reptiles - Grass snake *Natrix natrix* and slow worm *Anguis fragilis* records have also been returned with the nearest grass snake record being approximately 404m away and nearest slow worm record being 518m away.

Amphibians - No records of great crested newts have been returned, with the only amphibian records present belonging to common toad *Bufo bufo*, with the nearest being 530m south-west of the site.

Badgers – At least five records of badgers are present for the search radius, belonging to setts, observation of individuals or their field signs such as latrines.

Invertebrates - Numerous records of notable terrestrial invertebrates has been returned such as stag beetle *Lucanus cervus*, with the nearest record being 74m away, recorded in 2019 as part of the National Stag Beetle Surveys (Great Stag Hunts).

Birds - HBIC provided numerous bird records for the study area, mainly associated with the Manor Farm Country Park, including a number of Schedule 1 bird species such as barn owl *Tyto alba*, kingfisher *Alcedo atthis* and red wing *Turdus iliacus*.

Fish – Records of European eel *Anguilla Anguilla*, bullhead *Cottus gobio*, brown/sea trout *Salmo trutta* and grayling *Thymallus thymallus* have been returned. These records are from Maddoxford Farm, Botley Mill and Botley Grange Hotel, with the nearest record being approximately 460m away from the application site. All records are based on field observation from 1999, compiled by the Environment Agency.

Notable plants – Numerous records of notable plants are present within the search area, with the nearest records belonging to stinking hellebore *Helleborus foetidus* and corn marigold *Glebionis segetum*, returned from north of Manor Farm Country Park.

5. PHASE 1 HABITAT SURVEY

5.1 HABITATS

The Phase 1 Habitat survey of the site was carried out on 17 March 2023 by M. Miri, Principal Ecologist, MSc, CEnv, MCIEEM, holder of Level 2 bat class licence, Level 1 great crested newt and dormouse licences from Natural England, with over 16 years of experience as a professional ecologist within both the private and public sector.

The following habitat types were recorded on site during the field survey:

Poor semi-improved grassland / Modified Grassland g4

The application site comprises a large, poor semi-improved grass field. The sward height at the time of survey in March was rank and tussocky, suggesting a lack of management. However, over the course of the various surveys on site, the sward height across the site had varied depending on the management at the time. For instance in late June 2023, wide paths had been mown to a short sward of approximately 100mm along the boundaries and across the field, with the western half of the site grazed to a uniformly short sward by a number of horses (site used as a paddock). It is understood that the entire site will be used for grazing.

The grassland was dominated by false oat-grass *Arrhenatherum elatius*, with abundant Yorkshire fog *Holcus lanatus*. Other frequent grasses included sweet vernal-grass *Anthoxanthum odoratum* and perennial ryegrass *Lolium perenne*, with occasional red fescue *Festuca rubra*, cocksfoot *Dactylis glomerata*, soft brome *Bromus hordeaceus* and meadow foxtail *Alopecurus pratensis*. The herb layer present included broad-leaved dock *Rumex obtusifolius*, common chickweed *Stellaria media*, dandelion *Taraxacum officinal*, meadow buttercup *Ranunculus acris*, creeping buttercup *Ranunculus repens*, field speedwell *Veronica agrestis*, white clover *Trifolium repens*, red clover *T. pratense*, St. John's wort *Hypericum perforatum*, dove's-foot crane's-bill *Geranium molle*, meadow vetching *Lathyrus pratensis*, cow parsley *Anthriscus sylvestris*, common daisy *Bellis perennis*, black medick *Medicago lupulina*, common vetch *Vicia sativa*, hawkbit *Leontodon sp.*, field bindweed *Convolvulus arvensis*, spear thistle *Cirsium vulgare* and field horsetail *Equisetum arvense*. Oxeye daisy *Leucanthemum vulgare*, black knapweed *Centaurea nigra* and Goat's-beard *Tragopogon pratensis* were rare.



Figure 5. View of the grassland on site, looking south & south-west (left) – looking south & south-east (right) – March 2023



Figure 6. View of the grassland on site, looking north & north-east (left) – looking west (right) – March 2023



Figure 7. View of the grassland on site – end of June 2023



Figure 8. View of the grassland on site – end of June 2023

Due to relatively poor species diversity and lack of structural diversity at the time of survey, the grassland on site is appointed a 'site' value only.

Dense Scrub / Bramble Scrub h3d + Mixed Scrub h3h

Along all boundaries of the site are bramble *Rubus fruticosus* scrub with widths varying from 1m to 8m. In March 2023, the bramble was under management and had been cut down to ground level. In areas of cut bramble, species such as dog's mercury *Mercurialis perennis* (western boundary only), ground elder *Aegopodium podagraria*, ground ivy *Glechoma hederacea* and field speedwell (north-eastern boundary only), pendulous sedge (northern and north-eastern boundaries only) and marsh marigold *Caltha palustris*, lords-and-ladies *Arum maculatum* and daffodils *Narcissus sp.* (south-eastern boundary) had started colonising. In July 2023, the areas of scrub had started colonising in parts by bracken *Pteridium aquilinum*.

In the north-eastern corner of the site, the managed scrub was dominated blackthorn *Prunus spinosa* with other species present including hawthorn *Crataegus monogyna*, goat Willow *Salix caprea*, hazel *Corylus avellana*, dogwood *Cornus sanguinea* and sycamore *Acer pseudoplatanus*.

This habitat is common in the local area, supports a poor species diversity and will readily colonise unmanaged areas. Therefore, it is appointed a 'site' value only.



Figure 9. View of the managed scrub, dominated by bramble (left: eastern and north-eastern boundaries – right: north-eastern corner) – March 2023



Figure 10. View of the managed bramble scrub (left: northern boundary – right: western boundary) – March 2023



Figure 11. View of colonising ground elder (left) and dog's mercury (right) within areas of managed bramble – March 2023



Figure 12. View of mixed scrub in the north-eastern corner of the site – July 2023

Buildings / Other developed land u1b6

Two dilapidated, small sheds of corrugated sheet construction are present along the south-eastern corner of the site. These structures are considered to be of negligible ecological value.



Figure 13. View of the sheds on site

Scattered trees / Scattered trees g4 11

A small number of trees are scattered along the boundaries of the site, including a silver birch *Betula pendula* and sycamore *Acer pseudoplatanus* in the north-eastern corner of the site (Figure 14), an early mature oak along the northern boundary (Figure 15) and another early mature oak in the south-eastern corner (Figure 15). For full details of the trees on site, please refer to the Arboricultural Report.



Figure 14. Trees in the north-east



Figure 15. Early mature oak along the northern boundary (left) - early mature oak along the south-eastern boundary (right)

In the south-eastern corner of the site, the canopies of a number of Lawson Cypress *Chamaecyparis lawsoniana* and a sycamore tree overhang the site (Figure 16). These trees are however located in the neighbouring properties.



Figure 16. View of overhanging Lawson cypress trees (offsite)

A small number of stumps were also recorded in the north-eastern corner of the site (Figure 17).



Figure 17. Example of tree stumps on site

Due to the age of the trees on site and their limited extent, they are considered to be of 'site' value.

Running water / Other rivers and streams r2b

A small section (approx. 5m long) of a stream is located in the north-east of the site, before it flows under the application site. This stream is approximately 2m wide and supports vertical concrete walls. It has a moderate flow from west to east. The majority of this stream is located within the residential gardens located outside the northern boundary of the site. The water depth was approximately 50mm at the time of survey and the water was clear. The ditch does not support any marginal or in-channel vegetation and has a stoney bed.



Figure 18. View of the stream on site

Due to lack of aquatic vegetation, presence of reinforced walls and the small extent on site, this habitat is appointed a 'site' value only.

5.2 OFF-SITE HABITATS

The below habitats are located outside the application site and will be retained as part of the proposals. Therefore, they have been detailed below for information only.

Scattered trees (Offsite)

A mature line of trees dominated by oak *Quercus rubor* is located immediately outside the western boundary of the site. This habitat is separated from the site by post and wire fencing. As this habitat is offsite, it will be retained and protected through the inclusion of a large, landscaped buffer in the west.



Figure 19. View of the mature treeline outside the western boundary of the site

Hedgerows (Offsite)

There are a number of hedgerows located immediately outside the application site, forming the boundary of the residential gardens such as a newly planted beech *Fagus*

sylvatica hedgerow, approximately 1m tall and a managed mature beech hedge approximately 1.7m tall along the northern boundary of the site. Both these hedgerows are separated from the site by post and wire fencing.



Figure 20. Beech hedge outside the northern boundary of the site

Similarly, along sections of the eastern boundary are managed hedgerows delineating the boundary of the residential gardens, including a 1.5m tall, managed, box *Buxus sp.* hedge and a laurel *Prunus laurocerasus*, honeysuckle *Lonicera periclymenum* and box hedge.



Figure 21. Hedgerows outside the site boundary to the east

Outside the north-eastern corner of the site is also a bay *Laurus nobilis* hedge within the boundary of the residential garden, separated by post and rail fencing from the application site.



Figure 22. Hedgerows outside the site boundary to the north-east

Ditch (offsite)

A dry ditch is located outside the western boundary of the site, shaded by the mature treeline. This habitat is separated from the application site by post and wire fencing.



Figure 23. View of the ditch outside the western boundary of the site

Woodland (offsite)

A small rectangular parcel of woodland is located immediately outside the southern boundary of the site. This woodland is dominated by mature English oak with hazel *Corylus avellana*. Other species present include holly *Ilex aquifolium*, ash *Fraxinus excelsior*, Lombardy poplar *Populus nigra*, hawthorn and sweet chestnut *Castanea sativa*. Bamboo planting along the edge of the woodland and a new development under construction with car parking was also observed in the woodland. A section of this woodland has been cleared due to the presence of overhead powerlines. This woodland is separated from the application site by post and wire fencing.



Figure 24. View of the woodland outside the southern boundary of the site



Figure 25. View of the offsite woodland



Figure 26. View of the offsite woodland

5.3 PROTECTED SPECIES

Due to the habitats present on site, the following protected/notable species were considered during the survey:

Nesting Birds

The trees on site are suitable for supporting common and widespread bird species. Therefore, nesting birds are a constraint in relation to the proposals and a recommendation is made in Section 7.

Roosting Bats

The trees on site generally lacked any suitable features for roosting bats such as rot holes, lifted bark and woodpecker holes. Roosting bats are therefore not considered to be a notable consideration in relation to the proposed works.

The habitats located immediately outside the application site in the form of woodland edge along the southern boundary and mature treeline along the western boundary, provide moderate quality habitat for foraging bats. As such, foraging and commuting bats are considered to be a notable consideration in relation to the works and a recommendation is made in Section 7.

Reptiles

The site is considered to be of value to reptiles, due to the presence of areas of rank grassland. Reptiles are therefore a notable consideration in relation to the works and a recommendation in relation to further survey work is made in Section 7.

Amphibians

The application site is bounded by a busy road (A334) to the north which acts as a barrier to the movement of great crested newts, therefore, the only pond located approximately 285m north-east of the site, was scoped out. Furthermore, review of the OS mapping indicates the absence of any other ponds within 500m of the site. Along the western boundary of the site is a ditch, dry at the time of survey in March 2023 and dry during the months of April and July during the reptile and bat activity surveys. A small section of a stream is located in the north-eastern part of the site, which is mainly located in the residential gardens located to the north of the site. This stream was recorded to have a moderate flow at the time of survey and is therefore considered to be of negligible potential to great crested newts. The only other waterbody located within a 500m radius of the site is Puddbrook, located 100m to the east of the site. As this stream has flowing water, it is not considered to be suitable for great crested newts.

Based on the above, whilst the terrestrial habitats on site are of value to this species, due to lack of potentially suitable ponds within 500m of the site with ecological connectivity to the site, great crested newts are not considered to be a constraint in relation to the proposed works.

Badgers

No evidence of badgers in the form of setts, snuffle holes or latrines was recorded on site. The habitats on site are however suitable for badgers and therefore due to their mobile nature, as a precautionary measure, a recommendation is made in Section 7.

Small Mammals

The application site is of value to hedgehogs. Therefore, small mammals are a notable consideration in relation to the proposed works and a recommendation is made in Section 7.

Otter and Water Vole

The small section of the stream located within the application site is not considered to be suitable for otters due to the low levels of water and lack of food source. Similarly, due to low water levels, lack of suitable banks for burrowing (vertical concrete banks) and lack of any aquatic vegetation for shelter or food source, this section of the stream is of negligible potential to water voles. Therefore, otters and water voles are not a notable consideration for the proposed development.

Dormice

The site is considered to be of negligible potential to dormice due to the lack of any suitable habitat on site. The woodland to the south and mature treeline to the west are of some value to this species. These habitats will however be retained and protected via suitable buffers. Dormice are therefore not considered to be a constraint in relation to the works.

Invertebrates

The habitats on site are considered to be of value to common and widespread invertebrates, with limited value to notable invertebrates such as stag beetle. Therefore, notable invertebrates are not considered to be a constraint in relation to the proposals.

6. IMPACT ASSEESMENT

6.1 SUMMARY OF PROPOSALS

Construction of up to 34 residential units, along with landscaping is proposed.

6.2 NATURE CONSERVATION SITES

Solent and Southampton SPA is located approximately 1.1km south-east of the application site. Due to residential nature of the proposals, if unmitigated, there will be a likely significant effect on the integrity of this designation as a result of an increase in the recreational level within 5.6km of the SPA. A net increase in housing development within 5.6km of the Solent and Southampton SPA is likely to have a significant effect on those sites through a consequent increase in recreational disturbance. Development within the 5.6km zone will increase the human population at the coast and thus increase the level of recreation and disturbance of bird species. This impact is of concern for the populations of over-wintering birds, due to the adverse effects of disturbance on the behaviours of the birds (such as feeding and roosting) and the consequent impacts on the energy budgets of the birds.

Similarly, increases in housing within a 13.8km radius of the New Forest SPA, SAC and Ramsar will result in a marked increase in use of the sites and exacerbate recreational impacts. Residential development has the potential to indirectly affect the qualifying features of the New Forest SPA/Ramsar, such as breeding populations of nightjar, woodlark and Dartford warbler through disturbance from increased human and/or dog activity. Residential development also has the potential to directly and indirectly affect the qualifying features of the New Forest SAC (e.g. bog woodland, European dry heaths. Molinia meadows on calcareous, peaty or clayey-silt-laden soils, etc.), through contamination (e.g. dog fouling, grey water from campervans, littering, runoff from roads, etc.) and trampling, which can alter plant species composition or result in direct habitat loss.

Furthermore, Natural England advises that there is a likely significant effect on the European designated sites (e.g. Solent and Southampton Water SPA, Solent Maritime SAC, etc.) due to the increase in waste water from any new housing. There is existing evidence of high levels of nitrogen and phosphorus in the water environment with evidence of eutrophication at some designated sites. An Integrated Water Management Study for South Hampshire was commissioned by the Partnership for Urban South Hampshire (PUSH) Authorities to examine the delivery of development growth in relation to legislative and government policy requirements for designated sites and wider biodiversity. The PUSH water quality work has identified that there is uncertainty as to whether new local plan housing development can be accommodated without having a detrimental impact on the designated sites within the Solent. Therefore, in the absence of mitigation, there is

potential for all new development within the Solent catchment to impact on the nutrient levels of the designated sites.

In summary, in the absence of mitigation, a likely significant effect on the Solent and Southampton Water SPA and Ramsar, Solent Maritime SAC and the New Forest SPA, SAC and Ramsar is likely.

Due to distance (>1km) and presence of buffers in the form of roads, residential and commercial units and semi-natural habitats, direct or indirect impacts on other statutory designated sites located within a 2km radius of the site has been ruled out.

The nearest non-statutory designated site is Woodhouse Gully Wood SINC, located 65m north-east of the survey area. This designation is separated from the site by a busy, main road acting as a buffer and therefore due to distance and presence of buffers, no direct impacts are anticipated during the construction phase. This designation is in private ownership and therefore no indirect impact as a result of an increase in recreational pressure is considered likely. Therefore, no adverse impacts are considered likely on this non-statutory designated site or those located within a 2km radius of the site.

6.3 HABITATS

The proposals will result in the loss of the areas of poor semi-improved grassland and scrub on site. A small number of trees have already been cleared on site. If unmitigated, the proposals will therefore result in an overall net loss in biodiversity and therefore a number of recommendations are made in Section 7.

Whilst the small section of the stream on site will be retained, a recommendation is made in Section 7 to ensure its protection against indirect impacts during the construction phase.

Furthermore, whilst the offsite woodland and mature tree line along the southern and western boundaries will be retained, a number of measures during the construction phase will be implemented to ensure no indirect impacts on these habitats.

6.4 PROTECTED SPECIES

Nesting Birds

If the current scrub management on site is ceased and further clearance of trees on site is required and if the works are to be undertaken within the nesting bird season, then there is potential for impact on nesting birds. As such, a recommendation is made in Section 7.

Badgers and Small Mammals

Whilst no evidence of badgers was found during the site walkover, due to their mobile nature, impacts may be likely if the site is used for foraging and commuting. Therefore,

measures to ensure no adverse impacts on badgers and small mammals are recommended in Section 7.

Reptiles

Due to the presence of suitable habitat on site, if the reptile surveys confirm the presence of this group of species, then loss of habitat and accidental killing/injury is likely. Therefore, a recommendation is made in Section 7.

Foraging/commuting bats

Whilst the offsite woodland and mature tree line along the southern and western boundaries will be retained and protected through the inclusion of landscaped buffers, to ensure no indirect impacts on foraging and commuting bats during the operational phase, a recommendation is made in Section 7.

7. RECOMMENDATIONS

7.1 DESIGNATED SITES

The emerging Eastleigh Borough Local Plan 2016-36 (December 2017) policy DM11 (Nature Conservation) states that in determining planning applications, the Borough Council will require mitigation measures in connection with new residential development as identified by the Solent Recreation Mitigation Strategy, unless it can be demonstrated to the satisfaction of the Borough Council that individually, or in combination with others, the development is not likely to have significant adverse impacts on the integrity of the Solent European marine sites. A developer contribution will therefore be required for every net additional dwelling within the 5.6km zone, unless the developer can demonstrate to the satisfaction of the local planning authority and Natural England that it will provide alternative 'bespoke mitigation' which will fully mitigate the recreational impact of the development.

While Eastleigh Borough Council does not border the New Forest National Park, technical research commissioned by local authorities in and around the New Forest shows that residents of the Borough choose to visit the area from time to time and thus risk contributing towards erosion of the habitats and disturbance of the species they support. Mitigation is required to avoid significant adverse effects on the protected sites and species and to enable planning permissions to be granted, to support wider housing delivery objectives. Policy DM11 in the Emerging Local Plan commits the Council to implement a mitigation strategy to address the impact on the New Forest protected sites. Therefore, an interim strategy which includes seeking developer contributions for the creation and ongoing maintenance of a SANG within the Borough and funding of ranger posts in the New Forest National Park was developed.

As the proposed development is located within 5.6km of the Solent and Southampton Water SPA and 13.8km of the New Forest SPA, Ramsar and SAC, the required financial contribution, will be secured via a S106 legal agreement. These contributions will fund SANG (Suitable Alternative Natural Greenspace) projects and fund rangers for both the Solent SPAs and the New Forest SPA, Ramsar and SAC. Therefore, by securing the appropriate scale of developer contribution, no adverse effect on the integrity of these designated sites can be concluded.

In response to the impact of nitrate pollutants, and to help ensure that developments achieve nutrient neutrality, Eastleigh Borough Council has put a scheme in place so that developers can offset excess nutrient outputs against Council-owned land through the purchase of nitrate credits. Eastleigh Borough Council currently presides over 238 hectares of mitigation land, worth a total of 11,354 credits (1 credit = 1 kilogram of nitrates per year). Therefore, provided that the nitrogen budget for the application site is calculated and the required financial contribution is secured via a S106, then it can be concluded that

any positive nitrogen output into the designated sites has been mitigated to ensure no adverse effect on the integrity of affected designated areas.

7.2 HABITATS

In order to ensure no net loss in biodiversity, the loss of habitats on site will be compensated by the creation of a number of high-quality habitats on site, as outlined below. This is demonstrated in the submitted Biodiversity Net Gain Statement, using the Natural England 'Biodiversity Metric V4.0.

- A minimum of 124 native trees of local provenance will be planted on site. The exact location and species of trees to be used will be provided in the Soft Landscaping Strategy for the site.
- Woodland edge planting (native scrub planting) along the southern boundary of the site, providing a buffer between the adjacent woodland and the development site, along with more native scrub planting in association with the Public Open Space (POS) in the west will be undertaken. Recommended species include holly, dogwood *Cornus sanguinea*, guelder rose *Viburnum opulus*, hawthorn, hazel, blackthorn, field maple *Acer campestre*, beech *Fagus sylvatica* and yew *Taxus baccata*. Full list of species will be provided in the Soft Landscaping Strategy for the site.
- Approximately 86m of species-rich, native hedgerows will also be included within the Soft Landscaping Strategy for the site.
- The area of POS in the west will be seeded with a species-rich wildflower meadow grassland such as Emorsgate EM1 or equivalent and a species-rich tussock grassland such as Emorsgate EM10 or equivalent.
- Two ponds, seeded with wetland wildflower meadow and planted with marginal, native species will be created in the west, within the POS.

By implementing the below measures, not only the loss of habitats on site will be compensated, but an overall net gain of +10% in habitat units will be achieved. Please refer to the Biodiversity Net Gain Report for the site.

Furthermore, the gardens are recommended to remain permeable to small mammals. This could be achieved through creating 'Hedgehog Highways' within the garden fence panels (i.e. a 13cm x 13cm hole to be cut at the bottom of the fence if there are no other gaps).



Figure 27. Example of permeable garden fencing (Source: Hedgehog Street Website)

A minimum of 8 integrated bird features will be incorporated into the design of the new dwellings (25% of the new dwellings). These could include a mixture of Schwegler 1SP Sparrow terraces and swift bricks.

A minimum of 8 bat features such as bat bricks (e.g. Ibstock bat brick) will also be incorporated into the external walls of the new dwellings (25% of the new dwellings).



Figure 28. Example of bat bricks in external walls

Due to the presence of a woodland and mature treeline immediately adjacent to the site and a small section of a stream within the site, it is recommended that a Construction Environmental Management Plan (CEMP) is produced and implemented to ensure no indirect impacts as a result of contaminated surface water runoff, dust, etc. adversely affecting notable habitats on and offsite.

Any trees on site, or overhanging the site, which are to be retained should be protected in accordance with British Standard 5837: 2012 "Trees in relation to design, demolition and construction - recommendations".

7.3 PROTECTED SPECIES

Nesting Birds

Whilst the offsite woodland and mature treeline will be retained and the areas of scrub are under regular management, in the event that further vegetation clearance is required, it is recommended that the works to the vegetation are undertaken outside the nesting bird season. The nesting bird season is weather dependent but generally extends between March and end of August. If this is not possible, then any vegetation to be affected should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting, any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, for example via the implementation of an appropriate buffer zone (species dependent) around the nest in which no disturbance is permitted until the nest is no longer in use.

Badgers/Small Mammals

Prior to the commencement of the works, it is recommended to undertake a badger activity inspection of the site to ensure that the site conditions have not changed in the interim and no new evidence of badgers is present on site.

Any deep excavations that need to be left overnight should be covered or fitted with mammal ramps to ensure that any animals that enter can safely escape.

Reptiles

Due to the presence of suitable habitat for reptiles, it is recommended that the presence/absence of reptiles is determined through further survey work. Reptile surveys can be undertaken in suitable weather conditions between March and September. At least seven visits in suitable weather conditions, using artificial refuges, will be required.

Foraging and Commuting bats

Habitats of value to foraging and commuting bats in the form of offsite woodland outside the southern boundary and offsite mature tree line along the western boundaries will be retained and protected through the inclusion of wide buffers. Furthermore, the proposed hedgerows within gardens, woodland edge and meadow planting, along with creation of ponds will increase the value of the site for bats.

It is recommended that the green space in the west remains unlit and a sensitive lighting strategy is recommended for the proposals to ensure no light spill of >1lux along the offsite woodland edge in the south. This can be secured via a Planning Condition. It is also recommended that any lights used for illuminating driveways are bollard lights on a motion sensor. These are designed to direct the light down on to a path or driveway with no light spill to the surrounding habitats.

By implementing the above measures of habitat creation and lighting control, the requirement for any bat activity surveys will be negated. However, in order to get an understanding of the level of bat usage on site, as a precautionary measure, monthly bat activity transect surveys and static surveys (i.e. one survey visit per month from April to September, in appropriate weather conditions) is recommended.

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APPENDIX 1

UKHAB Map

UKHab Pre-
Development Map
June 2023

Site: Broad Oak,
Botley, SO30 2EU

-  Site Boundary
-  Bramble Scrub h3b
-  Buildings u1b5
-  Modified Grassland g4
-  Mixed Scrub h3h
-  Stream r2b
-  Tress u1-11

