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June 2014



Hampshire
County Council

Ecological Appraisal

Report for:

**Hampshire County Council –
Property Services**

HAVANT BOROUGH
COUNCIL

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COUNCIL PLANNING
HAMPSHIRE COUNTY COUNCIL

Riders Infant and Junior Schools

Expansion from 2FE to 3FE

June 2014

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1 SUMMARY

This report constitutes an assessment of the potential impacts arising from the proposal and site set out below and provides recommendations to ensure that this proposal can reasonably avoid or mitigate such effects identified. If the proposal differs from that set out below, then this assessment and recommendations may not be applicable. Furthermore, the assessment and recommendations are based on surveys which may only be considered valid for up to two years following the date of this report.

- An Extended Phase 1 Ecological Survey was undertaken at Riders Infant and Junior Schools in Havant on 24 June 2014.
- The proposals for the site comprise the construction of three classroom refurbishments, and new buildings for a classroom, library, staffroom with associated corridors, offices and toilets.
- The Extended Phase 1 Ecological Survey comprised a field survey and desk-based study to assess the potential for the site to support protected habitats and species.
- Habitats to be directly impacted by the proposed works are buildings and species-poor, managed amenity grassland.
- It was recommended that Phase 2 bat surveys of the south Junior School building are conducted in the form of three evening emergence surveys with two suitably qualified ecologists.
- It is highly advisable to undertake clearance of potential bird nesting habitat (such as the plantation woodland, scrub and ornamental planting) outside the bird nesting season, (March to the end of August). If there is absolutely no alternative to doing the work during this period then a thorough, careful and quiet examination of the affected area must be carried out before clearance starts. If occupied nests are present then work must stop in that area, a suitable (approximately 5m) stand-off maintained, and clearance can only recommence once the nest becomes unoccupied of its own accord.
- As a precautionary measure, during construction, all excavations should be covered with appropriate material such as metal sheeting, overnight to help prevent individual badgers becoming trapped.
- Any works to the mature trees will need to be carried out under supervision by an ecologist and under advice from an arboriculturist.
- Enhancement works in the form of provision of birds nest boxes and suitable vegetation planting have been suggested.



2 INTRODUCTION

2.1 Project Description

Hampshire County Council Ecology Team (HCCET) was been commissioned to carry out an Extended Phase 1 ecological survey at Riders Infant and Junior School, Havant Hampshire PO9 4RY centered on SU30320157, referred to as 'the Site' within this report.

2.1.1 Proposal

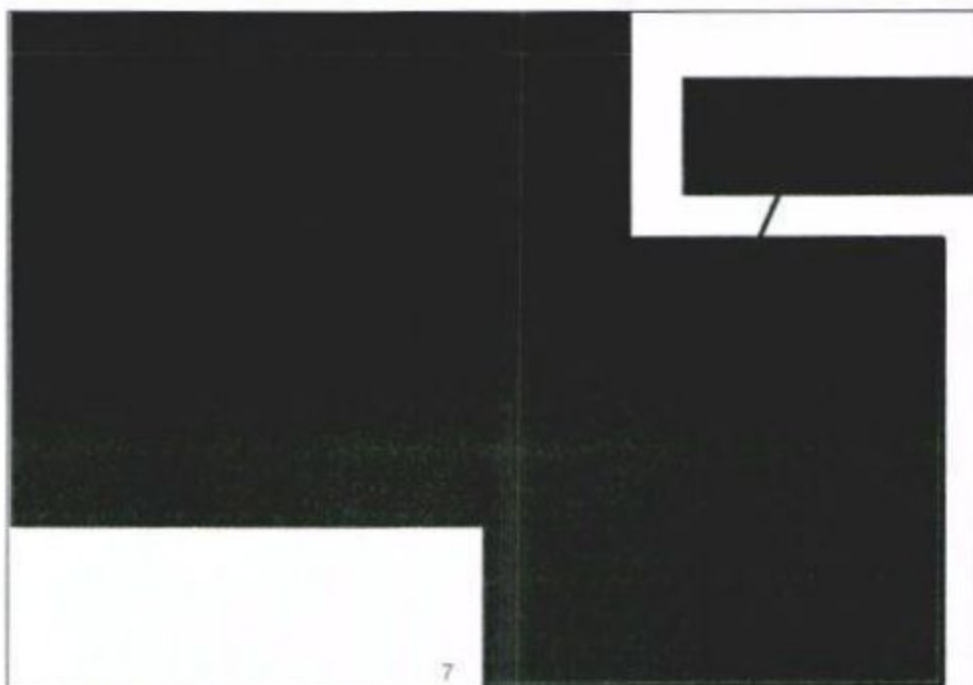
Hampshire County Council (HCC) proposes to expand the existing schools from 2FE to 3FE, giving the Infant School 270 places and the Junior school 360 places. The proposals for the site comprise the construction of three classroom refurbishments, and construction of a new classroom, library, staffroom with associated corridors, offices and toilets.

2.1.2 Requirement for Ecological Survey/Assessment

Consultation with HCCET has identified the potential for the Site to support legally-protected species, and ecologically sensitive habitats.

2.2 Site Description

The Site lies within a fully built-up environment within Havant. Further afield on the north, east and west sides are a complex of pasture land, parkland and woodland with mature tree lined or wooded boundaries. Leigh Park (Staunton Country Park) Registered parkland is situated 482m east of the Site, lowland meadows 942m north-west of the Site, and the closest deciduous BAP woodland 847m north of the Site.





3 METHODS

3.1 Desk-based Assessment

A desk-based assessment was carried out by HCCET on 12th May 2014. Geographical Information Systems (GIS) mapping was used in order to identify all records of protected species and habitats within a 1 kilometre (km) radius of the Site. In addition, records were obtained of all statutory and non-statutory designated nature conservation Sites within the search radius.

HCCET had full access to the extensive biological database held by the Hampshire Biodiversity Information Centre (HBIC). The data is aggregated to meet the HBIC Data Users Agreement and attention is drawn to paragraph 5 of the agreement which states: *'Whilst every reasonable effort is made to validate information supplied to and by the Hampshire Biodiversity Information Centre, owing to the dynamic and judgmental nature of information relating to wildlife, HBIC disclaims any responsibility for the accuracy or comprehensiveness of the information supplied, and accepts no liability for any indirect, consequential, or incidental damages or losses arising from use of the information'*.

3.2 Field-based Assessment

An Extended Phase 1 Ecological Survey was carried out on 24 June 2014. The survey entailed a single surveyor undertaking a methodical investigation of all areas of the Site in order to identify the presence of, or habitat considered suitable for supporting, legally-protected species, this was carried out following standard good practice guidelines (Chartered Institute of Ecology and Environmental Management, 2013). A brief description of the survey methods used is provided below.

3.2.1 Vegetation

All broad habitat types were identified and a list was compiled of characteristic plant species within each habitat type. Where necessary, habitat types of particular botanical interest were subject to more detailed survey using methods developed for the National Vegetation Classification (NVC) (Rodwell, 1992).

3.2.2 Badger

All areas of the Site were inspected for field signs of badger activity. This includes badger setts, latrine sites, dung piles, well-used trails, prints and hairs.

3.2.3 Bats – Built Structures

All built structures within the Site were subject to detailed internal and external investigation to identify evidence of bat activity. Where accessible, all internal voids

and similar spaces were inspected for evidence of bat presence such as live bats, corpses, droppings, feeding remains and urine- and fur-staining. Where necessary, samples of bat droppings were collected for analysis.

All external areas of each building were inspected visually to identify potential bat access, egress and roosting features. Such features include: missing, slipped, broken or bowed roof materials; gaps within soffits; gaps behind fascias; gaps/holes within brickwork; louvers; lifted lead flashing and gaps around window and door casements. Features were inspected using binoculars and, where possible, a ladder in order to locate unambiguous field signs such as droppings or urine/fur-staining. Surveyors were equipped with a high-powered torch and a video endoscope. Survey methods used were those described within Hundt (2012).

Each surveyed built structure has been assessed for its potential to support roosting bats based upon the presence of direct evidence or the presence of features suitable access, egress or roosting features. Each structure has been graded using the criteria detailed in **Table 1**.

Table 1 Bat Roost Building Grading Criteria

Grading Criteria	Reason
Confirmed Bat Roost	Presence of unambiguous evidence: live bats, corpses, droppings, feeding remains, urine- and fur-staining. Bats heard within roost. Known roost based on desk-based assessment.
High Potential	Structure exhibits numerous or high-quality features for roosting bats. Examples may include older/historic buildings with traditional roof materials, roof voids etc. Potential often higher when structure is in a non-urban setting.
Moderate Potential	Structure exhibits moderate number or moderate-quality features for roosting bats. Examples may include structures of more-modern construction exhibiting gaps within roof materials.
Low Potential	Structure exhibits low number or low-quality features for roosting bats. Examples may include otherwise-suitable structures exhibiting a very small number of potential features.
Negligible Potential	Structure exhibits no features for roosting bats. Examples may include modern structures in sound condition exhibiting no suitable features. Such structures are often within an urban setting.

3.2.4 Bats – Trees

All trees within the Site were subject to detailed visual inspection from ground level in order to identify features which may offer suitable roosting opportunities for bats.

These features include: dense ivy cladding; woodpecker holes; rot holes; limb stubs; cavities; flaking bark; cracks and splits. The methods used were those described within Hundt (2012).

Each tree has been graded for its potential to support bats based on criteria within the Bat Conservation Trust's 'Bat Surveys Good Practice Guidelines 2nd Edition (Hundt, 2012) and are detailed in **Table 2**.

Table 2 Bat Roost Tree Grading Criteria

Grading Criteria	Reason
Confirmed Bat Roost	Unambiguous evidence of roost: bats seen emerging/entering, bats audible, droppings/urine-/fur-staining visible. Known roost based on desk-based assessment.
Category 1*	Trees with multiple, highly-suitable features capable of supporting larger roosts.
Category 1	Trees with definite bat potential, supporting fewer suitable features than Category 1* or with potential for use by single bats.
Category 2	Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats.
Category 3	Trees with no potential to support bats.

3.2.5 Bats – Foraging and Commuting Habitat

An assessment was made of the suitability of the Site and the surrounding landscape to support foraging and/or commuting bats. The assessment was based on the presence of key habitat features such as woodland, scrub, hedgerows, grassland and open water which are highly attractive to bat species. Of importance is the presence of unlit semi-natural vegetation and habitat linkage between the Site and the surrounding landscape.

The quality of bat foraging and commuting habitat has been assessed using the criteria detailed in **Table 3**.



Table 3 Bat Foraging and Commuting Habitat Grading Criteria

Grading Criteria	Reason
Optimal Quality	Presence of optimal habitat features such as unlit woodland, scrub, hedgerows, grassland and open water with excellent linkage to similar habitats within the wider landscape. Presence of high potential buildings/trees and/or known roosts within immediate landscape. Sites are generally rural in character.
Moderate Quality	Presence of optimal habitat features such as woodland, scrub, hedgerows, grassland and open water with reasonable linkage to similar habitats within the wider landscape. Limiting factors may include size of site.
Low Quality	Presence of some limited habitat features such as scrub or hedgerows, with minimal linkage to suitable habitats within the wider landscape.
Poor Quality	No suitable habitat present or, if present, highly degraded/fragmented. Minimal unlit areas with no linkage to suitable habitat beyond site. Generally urban in character.

3.2.6 Hazel dormouse

An assessment was made of the suitability of habitat on Site to support hazel dormice. Key habitats are woodland, scrub and hedgerows, particularly where these offer dense vegetation within which to nest/hibernate and key resources such as hazel nuts, fruiting/nectar-rich plants (e.g. hawthorn, bramble) and honeysuckle (for nesting material). Of key importance is the presence of landscape-scale habitat linkages such as hedgerows.

3.2.7 Otter

All watercourses were carefully inspected for evidence of otter activity. The survey involved a careful visual inspection of the channel, banks and riparian zone to look for signs of otter presence such as tracks, spraints, anal jelly, feeding remains, resting places and holts. Particular attention was given to examinations of typical otter sprainting sites such as in-channel and bankside logs and rocks, as well as searches of bankside mud to identify tracks. Where necessary, potential resting



3.2.8 Water Vole

All watercourses were carefully inspected for evidence of water vole activity. The survey involved a careful visual inspection of the channel, banks and riparian zone to look for signs of water vole presence such as droppings/latrine sites, feeding remains, burrow entrances and prints.

3.2.9 Birds

An assessment was made of the site's suitability to support breeding and wintering bird species. Nesting birds will utilise a broad range of habitats, including: built structures; trees; scrub; isolated shrubs; dense herbaceous vegetation (terrestrial and aquatic) and open grassland. All bird species observed on site were recorded.

3.2.10 Reptiles

An assessment was made of the site's suitability to support reptile populations. Key habitat features include: tussocky/patchy grassland; scrub edge; linear watercourses; ponds; compost heaps; brash piles and rubble/soil heaps. Linkage to suitable habitat within the surrounding landscape will increase the potential for reptiles to occur, although populations can occur within isolated/fragmented habitats even within urban areas.

3.2.11 Amphibians

An assessment was made of all waterbodies and terrestrial habitat within the site for their suitability to support populations of amphibians. Suitable waterbodies will generally be characterised by the presence of good quality water, diverse macrophyte cover and an absence of fish.

For the European-protected great crested newt *Triturus cristatus* each waterbody was assessed using the Habitat Suitability Index (HSI) system (Oldham *et al.*, 2000) and assigned a grading score between zero (poor suitability) and 1 (excellent suitability).

3.2.12 Invertebrates

The presence of important invertebrate species or assemblages is generally dependant upon distinct micro-habitats such as dead wood (standing, fallen, of all decay stages), sap runs, damp/wet soils, mixed sun/shade, bare/friable soils (e.g. exposed sand banks) and a diversity of plant species. For aquatic invertebrates, important species/assemblages will generally be associated with high-quality aquatic habitats such as ponds, rivers, streams and ditches. Key factors will include water quality, substrate, waterbody morphology and plant diversity.

An assessment of the site's potential to support a diverse invertebrate assemblage and/or specialist species is based loosely on the presence of habitat features described in Kirby (2001). Where possible, a list of all invertebrate species encountered has been made.



3.2.13 Protected Species Assessment

The surveyed site has been assessed for its potential to support the above-named protected species based upon the criteria in Table 2.

Table 4 Protected Species Grading Criteria

Grading Criteria	Justification
Confirmed Presence	Species confirmed on site through direct sighting, presence of field signs (e.g. scat, hair, prints, nest, eggs, habitation etc.) or through desk-based assessment.
High Potential	Presence of optimal habitat features for species. Surveyed site within known range/close to known occurrence. Excellent connectivity to optimal habitat. No justification for discounting presence of species.
Moderate Potential	Presence of some suitable habitat features for species. Surveyed site within/close to known range or known occurrence but factors such as isolation/fragmentation may reduce potential. Presence of species is more likely than not.
Low Potential	Minimal suitable habitat present or, if present, highly degraded/fragmented. Minimal linkage to suitable habitat beyond site. Presence of species unlikely.
Negligible Potential	Site is entirely unsuitable for species. Presence of species highly unlikely.



4 RESULTS

4.1 Introduction

This section provides details of the results of the Extended Phase 1 ecological survey.

4.2 Desk-based Assessment

4.2.14 International statutory

The closest international site comprises the Chichester and Langstone Harbours Ramsar site which is located approximately 3km south of Riders Infant School.

Langstone Harbour is also designated as a Site of Special Scientific Interest (SSSI) and represents the closest national statutory site to Riders Infant School. Beyond Langstone Harbour, Portsdown SSSI which is located approximately 5km west of the school, is the closest national statutory site.

4.2.15 Local

Site Name	Distance and Direction from Site (km)	Reason for Designation
Great Copse	0.57 E	Ancient semi-natural woodland.
Thicket Lawn	0.74 NE	Semi-improved grassland which retains a significant element of unimproved grassland.
High Lawn	0.80 NE	Semi-improved grassland which retains a significant element of unimproved grassland.
The Warren, Havant	0.84 N	Agriculturally unimproved grassland.
Battins Copse	0.85 E	Ancient semi-natural woodland.
Thicket Bottom Woods and Lake	0.92 NE	Ancient semi-natural woodland.
Bushy Lease	0.93 W	Ancient semi-natural woodland.
Neville's Park	0.96 W	Agriculturally unimproved grassland.

4.2.16 Protected Species



A review of the biological database held by HBIC revealed the presence of a number of protected and notable species within a 1km radius of the site. The following are considered to have the greatest potential to occur on site:

4.3 Field Survey

A walk over of the whole school site (Figure 1) and an external inspection of the buildings were made where possible. Internal access to building loft spaces (only those which were not listed as containing asbestos in the Asbestos Register) was attempted but application of insulation above floating ceilings prevented this. Both boiler rooms of the two schools were internally inspected, as was a small 'Wendy house' at the west end of the building and a fenced pond area at the east end of the Site.

Species	Details	Distance and Direction from Site (Km)
<i>Pipistrelle Bat</i>	Roost visit (2003)	0.5 S also E and W
<i>Whiskered Bat</i>	Roost Visit (2002)	0.4 SE
<i>Serotine Bat</i>	Bat Detector (2010)	1 SE
<i>Common Lizard</i>	Numerous Records associated with agricultural land.	1 NW



Figure 1. South-facing side of Riders Infant (left) and Junior (right) Schools

4.3.1 Vegetation

The largest area of vegetation which will be lost on site is intensively managed amenity grassland, which consists predominantly of perennial ryegrass (*Lolium perenne*), cocksfoot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*), ribwort

plantain (*Plantago lanceolata*), dandelion (*Taraxacum officinale*) and rarely occurring rough hawkbit (*Leontodon hispidus*).

Bordering the north, west and east sides of the schools are species-poor hedgerows predominantly comprising bramble (*Rubus fruticosus*), hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*). Within these are several mature oak (*Quercus robur*) standards which comprise the habitat of most conservation value on the site; along the west boundary are eight mature oaks rated as category 2 due to the ivy cladding and tall fissured structure, and a further five category 3. The east boundary contains three category 2 mature oaks with ivy covering and one category 3 dead, rotting oak. The north boundary contains a category 1 mature ash (*Fraxinus excelsior*) with a missing branch and rot holes on the south and east facing sides, one category 2 and one category 3 mature oaks.

A small deciduous woodland strip is located in the north-west corner and contains hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), bramble (*Rubus fruticosus*), silver birch (*Betula pendula*), ash, field maple (*Acer campestre*), blackthorn, holly (*Ilex aquifolium*) and ivy (*Hedera helix*). Adjacent to this along the north of the carpark is a strip of semi-mature ash, field maple, hawthorn and hazel, wood avens (*Geum urbanum*) and ivy.

The separately fenced Environmental Area located at the east side of the Site contains a small, shallow pond, ruderal herbs and grasses, and a willow (*Salix*) weaved dome.

The pond was very shallow at the time of the survey 2x4m and dominated by parrot's feather (*Myriophyllum aquaticum*) a (schedule 9 species under the Wildlife & Countryside Act 1981), it also contained, frogbit (*lemna minor*), yellow flag (*Iris pseudocorus*) and water dropwort (*Oenanthe spp.*). Tall grassland vegetation has grown up in this area with red fescue (*Festuca rubra*), Yorkshire fog, common bent (*Agrostis capillaris*), red clover (*Trifolium pratense*), tormentil (*Potentilla erecta*), ribwort plantain (*Plantago lanceolata*), cut-leaved cranesbill (*Geranium dissectum*), black knapweed (*Centaurea nigra*) surrounded by areas of gravel.

4.3.2 Badger

No evidence of badger activity was recorded within the site during the survey and the site does not currently contain any active setts, latrines or well-worn mammal tracks, with no local records. However, suitable foraging habitat in the form of permanent improved grassland is present. The wider area to the north, east and west of the site provides habitat suitable for sett building, with good woodland cover and foraging habitats. It is therefore considered possible that badgers are present within the wider landscape. As a result it is possible that badgers utilise the grassland and hedged/wooded boundary areas of the site for occasional foraging. Nevertheless, given the lack of evidence recorded and extensive highways, residential buildings and hard standing, the site is considered to offer low potential for supporting badger.

4.3.3 Bats – Built Structures

Most of the buildings on site were flat roofed and of low suitability for bats, however, four of the main buildings had shallow pitched roofs with small apex roof voids over floating ceilings. These were restricted from access during the survey, due to asbestos issues and fibreglass insulation laid directly over the floating ceilings. The only pitched roof in the Infant School area was of the main hall which will not be in direct contact with the building work. Two of the buildings with pitched roofs in the Junior School will be adjacent to new buildings; these had air grills (Figure 2) at gable ends and have potential to be occupied by bats. The boiler room of the Junior School was inspected internally due to slatted door access holes, the cellar boiler room of the Infant school was also internally inspected but here, there were no access holes located, both boiler rooms were very clean with no signs of bat use. A small 'Wendy house' with a missing window pane at the west end of site was also internally inspected but no signs of bat use were found.



Figure 2. Apex air grille in the west-facing gable end of the south Junior School building

Due to the restricted internal access it is considered that structures within the survey area exhibit **moderate potential** for supporting roosting bats.

4.3.4 Bats – Trees

Several mature trees within the boundaries display sufficient features that would present roosting opportunities for bat species. Many large mature oak standards which were found within the north, east and west tree lines would be suitable. Overall, the trees on site are considered to present **moderate potential** to support bat roosts.

4.3.5 Bats – Foraging and commuting



The small strip of woodland along the north-west boundary and the pond/environmental area, would provide excellent foraging habitat for bats. The structural and species diversity would support a rich invertebrate population, suited to the diet of most species of bats. The poor quality heavily mown grassland would provide less suitable foraging habitat for bats, though the hedgerow habitat surrounding the site would provide excellent commuting and foraging corridors.

Overall, the survey area is considered to have **moderate potential** for supporting commuting/foraging bats.

4.3.6 Hazel Dormouse

The small strip of woodland at the north-west and hedgerows provide a small piece of good structural diversity, with sufficiently aged hazel and other food plants for dormice. However, this is a small isolated habitat as the site is not sufficiently linked to the wider landscape, the Site should be considered to exhibit **negligible potential** for supporting dormice.

4.3.7 Otter

The Site does not present any habitat suitable for sheltering or holting otters, in the wider landscape a stream lies 160m south-east of the playing fields but the Site is not linked to this or any other suitable habitat, therefore it is considered that the Site has **negligible potential** for supporting otters.

4.3.8 Water Vole

The Site does not present any habitat suitable for sheltering or feeding water vole, in the wider landscape a stream lies 160m south-east of the playing fields but the Site is not linked to this or any other suitable habitat, therefore it is considered that the Site has **negligible potential** for supporting otters.

4.3.9 Birds

During the Site survey several species of bird were seen or heard including wood pigeon (*Columba palumbus*), great tit (*Parus major*) and black headed gull (*Chroicocephalus ridibundus*) which is listed as an amber species of conservation concern. Though the majority of the site is dominated by heavily grazed improved grassland, the wooded boundaries provide good dense habitat suitable for nesting birds. Overall, the site is considered to exhibit **moderate potential** for supporting breeding birds.

4.3.10 Reptile

The majority of the Site is dominated by heavily mown grassland and hedged boundaries, which generally provides limited opportunities for reptiles to forage and shelter. The wooded and scrubby area in the north-west corner provides better habitat with bramble more dominant in the understorey and ruderal herb species. Overall it is considered that the Site exhibits **low potential** for supporting common species of reptile.



4.3.11 Amphibian

There was one pond (Figure 3) located on the Site. A Habitat Suitability Assessment was completed for the pond with a resultant Habitat Suitability Index (HSI) of 0.41 which indicates poor suitability for great crested newt. This is due to the lack of suitable waterbodies for breeding great crested newts within 500m and poor connectivity to suitable terrestrial habitats, with significant barriers to movement between sites; it is considered reasonably unlikely that great crested newts are present within the Application Site.



Figure 3. Pond in the fenced Environmental Area, east side of the Site

Overall the survey area is considered to offer **low potential** for supporting great crested newts

4.3.12 Invertebrates

The Site supports a moderate diversity of terrestrial habitats including improved grassland, hedgerows and trees, however much of the vegetation species on site are non-natives and such habitats are considered widespread and common, it is therefore probable that the Site supports similarly common and widespread species. The Site is considered to have negligible potential for supporting scarce or notable invertebrate species.



5 IMPACTS

5.1 Introduction

This section presents the likely impacts, in the absence of any mitigating actions, on protected and notable habitats and species associated with the proposed development. Only those features confirmed as present on Site or considered to have from low to high potential occurrence on Site have been taken forward for further assessment. In addition, all designated sites located within 1km of the Site have been taken forward for further assessment.

5.2 Statutory Designated Sites

There are not considered to be any direct potential impacts on the Chichester and Langstone Harbour Ramsar/SSSI given its distance from the school and the absence of potential pathways. The 3km between the school and the Ramsar, and the 5km between the school and the Portsdown SSSI are characterised by residential development and associated infrastructure, therefore no impacts from construction such as noise and dust are anticipated on the features of interest of these sites.

5.3 Habitats / vegetation

The mature hedged/wooded boundaries, and associated scrub and mature standards are of conservation interest, as is the environmental/pond area at the west side. However, the proposed works are unlikely to affect these areas directly or indirectly, apart from the roots of boundary trees on the east boundary. Vegetation removal will be very limited with only a small amount of tightly mown amenity grassland lost.

Although the pond area will not be directly affected for these proposed works, it should be noted that future rescaling of the Environmental area is planned and therefore a further survey of the area should be conducted for those works, it should also be noted that the Schedule 9 plant species under the Wildlife and Countryside Act 1981 (parrot's feather) present in the pond will need to be removed and disposed of responsibly at such time.

5.4 Badger

Given the presence of suitable habitat within the proximity of the survey area, it is considered that badgers may commute occasionally through the site, the vegetation on site could in addition be used for foraging by badgers. The proposals will result in the loss of some of this habitat; in addition the development stage will require the excavation of trenches for building footings which could possibly entrap commuting and foraging badgers.

Badgers and their setts are provided legal protection under the Protection of Badgers Act 1992. This Act makes it an offence to damage, destroy or obstruct access to a badger sett, and also to disturb a badger whilst it is in a sett.



5.5 Bats – Built Structures

It is recommended that Phase 2 bat surveys are conducted on the Junior school building. Three emergence surveys should be completed for this, on three evenings in optimum weather conditions by two suitably qualified ecologists.

All bat species and their roosts (whether occupied or not) are afforded strict legal protection through the Conservation of Habitats and Species Regulations 2010 (the Conservation Regulations). Any activities likely to result in damage or disturbance to bat roosts can only be undertaken under derogation from the Conservation Regulations. In England, this mechanism is administered by Natural England, who is able to issue European Protected Species Mitigation (EPSM) licences to allow activities impacting bats and their roosts.

5.6 Bats – Trees

It is unlikely that the proposal would involve any direct works to the mature trees within the boundaries, other than additional lighting and light trimming of some branches. Any trimming works must be carried out under supervision of an Ecologist and under advice from an arboriculturist.

5.7 Bats – Foraging and commuting

Whilst the level of foraging potential at the Site was minimal, any increase in light levels spilling onto boundary vegetation could reduce the Site's suitability for foraging and commuting bats.

Any new lighting will be directed away from the boundary trees and will not increase lux levels in the tree margins, and therefore will not have any significant effect on bats commuting across this Site.

5.8 Hazel dormouse

The mature tree/wooded boundaries, hedges, and associated scrub provide low potential habitat. However, the proposed works are unlikely to affect these areas, directly or indirectly. Vegetation removal will be very limited if at all, restricted to trimming of occasional branches/stems. Therefore no impacts on dormouse are anticipated.

5.9 Birds

Though the majority of the site within the footprint is dominated by heavily grazed improved grassland, the wooded boundaries provide good dense habitat suitable for nesting birds, any birds using those areas nearest the building work could receive negative impacts from disturbance.

Birds' nests, when occupied or being built, receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Any removal or alteration of the scrub belt has the potential to impact nesting birds if undertaken during the breeding bird season which extends from March to August, inclusive.



5.10 Reptiles

The amenity grassland which will need to be cleared for the new extension is considered to have low reptile suitability, particularly with the high level of disturbance and maintenance these areas receive. As the higher-value bordering trees and pond area will remain it is anticipated that there will be no impact on reptiles.

5.11 Amphibian

The amenity grassland which will need to be cleared for the new extension is considered to have low amphibian suitability, particularly with the high level of disturbance and maintenance these areas receive. The seasonal pond area was considered to hold low potential for great crested newts, and as this and the bordering trees will remain unaffected by the works it is anticipated that there will be no impact on amphibians.

6 MITIGATION AND ENHANCEMENT

6.1 Introduction

This section provides details of recommendations considered necessary in order to ensure that legally-protected species are considered fully. This includes recommendations for additional survey works and for mitigation, compensation or enhancement measures to avoid, lessen or offset the identified impacts to ecological features arising from the proposed works.

6.2 Mitigation

6.2.1 Designated sites

Due to the distance of Riders School to the designated sites identified (3km and 5km) and the highly built up environment between the school with these sites it is anticipated that there will be no direct impacts. As there are no associated habitats with the Ramsar, present at Riders which will be affected by the works it is not anticipated that the extension will impact on any species using the Ramsar.

Natural England stipulates that any development within 5km of a Ramsar could (in combination with other local developments) cause detriment to the integrity of the designated site. As this proposal is to extend the capacity of the school, this may lead to heavier traffic at school times but only immediately surrounding the school area, as there are no linking pathways to the Ramsar this extension is not anticipated to increase the public usage/dog walkers etc of the Ramsar.

6.2.2 Habitats / vegetation

The mature trees along the west boundary of the Site should be protected from damage; the root zones of those trees near to the refurbishment works at this side should be protected by identifying a Root Protection Area (RPA) enclosed by

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appropriate fencing before construction work commences, and all removal of branches should be assessed by an arboriculturist.

6.2.3 Badger

As a precautionary measure, during construction, all excavations should be covered with appropriate material such as metal sheeting, overnight to help prevent individual badgers becoming trapped.

6.2.4 Bats – Trees

It is not anticipated that any of the mature trees present on site will be directly affected by the works; however, any trimming of these mature trees will be carried out under supervision of an Ecologist and under advice from an arboriculturist. It is therefore considered that the proposal would not affect any potential roosts within the adjacent trees.

6.2.5 Birds

Birds' nests, when occupied or being built, receive legal protection under the Wildlife and Countryside Act 1981 (as amended). It is highly advisable to undertake clearance of potential bird nesting habitat (such as the plantation woodland, scrub and ornamental planting) outside the bird nesting season, which is generally seen as extending from March to the end of August, although may extend longer depending on local conditions. If there is absolutely no alternative to doing the work during this period then a thorough, careful and quiet examination of the affected area must be carried out before clearance starts. If occupied nests are present then work must stop in that area, a suitable (approximately 5m) stand-off maintained, and clearance can only recommence once the nest becomes unoccupied of its own accord.

6.3 Enhancements

6.3.1 Vegetation Planting

It is recommended that any proposed landscaping for the Site utilises native, locally sourced species where possible, as these have a far higher ecological value than non-native species. Species recommended for planting based on those present within the wider local area would include the following native woody species:

- Hazel *Corylus avellana*
- Hawthorn *Crataegus monogyna*
- Pedunculate oak *Quercus robur*

Planting of native, scented climber and herb species will also create greater foraging habitat for invertebrates and bats, such as honeysuckle (*Lonicera periclymenum*) and marjoram (*Origanum vulgare*).

6.3.2 Bird Boxes



It is suggested that a small number of bird boxes comprising two open-fronted nest boxes and two hole-entrance nest boxes are erected within the boundary habitats or on buildings within the Site. The boxes will provide additional nesting opportunities for the common species of garden bird recorded within proximity of the Site during the survey.

7 REFERENCES

Chartered Institute of Ecology and Environmental Management (2013). *Guidelines for Preliminary Ecological Appraisal*. IEEM, Winchester.

Hundt L (2012) *Bat Surveys: Good Practice Guidelines*. 2nd edition, Bat Conservation Trust

Rodwell, J S (ed.) 1992. *British Plant Communities. Volume 3. Grassland and montane communities*. Cambridge University Press.



