PRELIMINARY ECOLOGICAL APPRAISAL
WEST BOLDON SCHOOL







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A. SUMMARY

E3 Ecology Ltd was commissioned by Gus Robinson in September 2017 to undertake a Preliminary Ecological Appraisal of the former West Boldon School.

It is proposed to develop the site for residential use comprising 14 units, with associated landscaping and access.

A search of the MAGIC website identified a single statutorily designated site within 2km of the site. West Farm Meadow Site of Special Scientific Interest (SSSI) is located 1.3km to the north east. Northumbria Coast Special Protection Area (SPA) and Durham coast Special Area of Conservation (SAC), SSSI and Ramsar site are also all located approximately 5.85km to the east. The site is located within an SSSI Impact Risk Zone which states any developments comprising of greater than 10 units should be assessed for any likely impacts on the coastal Natura 2000 sites and/or SSSIs. The development is for 16 units and is located just inside of 6km from the coast (5.85km). A separate report to inform Appropriate Assessment has been produced, assessing potential effects on the Natura 2000 sites [1].

Consultation with the Local Records Centre (ERIC NE) identified 16 non-statutorily designated sites within 2km. The closest, River Don South Tyneside Local Wildlife Site (LWS), is located approximately 80m to the north of the site. A recreational walking route, The River Don Walk, has its start point on the opposite side of the road to the proposed development site entrance and runs north and east through the River Don South Tyneside LWS, then northward to the Tyne at Jarrow. The section of the walk within the LWS has a tarmac path and a series of footbridges over the River Don providing circular route options. The remaining sections of the LWS in proximity to the site do not have public access. Given the small number of residential units proposed, the urban location of the LWS and presence of existing recreational infrastructure, it is considered likely that a minor increase in recreational activity associated with new residents will not have a significant adverse effect on the LWS.

Records of the following species were also provided: dingy skipper, water vole, hedgehog, brown hare, otter, badger and common pipistrelle. Multiple bird records were also identified, full details of which can be provided upon request.

General land use in the surrounding area is residential development to the south and east. Pasture fields are present to the north and west of the site with the River Don located approximately 80m to the north. The site is dominated by bare ground with newly colonised ephemeral vegetation where former school buildings were demolished earlier in the year (2017), having been disused since 2009. Small areas of introduced shrub are present indicating the presence of former ornamental beds. A number of semi-mature trees lie around the south, east and northern boundary of the site and continue around the periphery of the former school field which extends to the west, outside of the site boundary. Overall the majority of the site is considered to be of low habitat value whilst trees are of local value.

No structures are present within the site and periphery trees appear well–sealed, lacking in any potential roosting features. The trees will provide some foraging habitat for bats but are well lit from surrounding street lights. Bare ground will provide only poor quality foraging opportunities. Better quality habitat is present to the west and to the north along the River Don and the site is considered unlikely to be higher than low value to bats.

Trees within the site will offer limited nesting habitat to local bird populations. Whilst the site is likely to provide some foraging habitat for urban and garden bird species present within the

[1] Report to Inform Appropriate Assessment, West Boldon School, E3 Ecology Ltd, October 2018.

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area, the majority of the site lacks dense scrub habitat suitable for nesting birds. Due to its enclosed nature, poor sightlines, and recently disturbed nature the site is considered unlikely to be used by ground nesting species.

Habitats on site lack good holt creation or foraging opportunities for otter. Whilst otter are known to be present along the River Don, approximately 80m to the north, and may forage on occasion within adjacent fields to the north, they are considered unlikely to be present within the site.

No field signs or badger setts were recorded within the site. The former school grounds are bordered by palisade fencing to the west and north, and a stone wall to the south and east. This will largely preclude any badgers from entering the grounds and whilst the species may be present within the wider area, it is considered unlikely to be found within the site.

The national priority species hedgehog is likely to be present within the surrounding area and may forage within the site on occasion, however the site lacks good refugia for this species and is considered likely to be of only low value.

Given the lack of suitable habitat within the site and the surrounding area, and the lack of known records, other protected or otherwise notable species are considered likely to be absent.

Potential impacts of the development are:

- Loss of approximately 0.4ha of habitats of low habitat value.
- Loss of 19 semi-mature trees of local habitat value, 10 of which have recently been covered by a Tree Preservation Order (TPO).
- Damage to roots and crowns of retained trees.
- Disturbance and/or harm to nesting birds should any tree felling or vegetation clearance be undertaken during the bird breeding season (March to August inclusive).
- Loss of potential bird nesting habitat likely to be of low value.
- Potential loss of a small area of low suitability bat foraging habitat.
- Increased levels of disturbance and light pollution due to occupants of the properties and their pets, following on from the development.
- Risk of harm to mammals through entrapment in works trenches.

Key mitigation measures include:

- Trees will be retained within the site wherever practically possible.
- Where trees are to be lost these will be replaced on a 2:1 basis with heavy standard nursery trees of locally native species
- Additional street lighting should be minimised wherever possible and additional light spill onto adjacent trees avoided.
- Vegetation clearance/tree felling will be undertaken outside of the bird nesting season (March to August inclusive) unless a checking survey by a suitably experienced ornithologist confirms the absence of active nests.
- Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.
- The roots and crowns of retained trees will be protected throughout the development through the provision of adequate construction exclusion zones in accordance with the guidance given by BS5837:2012.

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Potential Further Ecological Enhancement

The development includes the loss of 19 trees, including trees recently included in a TPO, which will result in the loss of biodiversity and amenity value,. The size of the site means that opportunities for enhancement through significant tree replacement is difficult. However, it is considered that there is some opportunity to provide additional biodiversity enhancement that may help off-set some of this loss:

a) A species rich native hedgerow to form the boundary of the site. This would be approximately 100-110m in length, and include a range of native species that have value to wildlife including hawthorn, blackthorn, guelder rose, dog rose, honeysuckle, rowan and field maple.
b) Provision of a minimum of 10 fruit trees (species could include apple, plum, pear and cherry) within the hedgerow boundary.

The tree and hedgerow features will provide both biodiversity benefits, with fruit and berry bearing species of benefit to invertebrates and thereby bat and bird species; hedgerow and trees providing bat commuting routes, foraging opportunities and bird nesting opportunities, but also potential local benefits through amenity value and fruit available for the community.

c) Provision of 10 bat roosting opportunities, either through built in or surface mounted bat boxes on gable ends of buildings on the periphery of the development, and 6 bat boxes within retained trees on the periphery of the wider site.
d) Provision of 6 bird boxes within the development, in the form of built in boxes within the structures, artificial house martin, swift or swallow cups under overhanging eaves and/or tree mounted boxes suitable for a variety of species.

The local planning authority is likely to require the means of delivery of the mitigation/enhancement to be identified. It is recommended that mitigation and enhancement proposals are incorporated into the master-planning documents.

If you are assessing this report for a local planning authority and have any difficulties interpreting plans and figures from a scanned version of the report, E3 Ecology Ltd would be happy to email a PDF copy to you. Please contact us on 01434 230982.

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B. INTRODUCTION

E3 Ecology Ltd was commissioned by Gus Robinson in September 2017 to undertake a Preliminary Ecological Appraisal of the former West Boldon School.

The purpose of this report is:

- To identify and describe all potentially significant ecological effects associated with the proposed development
- To set out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects
- To identify how mitigation measures will/could be secured
- To provide an assessment of the significance of any residual effects
- To identify appropriate enhancement measures

The site is located in West Boldon at an approximate central grid reference of NZ 34899 61149. The site location is illustrated below in Figure 1.



FIGURE 1: SITE LOCATION

(OS mapping © Crown copyright and database rights 2016/2017 OS 0100039392)

It is proposed to develop the site for residential use comprising 14 units, with associated landscaping and access. Current plans are shown in the figure below.

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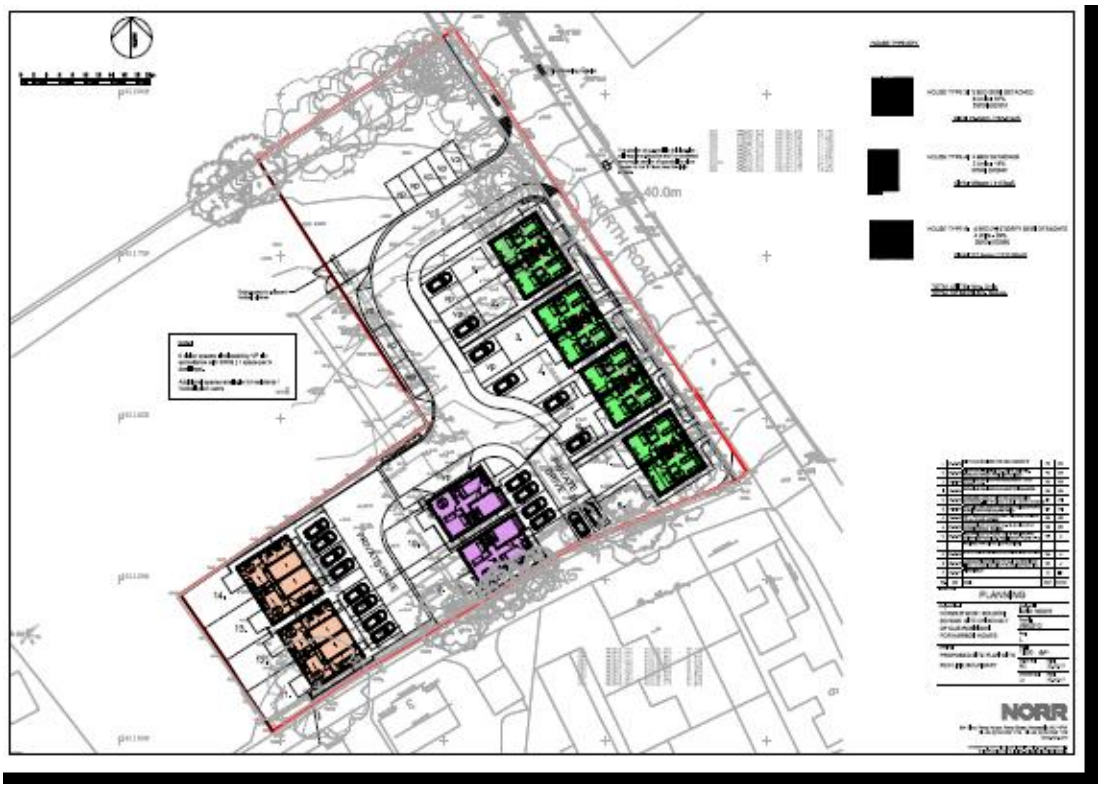


FIGURE 2: DEVELOPMENT PROPOSALS (COURTESY OF NORR ARCHITECTS)

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C. PLANNING POLICY AND LEGISLATIVE CONTEXT

C.1 NATIONAL PLANNING POLICY

The table below details the key paragraphs from the National Planning Policy Framework (NPPF)[2] relating to the natural environment:

TABLE 1: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT

Statement	Paragraph
Planning policies and decisions should contribute to and enhance the natural and local environment by: a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate; d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.	*170*
Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework[3]; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.	*171*
Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads[4]. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development[5] other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of: a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy; b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.	*172*
Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 172), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.	*173*
To protect and enhance biodiversity and geodiversity, plans should:	*174*

[2] National Planning Policy Framework (February 2019), Department for Communities and Local Government,
[3] Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.
[4] English National Parks and the Broads: UK Government Vision and Circular 2010 provides further guidance and information about their statutory purposes, management and other matters.
[5] For the purposes of paragraphs 172 and 173, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined.

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TABLE 1: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT	
Statement	**Paragraph**
a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity[6]; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation[7]; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.	
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[8] 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.	*175*
The following should be given the same protection as habitats sites: a) potential Special Protection Areas and possible Special Areas of Conservation; b) listed or proposed Ramsar sites[9]; and c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.	*176*
The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.	*177*

Section 40 of the Natural Environment and Rural Communities Act 2006, places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity.

Planning Practice Guidance[10] states:

- Planning authorities need to consider the potential impacts of development on protected and priority species, and the scope to avoid or mitigate any impacts when considering site allocations or planning applications. (para. 016)

[6] Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.
[7] Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.
[8] For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.
[9] Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.
[10] Planning Practice Guidance: Natural Environment (www.planningguidance.communities.gov) Updated July 2019

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- Information on biodiversity and geodiversity impacts and opportunities needs to inform all stages of development (including site selection and design, pre-application consultation and the application itself). An ecological survey will be necessary in advance of a planning application if the type and location of development could have a significant impact on biodiversity and existing information is lacking or inadequate. (para. 018)
- Even where an Environmental Impact Assessment is not needed, it might still be appropriate to undertake an ecological survey, for example, where protected species may be present or where biodiverse habitats may be lost. (para. 018)
- As with other supporting information, local planning authorities should require ecological surveys only where clearly justified. Assessments should be proportionate to the nature and scale of development proposed and the likely impact on biodiversity. (para. 018)
- The National Planning Policy Framework encourages net gains for biodiversity to be sought through planning policies and decisions. Biodiversity net gain delivers measurable improvements for biodiversity by creating or enhancing habitats in association with development. Biodiversity net gain can be achieved on-site, off-site or through a combination of on-site and off-site measures. (para. 022)

C.2 PROTECTED SPECIES LEGISLATION

The table below details the relevant legislation for those protected species that may be present on this site.

TABLE 2: SUMMARISED SPECIES LEGISLATION

Species	Relevant Legislation	Level of Protection
Bats (All species)	• Protection under the Wildlife and Countryside Act (WCA) (1981) (Listed on Schedule 5) - as amended • Classified as European protected species under Conservation of Habitats and Species Regulations 2010 • Bats are also protected by the Wild Mammals (Protection) Act 1996	The WCA (1981) and Habitat Regulations (2010) make it an offence to: • Intentionally kill, injure, or take any species of bat • Intentionally or recklessly disturb bats • Intentionally or recklessly damage destroy or obstruct access to bat roosts
Birds	• Protection under the Wildlife and Countryside Act (1981) as amended with the exception of some species listed in Schedule 2 of the Act	The WCA (1981) makes it an offence to (with exceptions for certain species): • Intentionally kill, injure or take any wild bird • Intentionally take, damage or destroy nests in use or being built (including ground nesting birds) • Intentionally take, damage or destroy eggs • Species listed on Schedule 1 of the WCA or their dependant young are afforded additional protection from disturbance whilst they are at their nests
Under the Countryside and Rights of Way Act 2000 (CROW Act) the offence in section 9(4) of the Wildlife and Countryside Act 1981 of damaging a place of shelter or disturbing those species given full protection under the act is extended to cover reckless damage or disturbance.		

C.3 INVASIVE SPECIES LEGISLATION

The table below details the legislation in relation to invasive species and lists those invasive species most likely to be found in this region.

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TABLE 3: SUMMARISED INVASIVE SPECIES LEGISLATION		
Relevant Legislation	**Description of Offence**	**Species** *(Covered by the Legislation and most likely to be found in this Region)*
Listed on Part II of Schedule 9 of the Wildlife and Countryside Act (1981 as amended)	Section 14 of the WCA (1981) states: • if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an offence.	Himalayan balsam Cotoneaster Montbretia Japanese knotweed Giant hogweed Rhododendron

C.4 PROTECTED SITE LEGISLATION

Details of the legislation surrounding protected sites are provided in the appendices.

C.5 PRIORITY SPECIES

Although not afforded any legal protection, national priority species (species of principal importance, as listed in Section 41 of the NERC Act (2006)), and local and regional priority species, as detailed within the relevant biodiversity action plans, are material considerations in the planning process and as such have been assessed accordingly within this report.

The table below details the local biodiversity action plan relevant to the area within which this site lies, and the species/species groups and habitats listed as priorities within the plan.

TABLE 4: BIODIVERSITY ACTION PLAN					
Durham Biodiversity Action Plan					
Species			**Habitats**		
Barn Owl	Coastal Birds	Farmland Birds	Native Hedgerows	Veteran Trees, Parkland and Wood Pasture	Woodland and Scrub
Nightjar	Spotted Flycatcher	Upland Birds	Ponds, Lakes & Reservoirs	Lowland Fen	Rivers & Streams
Urban and Garden Wildlife	Freshwater Fish	Grass Snake	Blanket Bog and Upland Wet Heath	Calaminarian Grassland	Upland Calcareous Grassland
Great Crested Newt	Reptiles	Chalk Carpet Moth	Upland Dry heath and Acid Grassland	Upland Haymeadows	Upland Screes and Rock Habitats
Cistus Forrester	Dark Green Fritillary	Dingy Skipper	Brownfield Sites	Built Structures	Coastal Habitats
Glow Worm	Grayling	Green Hairstreak	Lowland Heath	Lowland Meadows & Pasture	Magnesian Limestone Grassland
Least Minor Moth	Mud Snail	Northern Brown Argus	Transport Corridors	Waxcap Grassland	
Northern Dart	Round Mouthed Whorl Snail	Small Pearl-bordered Fritillary			
White Clawed Crayfish	White-letter Hairstreak	Badger			
Bats	Brown Hare	Dormouse			
Harvest Mouse	Hedgehog	Otter			
Pine Marten	Polecat	Red Squirrel			
Water Vole	Water Shrew	Black Poplar			
Juniper	Pale Bristle-Moss	Yellow Marsh Saxifrage			

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D. METHODOLOGY

D.1 SCOPE OF STUDY

The scope of the study, in terms of the survey area and the desk study area, is based on professional judgement. The likely zone of influence of the proposal has been considered, including both potential direct effects such as habitat loss and potential indirect effects such as disturbance. Consideration has been given to potential effects both during the construction and operational phases of the development.

For this site the survey area comprised the red line boundary as defined within Figure 3 with, in addition, a 50m buffer around the periphery appraised where access was available. The desk study included an assessment of land-use in the surrounding area and a data search covering a 2km buffer zone (see below for further detail).

The following types of ecological receptors have been considered:

- Statutorily designated sites for nature conservation
- Non-statutorily designated sites for nature conservation
- Species protected by law
- Species and/or habitats listed under the NERC Act (2009) as being of principal importance for conservation of biodiversity
- Species and/or habitats listed in relevant local biodiversity action plans

Figure 3 illustrates the site boundary whilst, to provide context, Figure 4 illustrates the broad habitats present on site and within an approximate 500m buffer zone.



FIGURE 3: SITE BOUNDARY (SITE SHOWN PRE-BUILDING DEMOLITION)
(Reproduced under licence from Google Earth Pro.)

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FIGURE 4: SITE AND SETTING
(Reproduced under licence from Google Earth Pro.)

D.2 DESK STUDY

Initially, the site was assessed from aerial photographs and 1:25,000 Ordnance Survey maps. Following this, a data search was submitted to the Local Records Centre October 2017, requesting data relating to protected or otherwise notable species and non-statutory sites for nature conservation within 2km of the survey area. In addition, a search was made of the Multi Agency Geographic Information for the Countryside (MAGIC) website[11] for all statutorily protected sites for nature conservation within 2km of the survey area.

D.3 PRELIMINARY FIELD SURVEY METHODOLOGY

D.3.1 PHASE 1 HABITAT SURVEY

D.3.1.1 SURVEY METHODS

The field survey of the proposed site was conducted using the methodology of the Joint Nature Conservation Committee's Phase 1 Habitat Survey, as outlined in their habitat-mapping manual[12]. Each parcel of land was assessed by a trained surveyor and classified as one of ninety habitat types. These were then mapped and the habitat information supplemented by dominant and indicator species codes and target notes where appropriate. Where areas within the study area do not fall into the Phase 1 Habitat Survey classification, alternative methods of classification have been used.

[11] Multi Agency Geographic Information for the Countryside (www.magic.gov.uk)
[12] Handbook for Phase 1 habitat survey, A Technique For Environmental Audit, JNCC, 2010

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D.3.2 PRELIMINARY PROTECTED AND PRIORITY SPECIES APPRAISAL

D.3.2.1 SURVEY METHODS

Where there is a risk of legally protected species and/or otherwise notable species[13] being present, an initial appraisal was completed to inform the proposals. This appraisal included the following key elements:

- Structures and trees were assessed for the risk of supporting roosting bats (see below).
- Wetlands, where present, were reviewed for their potential use by great crested newt, otter and water voles,
- If present, any trackways regularly used by badger were noted and any badger sett usage assessed by the presence of freshly dug earth or bedding at the entrance.
- The suitability of the suite of habitats present for use by reptiles was assessed.
- Likely use of the site by birds was assessed from the species seen during the survey, and the habitats present.
- Potential use by otherwise notable species was determined based on the broad habitat types present on site, any recent records obtained through the desk study and the geographical distribution of the species. Where specific habitat requirements for notable species have been recorded on site these have been noted, and used as part of this appraisal. The species groups assessed are limited to birds, freshwater fish, amphibians, reptiles, terrestrial mammals, butterflies and dragonflies.

A preliminary assessment, was made of any trees affected by the proposed development. Trees were inspected and assessed for their potential to support roosting bats and were categorised as negligible, low, moderate or high suitability for roosting bats based on guidelines provided within the Bat Conservation Trust Bat Survey: Good Practice Guidelines[14] and detailed within Table 5.

TABLE 5: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF ROOSTING HABITAT FEATURES (TREES)
(TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TABLE 4.1 BAT SURVEY GUIDELINES)

Suitability	Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.
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 (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A tree with one or more potential roost site 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.

The assessment is based upon the age and species of the tree, the presence of features with potential to support roosting bats and the location of the tree and habitats present in the surrounding area. Any potential roosting locations and field signs that could indicate bat use, such as droppings, staining and scratch marks were noted.

[13] To include national priority species as listed in Section 41 of the NERC Act (2006) and local or regional priority species as listed within the relevant Biodiversity Action Plan
[14] Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

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Where it is considered likely that there is a significant risk of protected or otherwise notable species being affected or where habitats are of particularly high value additional specialist survey work has been recommended. Further survey work may also be recommended where development proposals have the potential to affect statutorily designated sites in the vicinity.

D.3.3 ENVIRONMENTAL CONDITIONS

The table below details the environmental conditions during the preliminary ecological appraisal.

TABLE 6: SURVEY CONDITIONS

Date	Temperature	Cloud Cover	Precipitation	Wind Conditions
13.10.17	17ºC	70%	0	3-4SW

D.3.4 SURVEY CONSTRAINTS

Survey was undertaken in October, outside of the optimum botanical survey period. Given the nature of the site this is not considered to have impacted the assessment made.

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D.4 PERSONNEL

The table below details the personnel who undertook the survey work.

TABLE 7: PERSONNEL			
Name	**Position**	**Professional Qualifications**	**Natural England Survey Licence Numbers**
Hannah Norman	Ecologist	BSc MSc GradCIEEM	2015-6915-CLS-CLS (GCN*)
*GCN – Great Crested Newt.			

Further details of experience and qualifications are available at www.e3ecology.co.uk.

D.5 ASSESSMENT METHODOLOGY

The relative value of the ecological receptors (habitats, species and designated sites) was assessed using a geographical frame of reference. For designated sites this is generally a straightforward process with the assigned designation generally being indicative of a particular value, e.g. Sites of Special Scientific Interest are designated under national legislation and are therefore generally considered to be receptors of national value. The assignment of value to non-designated receptors is less straightforward and as recognised by the Guidelines for Ecological Impact Assessment produced by the Chartered Institute of Ecology and Environmental Management[15], is a complex and subjective process and requires the application of professional judgement.

When assessing the value of species and habitats, relevant documents and legislation are considered including the lists of species and habitat of principal importance annexed to the NERC Act (2006) and those provided within relevant local Biodiversity Action Plans. Data provided through consultation is also considered. These data sources can provide context at a local, regional and national scale.

The table below provides examples of receptors of value at different geographical scales.

TABLE 8: ECOLOGICAL RECEPTOR VALUATION	
Level of Value	**Examples**
International	An internationally designated site or candidate site.
	A site meeting criteria for international designation.
	A substantial* area of a habitat listed on Annex I of the EC Habitats Directive or smaller areas of such habitat, which are considered likely to be essential to maintain the functionality of a larger whole.
	The site is of functional importance** to a species population with internationally important numbers (i.e. >1% of the biogeographic population)
National	A nationally designated site.
	A substantial* area of a habitat listed as a Habitat of Principal Importance within Section 41 of the NERC Act (2006) or smaller areas of such habitat, which are considered likely to be essential to maintain the functionality of a larger whole.
	The site is of functional importance** to a species population with nationally important numbers (i.e. >1% of the national population)
Regional	An area of habitat that falls slightly below the criteria necessary for designation as a SSSI but is considered of greater than county value.
	The site is of functional importance** to a species population with regionally important numbers (i.e. >1% of the regional population)
County	A Local Wildlife Site (LWS) or equivalent, designated at a County level
	A substantial* area of a habitat listed within the relevant County Biodiversity Action plan or smaller areas of such habitat, which are considered likely to be essential to maintain the functionality of a larger whole.

15 Chartered Institute for Ecology and Environmental Management (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater and Coastal

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TABLE 8: ECOLOGICAL RECEPTOR VALUATION	
Level of Value	**Examples**
	The site is of functional importance** to a species population of county value (i.e. >1% of the county population)
District	A Local Wildlife Site (LWS) or equivalent, designated at a District level
	A substantial* area of a habitat listed within the relevant District Biodiversity Action plan or smaller areas of such habitat, which are considered likely to be essential to maintain the functionality of a larger whole.
	The site is of functional importance** to a species population of district value (i.e. >1% of the district population)
Parish	Area of habitat or species population considered to appreciably enrich the habitat resource within the context of the parish.
	Local Nature Reserves
Local	Habitats and species that contribute to local biodiversity but are not exceptional in the context of the parish.
Low	Habitats that are unexceptional and common to the local area.
Substantial defined as 'of considerable size or value within that area based on professional judgement, rather than a small, inconsequential area'* * Functional importance defined as 'a feature which, based on professional judgement, is of importance to the day to day functioning of the population, the loss of which would have a detectable adverse effect on that population',*	

E. RESULTS

E.1 DESK STUDY

E.1.1 PRE-EXISTING INFORMATION

ORDNANCE SURVEY MAPPING AND AERIAL PHOTOGRAPHY

Figures 1 (B) and 3 (D1) show that the general land use in the surrounding area is residential development to the south and east. Pasture fields are present to the north and west of the site with the River Don located approximately 80m to the north.

The most recent aerial photograph of the site (Figure 3, D1, 2015) indicates that habitats on site are dominated by the buildings of West Boldon School and the adjacent school field. Historic imagery suggests that the site has remained unchanged since at least 2001 however it is known that the school was demolished within the last year having been disused since 2009.

MULTI AGENCY GEOGRAPHIC INFORMATION FOR THE COUNTRYSIDE WEBSITE[16]

The table below details the internationally and nationally statutorily designated sites within 2km of the survey area. Natura sites within 6km have also been included.

TABLE 9: DESIGNATED SITES			
Designation	**Site Name**	**Reason for Designation**	**Distance from Survey Area**
Special Protection Area	Northumbria Coast	The site consists of mainly discrete sections of rocky shore with associated boulder and cobble beaches. The SPA also includes parts of three artificial pier structures and a small section of sandy beach. In summer, the site supports important numbers of breeding Little Tern *Sterna albifrons*, whilst in winter the mixture of rocky and sandy shore supports large number of	5.85km

[16] Multi Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk

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TABLE 9: DESIGNATED SITES			
Designation	**Site Name**	**Reason for Designation**	**Distance from Survey Area**
		Turnstone *Arenaria interpres* and Purple Sandpiper *Calidris maritima*.	
Special Area of Conservation	Durham Coast	The Durham Coast is the only example of vegetated sea cliffs on magnesian limestone exposures in the UK. These cliffs extend along the North Sea coast for over 20 km from South Shields southwards to Blackhall Rocks. Their vegetation is unique in the British Isles and consists of a complex mosaic of paramaritime, mesotrophic and calcicolous grasslands, tall-herb fen, seepage flushes and wind-pruned scrub	5.85km
Ramsar	Durham Coast	As above	5.85km
Site of Special Scientific Interest	West Farm Meadow	West Farm Meadow, Boldon, is important as one of very few surviving semi-natural hay meadows in the coastal plain between the Rivers Tyne and Tees. Although once widespread such species-rich fields are now severely restricted in distribution because of extensive urbanisation and agricultural intensification.[17]	1.3km
	Durham Coast	As above	5.85km

The site is within 6km of Natura 2000 sites associated with the Durham and Northumbria coast. A report to inform appropriate assessment has been produced. It is also within an SSSI Impact Risk Zone which states any developments comprising of greater than 10 units should be assessed for any likely impacts on coastal SSSI.

E.1.2 CONSULTATION

LOCAL RECORD CENTRE

The table below summarises the records provided by the local records centre. The full data search results can be provided on request.

TABLE 10: CONSULTATION RECORDS			
Taxon	**Species**	**No. of Records within Search Area**	**Records of Particular Note**
Amphibian	Great crested newt	4	All pre-2000
Bird	Sparrow hawk	4	-
	Kingfisher	5	190m away in 2009
	Buzzard	3	-
	Little ringed plover	1	-
	Corncrake	2	-
	Kestrel	6	-
	Little Bittern	1	-
	Curlew	5	-
	Grey Partridge	6	-
	Green shank	1	-
	Barn Owl	2	-
	Lapwing	4	-
Priority Butterfly	Dingy Skipper	4	All over 1.2km

[17] https://necmsi.esdm.co.uk/PDFsForWeb/Citation/1004259.pdf-

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TABLE 10: CONSULTATION RECORDS			
Taxon	**Species**	**No. of Records within Search Area**	**Records of Particular Note**
			away
Terrestrial Mammal	Water Vole	128	Numerous records from River Don. Most recent in 2017 from 200m away.
	Hedgehog	30	60m away in 2007
	Brown Hare	12	All over 1km away
	Otter	49	Numerous records from River Don. 190m away in 2009.
	Badger	3	Four figure grid reference
	Common pipistrelle	12	260m away in 2012

In addition, the records centre provided information relating to the following non-statutory designates sites which lie within the search area:

- River Don South Tyneside Local Wildlife Site (LWS) ~80m North
- Boldon Lake LWS ~500m west
- Mount Pleasant Marsh LWS ~500 west
- Make-Me- Rich LWS ~1km southeast
- Elliscope Farm/ Hylton Bridge LWS ~1.7km south west
- Calf Close Burn LWS ~1.8km west
- Downhill Old Quarry South Tyneside LWS & South Tyneside LGS ~1km south
- Downhill Meadows Sunderland LWS ~1.2km south
- Tilesheds Burn LWS ~2km north east
- Tilesheds Local Nature Reserve (LNR) ~ 2 km north east
- Boldon Crossings Pond (LNR)~1.8km north east
- Boldon Colliery Former Railway Line ~1.7km North
- Newton Garths LWS ~1.75km north
- Station Burn LWS ~1.8km north west
- Hedworth Dene LWS ~1.95km north west
- Inverness Road LWS~ 1.95 north west

Given the small number of units proposed and the good local footpath infrastructure, no impacts on these sites are anticipated. Their location is shown in the figure below:

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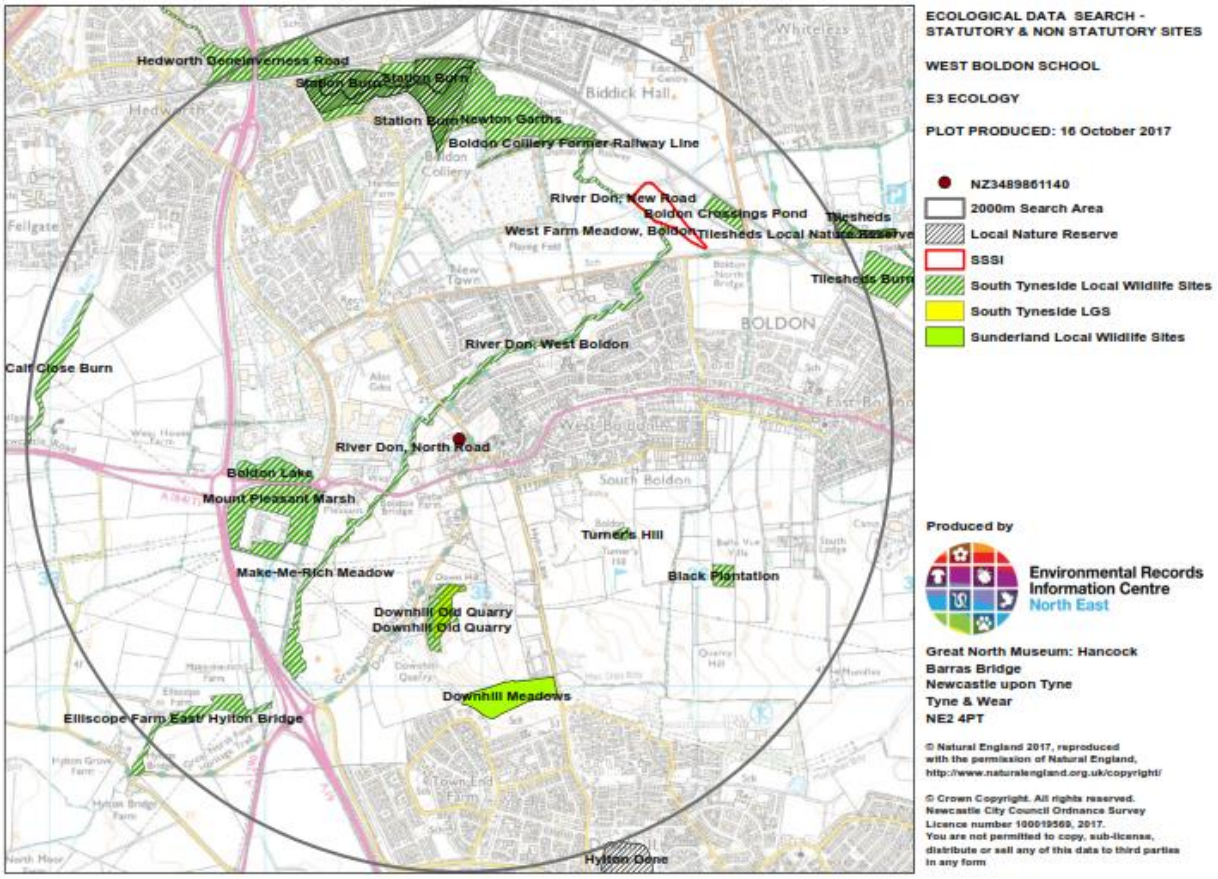


FIGURE 5: CONSULTATION RESULTS: ERIC NE 2017

E.2 FIELD SURVEY

E.2.1 HABITATS

The site is dominated by bare ground with newly colonised ephemeral vegetation. Small areas of introduced shrub are present, indicating the presence of former ornamental beds. A number of semi-mature trees are present around the south, east and northern boundary of the site and continue around the periphery of the former school field extending to the west, outside of the site boundary.

The habitats present within the survey area are illustrated within Figure 6 and described in more detail below.

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FIGURE 6: HABITAT MAP
Google earth

BARE GROUND AND EPHEMERAL VEGETATION

The main body of the site is dominated by bare ground, hard standing and rubble from the demolition of the former school buildings. This has been colonised over the past year by ephemeral vegetation and tall ruderal species including: garlic mustard (*Alliaria petiolata*), perennial sow thistle (*Sonchus arvensis*), shepherd's purse (*Capsella bursa-pastoris*), creeping thistle (*Cirsium arvense*), pineapple weed (*Matricaria discoidea*), common chickweed (*Stella media s.s.*), rosebay willowherb (*Chamerion angustifolium*), white clover (*Trifolium repens*), broadleaf plantain (*Plantago major*), buddleia (*Buddleia davidii*), sun spurge (*Euphorbia* helioscopia), poppy (*Papaver rhoeas*), ragwort (*Senecio jacobaea*), nettle (*Urtica dioica*) and cow parsley (*Anthriscus sylvestris*).



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AMENITY GRASSLAND



The north of the site comprises amenity grassland. This also extends to the west of the school grounds, outside the site boundary, where the former school field is located. This is still well managed with a sward height of approximately 5cm. Species recorded include daisy (*Bellis perennis*), broadleaf plantain (*Plantago major*), dandelion (*Taraxacum officinale*), creeping buttercup (*Ranunculus repens*), ribwort plantain (*Plantago lanceolata*), bent grass (*Agrostis sp*.), perennial rye grass (*Lolium perenne*), cock's foot (*Dactylis glomerata*), red fescue (*Festuca rubra*), Yorkshire fog (*Holcus lanatus*), and meadow grass (*Poa* sp.). At the field margins, beneath the periphery trees, grass is unmanaged and has grown to a height of ~30cm and has begun to be dominated by nettle (*Urtica dioica*) and cleavers (*Galium aparine*). Small areas of unmanaged grassland are also present within the site boundary, around the former ornamental beds and beneath the trees at the east of the site.

INTRODUCED SHRUBS





A small number of ornamental shrubs are present along the eastern boundary of the site, remaining from previous ornamental planting beds. Species include Wilson's honeysuckle (*Lonicera nitida*), dog rose (*Rosa canina*), ornamental rose *(Rosa* sp.), and *laburnum* sp.

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TREES

The north, east and south of the site is bordered by semi-mature broadleaf trees. This tree line continues west around the former school field, outside of the site boundary. Species include silver birch (*Betula pendula*), sycamore (*Acer psuedoplatanus*), ash (*Fraxinus excelsior*), wild cherry (*Prunus avium*), and Swedish whitebeam (*Sorbus intermedia*).



E.2.2 SPECIES

BATS

No structures are present within the site and the periphery trees appear well–sealed, lacking in any potential roosting features. The trees will provide limited foraging habitat for bats but are well lit from surrounding street lights. Bare ground will provide only poor suitability foraging opportunities. Better quality habitat is present to the west and to the north along the River Don.

OTTER

Habitats on site lack good holt creation or foraging opportunities for otter. Whilst otter are known to be present along the River Don, approximately 80m to the north, and may forage on occasion within adjacent fields to the north, they are considered unlikely to be present within the site.

GREAT CRESTED NEWT

The site lacks any ponds or areas of standing water nor are any known from aerial imagery or Ordnance Survey maps within 500m of the site. Given the lack of suitable aquatic habitat within the surrounding area, this species in considered likely to be absent from the site.

BIRDS

Trees and denser shrubs within the site offer limited nesting habitat to local bird populations. Whilst the site is likely to provide some foraging habitat for urban and garden bird species present within the area, the majority of the site lacks vegetation for nesting birds, whilst due to its enclosed nature, poor sightlines, and recently disturbed nature it is unlikely to be used by ground nesting species.

BADGER

No field signs or badger setts were recorded within the site. The former school grounds are bordered by palisade fencing to the west and north, and a stone wall to the south and east. This will largely preclude any badgers from entering the grounds and whilst the species may be present within the wider area, it is considered unlikely to be present within the site.

WATER VOLE & WHITE-CLAWED CRAYFISH

The site lacks a water course with the closest being the River Don, approximately 80m to the north. Given the distance from the site, water vole and white clawed crayfish are considered likely to be absent.

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REPTILES

The site lacks the structural mosaic of vegetation required by reptiles. Given the recent demolition of the pre-existing building (2017), and lack of records within 2km, this taxa is considered likely to be absent.

RED SQUIRREL

No squirrel dreys were recorded within the site and red squirrel is not known to be present within the area. As such this species is considered unlikely to be present.

PRIORITY BUTTERFLIES

Red fescue, the larval food plant of the priority species grayling was recorded within the site however this was part of an amenity lawn and lacks the mosaic of habitats including basking areas that are preferred by this species. No other larval food plants of other priority butterflies were recorded within the site and given the recent demolition of the former buildings it is considered unlikely that habitats would support a breeding population.

NATIONAL PRIORITY AND LOCAL BAP SPECIES

The national priority species hedgehog is likely to be present within the surrounding area and may forage within the site on occasion.

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F. SITE ASSESSMENT

F.1 HABITATS

The site has previously been developed, however, given that the former building was demolished in 2017 and habitats have only recently been colonised by vegetation, habitats present are considered to be of low value. Trees around the periphery are considered to be of local habitat value; some of these were covered by a TPO in 2019.

F.2 NOTABLE SPECIES

The site is considered unlikely to be of greater than low value to bats given the lack of roosting opportunities and predominantly poor suitability foraging habitats. Trees around the periphery will provide some limited foraging areas used by small numbers of bats whilst habitats to the west and north of the site will be of higher value to bats.

Peripheral trees will provide limited nesting habitat for birds that are likely to be locally common urban and garden species. The majority of the site lacks mature vegetation however and will offer only limited foraging opportunities. Ground nesting bird species are considered unlikely to utilise the site and overall it is likely to be of only low ornithological value.

The national priority hedgehog may forage within the site on occasion however the site lacks good refugia for this spices and is considered likely to be of only low value.

Given the lack of suitable habitat within the site and/or the surrounding area, and the lack of know records, other protected or otherwise notable species are considered likely to be absent.

F.3 LIMITATIONS

Survey was undertaken in October, outside of the optimum botanical survey period. Multiple plant species were still present however with other plants identifiable from remains. Given the nature of the site, it is considered that robust assessment has been made.

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G. IMPACT ASSESSMENT

The likely effects of the proposed development, without appropriate targeted mitigation and/or compensation, are detailed below.

G.1 POTENTIAL IMPACTS AND/OR EFFECTS[18]

G.1.1 HABITATS

- Loss of approximately 0.4ha of habitats of low habitat value.
- Loss of 19 semi-mature trees of local habitat value.
- Damage to roots and crowns of retained trees.

G.1.2 SPECIES

- Disturbance and/or harm to nesting birds should any tree felling or vegetation clearance be undertaken during the bird breeding season (March to August inclusive).
- Loss of potential bird nesting habitat likely to be of low value.
- Potential loss of a small area of low quality bat foraging habitat.
- Increased levels of disturbance and light pollution due to occupants of the properties and their pets, following on from the development.
- Risk of harm to mammals through entrapment in works trenches.

G.2 POTENTIAL IMPACTS AND/OR EFFECTS ON STATUTORY AND NON STATUTORY SITES DESIGNATED FOR NATURE CONSERVATION

The site is within 6km of Natura 2000 sites associated with the Durham and Northumbria coast. It is also within an SSSI Impact Risk Zone which states any developments comprising of greater than 10 units should be assessed for any likely impacts on coastal SSSI. The development is for 14 units and is located just inside of 6km from the coast (5.85km).

A separate report to inform Appropriate Assessment has been produced, assessing potential effects on the Natura 2000 sites[19].

Consultation with the Local Records Centre (ERIC NE) identified 16 non-statutorily designated sites within 2km. The closest, River Don South Tyneside Local Wildlife Site (LWS), is located approximately 80m to the north of the site. A recreational walking route, The River Don Walk, has its start point on the opposite side of the road to the proposed development site entrance and runs north and east through the River Don South Tyneside LWS, then northward to the Tyne at Jarrow. The section of the walk within the LWS has a tarmac path and a series of footbridges over the River Don providing circular route options. The remaining sections of the LWS in proximity to the site do not have public access.

Given the small number of residential units proposed, the urban location of the LWS and presence of existing recreational infrastructure, it is considered likely that a minor increase in recreational activity associated with new residents will not have a significant adverse effect on the LWS.

[18] An impact is defined as an action resulting in changes to an ecological feature. For example, construction works removing a hedgerow. An effect is defined as the outcome to an ecological feature from an impact. For example, the effect on a dormouse population of the loss of a hedgerow.
[19] Report to Inform Appropriate Assessment, West Boldon School, E3 Ecology Ltd, October 2018.

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H. RECOMMENDATIONS

The mitigation strategy aims to minimise effects on biodiversity by:

- avoiding significant negative impacts where possible through good design; and
- developing approaches to mitigate any remaining unavoidable impacts.

Where any significant residual impacts on biodiversity are anticipated, compensation may then be proposed. This approach is in-line with CIEEM recommendations[20].

H.1 FURTHER SURVEY

No further survey work is recommended.

H.2 AVOIDANCE AND MITIGATION STRATEGY

SITE DESIGN

- Trees will be retained within the site wherever practicable.
- Additional street lighting should be minimised wherever possible and additional light spill onto adjacent trees avoided.

TIMING OF WORKS

- Vegetation clearance/tree felling will be undertaken outside of the bird nesting season (March to August inclusive) unless a checking survey by a suitably experienced ornithologist confirms the absence of active nests.

WORKING METHODS AND BEST PRACTICE

- Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.
- The roots and crowns of retained trees will be protected throughout the development through the provision of adequate construction exclusion zones in accordance with the guidance given by BS5837:2012.

H.3 COMPENSATION STRATEGY

The following compensation strategy is proposed:

- Where trees are to be lost to the development, these will be replaced on a 2:1 basis with heavy standard nursery trees of native species.

An assessment of required mitigation and/or compensation in relation to the coastal Natura 2000 sites and the SSSIs which underpin them is provided within the separate report to inform Appropriate Assessment.

H.4 MONITORING

Given the nature of the proposed mitigation and/or compensation strategies, no monitoring is proposed.

H.5 ADDITIONAL ENHANCEMENT RECOMMENDATIONS

[20] Chartered Institute for Ecology and Environmental Management (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater and Coastal

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Potential Further Ecological Enhancement

The development includes the loss of 19 trees, including 10 recently included in a TPO, which will result in the loss of biodiversity and amenity value. The size of the site means that opportunities for enhancement through significant tree replacement is difficult. However, it is considered that there is some opportunity to provide additional biodiversity enhancement that may help off-set some of this loss:

a) A species rich native hedgerow to form the boundary of the site. This would be approximately 100-110m in length, and include a range of native species that have value to wildlife including hawthorn, blackthorn, guelder rose, dog rose, honeysuckle, rowan and field maple.
b) Provision of a minimum of 10 fruit trees (species could include apple, plum, pear and cherry) within the hedgerow boundary.

The tree and hedgerow features will provide both biodiversity benefits, with fruit and berry bearing species of benefit to invertebrates and thereby bat and bird species; hedgerow and trees providing bat commuting routes, foraging opportunities and bird nesting opportunities, but also potential local benefits through amenity value and fruit available for the community.

c) Provision of 10 bat roosting opportunities, either through built in or surface mounted bat boxes on gable ends of buildings on the periphery of the development, and 6 bat boxes within retained trees on the periphery of the wider site.
d) Provision of 6 bird boxes within the development, in the form of built in boxes within the structures, artificial house martin, swift or swallow cups under overhanging eaves and/or tree mounted boxes suitable for a variety of species.

I. CONCLUSIONS

With the recommended mitigation and/or compensation detailed above, proposals can proceed with no significant adverse effect on notable species and/or habitats.

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APPENDIX 1. STATUTORILY AND NON-STATUTORILY DESIGNATED SITES

A1.i Statutorily Designated Sites

Ramsar Sites
Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention recognizes wetlands as important ecosystems and includes a range of wetland types from marsh to both fresh and salt water habitats. The wetlands can also include additional areas adjacent to the main water-bodies such as river banks or coastal areas where appropriate.

Special Protection Areas (SPAs)
SPAs are classified by the UK Government under the EC Birds Directive and comprise areas which are important for both rare and migratory birds.

Special Areas of Conservation
SACs are designated under the EC Habitats Directive and are areas which have been identified as best representing the range and variety of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the Conservation of Habitats and Species Regulations 2010 (as amended) unless they are offshore.

Sites of Special Scientific Interest
SSSIs are designated as sites which are examples of important flora, fauna, or geological or physiographical features. They are notified under the Wildlife and Countryside Act 1981 with improved provisions introduced by the Countryside and Rights of Way Act 2000.

National Nature Reserves (NNRs)
NNRs are designated by Natural England under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 and support important ecosystems which are managed for conservation. They may also provide important opportunities for recreation and scientific study.

Country Parks
Country Parks are statutorily designated and managed by local authorities in England and Wales under the Countryside Act 1968. They do not necessarily have any nature conservation importance, but provide opportunities for recreation and leisure near urban areas.

A1.ii Non-Statutorily Designated Sites

Local Nature Reserves (LNRs)
LNRs are designated under the National Parks and Access to the Countryside Act 1949 by local authorities in consultation with Natural England. They are managed for nature conservation and used as a recreational and educational resource.

Non-Governmental Organisation Property
These are sites of biodiversity importance which are managed as reserves by a range of NGOs. Examples include sites owned by the RSPB, the Woodland Trust and the Wildlife Trusts.

Local Wildlife Sites (LWSs)
These are sites defined within the local plans under the Town and Country Planning system and are material considerations of any planning application determination. They are designated by the local authority although criteria for designation can vary between authorities.

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