EXTENDED PHASE 1 SURVEY

OASIS ACADEMY, SCUNTHORPE

Report No 1
Final
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SUMMARY

E3 Ecology Ltd was commissioned by EC Harris LLP to undertake an extended phase 1 habitat survey of Oasis Academy, Scunthorpe in March 2014.

Development proposals are not finalised, but include the demolition of the buildings on site and the construction of two new buildings. An area of the playing field will be lost to the development, but a new area will be created to the north of the site. It is likely that only a small number of trees are likely to be lost to the proposals.

Extended phase 1 habitat survey indicated that the site is of low ecological value being dominated by hard standing and amenity grassland. The small number of semi-mature to mature trees within the site are considered to be of local ecological value.

The school complex is considered likely to have a moderate risk of supporting small numbers of roosting bats, although a detailed risk assessment is recommended to confirm this. The mature elm tree to the centre of the site is considered to have a low risk of supporting roosting bats, and further survey work is recommended should this tree be affected by the works. Foraging opportunities within close proximity to the site are limited to small residential gardens and habitats on site are of low value to bat species. There are better quality woodland habitats further afield, but commuting routes to these areas are limited.

The trees, section of hedgerow and buildings on site may provide nesting opportunities for small numbers of nesting bird species, potentially including species listed as birds of conservation concern (BoCC), such as starling (BoCC red listed) and house sparrow (red listed) within the buildings and song thrush (red listed) and dunnock (amber listed) elsewhere. The site is considered unlikely to be used by ground nesting species, lacking cover and being regularly disturbed.

Given the lack of suitable habitats on site, no other protected species are considered likely to be present on site. However, hedgehog, a UK BAP species, may forage within the site on occasion.

Potential impacts of the development in are:

- Loss of potential bat roost/s within the school buildings as a result of demolition works.
- Harm/disturbance to roosting bats should they be present within the buildings at the time of demolition.
- Harm/disturbance to nesting birds should tree felling/vegetation clearance/building demolition be undertaken during the nesting season (March to August inclusive).
- Loss of amenity grassland habitat of low ecological value.
- Loss of a small number of immature to mature amenity trees of local ecological value.
- Damage to retained trees during works.
- Low risk of harm to hedgehog should the species be present on site.

Mitigation measures will need to be finalised following further survey work and the provision of finalised development proposals, however, key mitigation measures include:

- Should further survey work confirm the presence of roosting bats, demolition works affecting the roost will require a Natural England licence to be in place.
- All works to the buildings will be undertaken to a careful method statement and bat mitigation will be provided within the new build. These will be drawn up following further survey work.

- Any tree and hedgerow removal/building demolition will be undertaken outside of the breeding bird season (March to August inclusive) unless a checking survey by an appropriately qualified ecologist confirms the absence of active nests.
- Retention of semi-mature to mature trees on site, where possible, in particular the mature elm to the centre of the site.
- Retained trees will be protected from harm during works by implementing root protection zones in line with BS:5837:2012.

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

Before this report can be used to support a planning application it is recommended that:

- **A detailed bat risk assessment of the school complex is undertaken, including access into loft voids where present and safely accessible.**
- **Two bat dusk activity surveys of the buildings are undertaken (May to September), in line with the Bat Conservation Trust's Bat Surveys: Good Practice Guidance. Should evidence to suggest the presence of a roost be recorded then an additional survey may be required. It is considered that this survey work will also cover the mature elm that has a low risk of supporting roosting bats, given its close proximity to the school buildings.**

Transect surveys of the site are not considered necessary given the small size of the development footprint, the low value of the site for bat species and that there will be no net loss in habitats post development. However, it is recommended that the level of survey work is agreed with the local authority ecologist beforehand.

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.

A INTRODUCTION

E3 Ecology Ltd was commissioned by EC Harris LLP to undertake an extended phase 1 habitat survey of Oasis Academy, Scunthorpe to meet the requirements of the local planning authority.

A.1 Background to Development

The site is situated in Scunthorpe at a central grid reference of SE 887 116. Site location is illustrated below in Section C. Development proposals for the site are illustrated in figure 1, below. These are not currently finalised, but involve the demolition of the existing buildings on site and the construction of two new buildings. Some of the playing field will be lost to the proposals, but a new playing field will be created to the north of the site. Only a small number of trees are likely to be lost to the proposals.

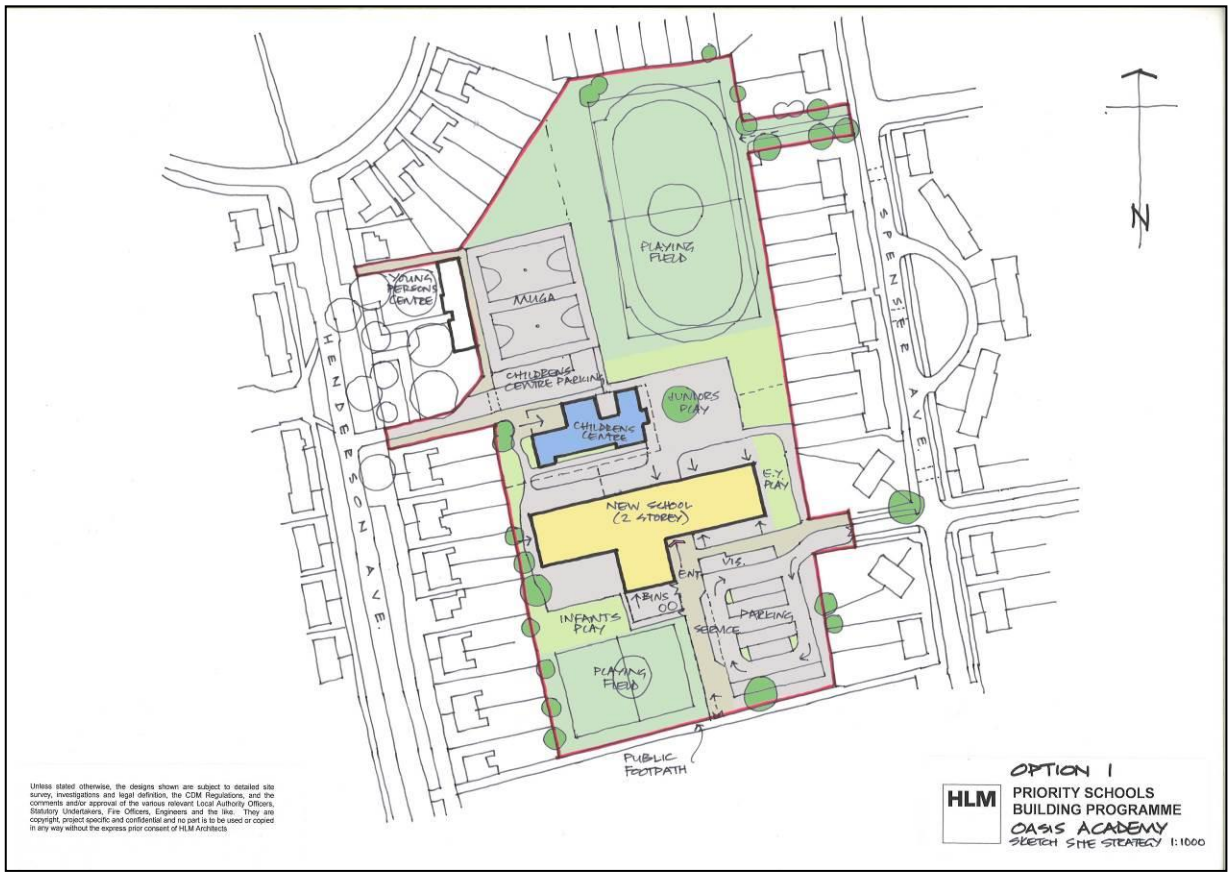


Figure 1 – Development proposals.

Development proposals are currently unknown, but are likely to include the demolition of some or all of the existing school buildings and the construction of new buildings on site.

A.2 Personnel

Survey work and reporting was undertaken by:

- Emma Barnes BSc MSc GradCIEEM
- Jess Andrews BSc MSc GradCIEEM

The project was supervised by:

- James Streets BSc MSc MCIEEM

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

A.3 Objectives of Study

To determine the presence or otherwise of habitats of conservation value or protected species, the extent that they may be affected by the proposed development and, where necessary, to develop mitigation proposals that will allow development to proceed without significant adverse ecological effect.

B RELEVANT LEGISLATION AND PLANNING CONTEXT

B.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) states the following:

- Plan policies and planning decisions should be based upon up-to-date information about the natural environment (Paragraph 158 and 165).
- Plan policies should promote the preservation, restoration and recreation of priority habitats, ecological networks and the recovery of priority species (Paragraph 117).
- Local planning authorities should set out a strategic approach in their Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure. (Paragraph 114).
- When determining planning applications in accordance with the Local Plan and the presumption in favour of sustainable development local planning authorities should aim to conserve and enhance biodiversity by applying a number of principles, including if significant harm resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused. (Paragraph 118).

As of October 1 2006, public authorities have a duty to conserve biodiversity under the Natural Environment and Rural Communities (NERC) Act 2006.

B.2 Protected Species Legislation

The following protected species may be present on a site such as this:

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.		

Although not afforded any legal protection, species listed as Biodiversity Action Plan (UK or Local) priority species are a material consideration in the planning process and as such have been assessed accordingly within this report.

C SURVEY AREA AND METHODOLOGY

C.1 Survey Area

Figure 2 illustrates the site boundary whilst Figure 3 illustrates the broad habitats present on site and within an approximate 500m buffer zone.

Figure 2 – Aerial photograph illustrating the extent of the site with a redline boundary
(Reproduced under licence from Google Earth Pro.)

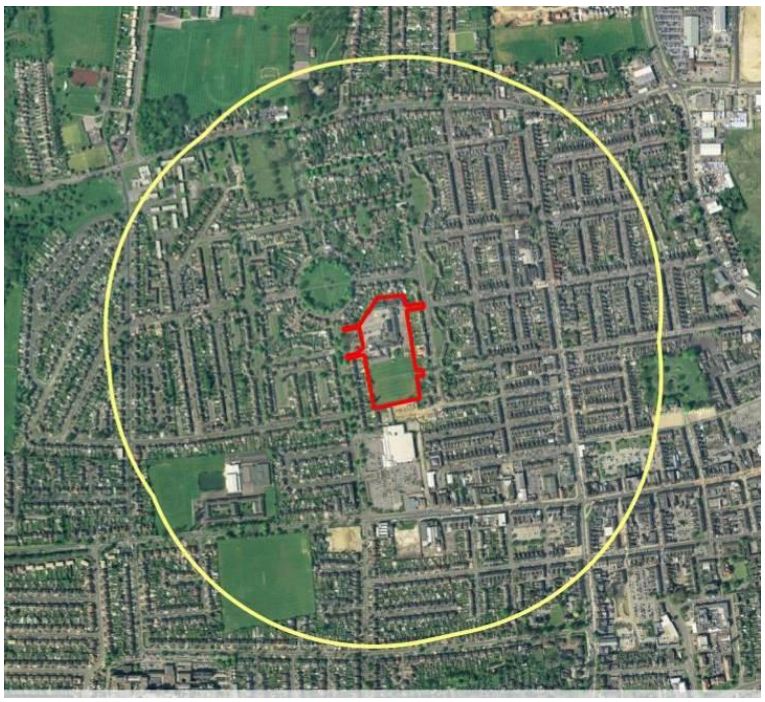


Figure 3 – Aerial photograph centred on the site with a 500m radius illustrating the setting and the habitats it supports
(Reproduced under licence from Google Earth Pro.)

The study area includes the site and adjacent land to allow for possible secondary impacts in line with Natural England recommendations.

C.2 Methodology

C.2.1 Desktop Study

Initially, the site was assessed from aerial photographs and 1:25000 OS plans. Following this, consultation was undertaken with the Local Records Centre and the MAGIC website was checked for any notable sites.

C.2.2 Field Survey

C.2.2.1 Survey Equipment

The following items of equipment were utilised during survey work and analysis:

- Digital camera
- 8x42 binoculars

C.2.2.2 Phase 1 Habitat Survey

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[1]. Each parcel of land was assessed by a trained surveyor and classified as one of approximately ninety habitat types. These were then mapped and the habitat information supplemented by dominant and indicator species codes and target notes where appropriate.

Survey was undertaken on 25th March 2014.

C.2.2.3 Protected Species

As part of the Extended Phase 1 Habitat survey, the risk of protected species being present was assessed from the consultation responses, field signs and local knowledge. If present, any trackways regularly used by badger and deer were mapped, and any badger sett usage assessed by the presence of freshly dug earth and/or bedding at the entrance. Wetlands were reviewed for their potential use by great crested newt, otter and water voles, with particular attention paid to possible otter sprainting sites and resting areas. The risk of reptiles using the site was assessed based on the habitats present. Structures and trees were assessed for the risk of supporting roosting bats. Likely use of the site by birds was assessed from the species seen during the survey, and the habitats present.

Where it is considered likely that protected species may be present and adversely affected by the proposals additional specialist surveys have been recommended.

C.2.2.4 Biodiversity Action Plan Species

The likelihood of certain Biodiversity Action Plan (BAP) species (both UK and local designations) being present on site and affected by the development has also been assessed. The UK BAP species groups assessed are limited to birds, freshwater fish, herptiles, terrestrial mammals, butterflies and dragonflies. Where it is considered likely that there is a significant risk of UKBAP species from other species groups being affected, where habitats are of particularly high value and/or where statutory sites are present in the vicinity which name species from these groups as part of their designations, specialist survey work has been recommended.

1 Handbook for Phase 1 habitat survey, A Technique for Environmental Audit, JNCC, 2010.

D RESULTS

D.1 Desktop Study

D.1.1 Pre-existing Information

OS map & aerial photographs
Figure 3 (C1) shows that habitats within 500m of the site are dominated by residential development, with limited green space.

The most recent aerial photograph of the site (Figure 2, C1, 2008) indicates that habitats on site are dominated by amenity grassland, hard standing and school buildings. However, historic imagery suggests that some sections of the building have been constructed since 2003.

MAGIC website
The Multi Agency Geographic Information for the Countryside website indicated that there are four Local Nature Reserves (LNR) located within 2km of the development site. These are:

- Atkinson's Warren LNR (675m distant)
- Brumby Wood (1.2km distant)
- Frodingham (1km distant)
- Phoenix Parkway (1.6km distant)

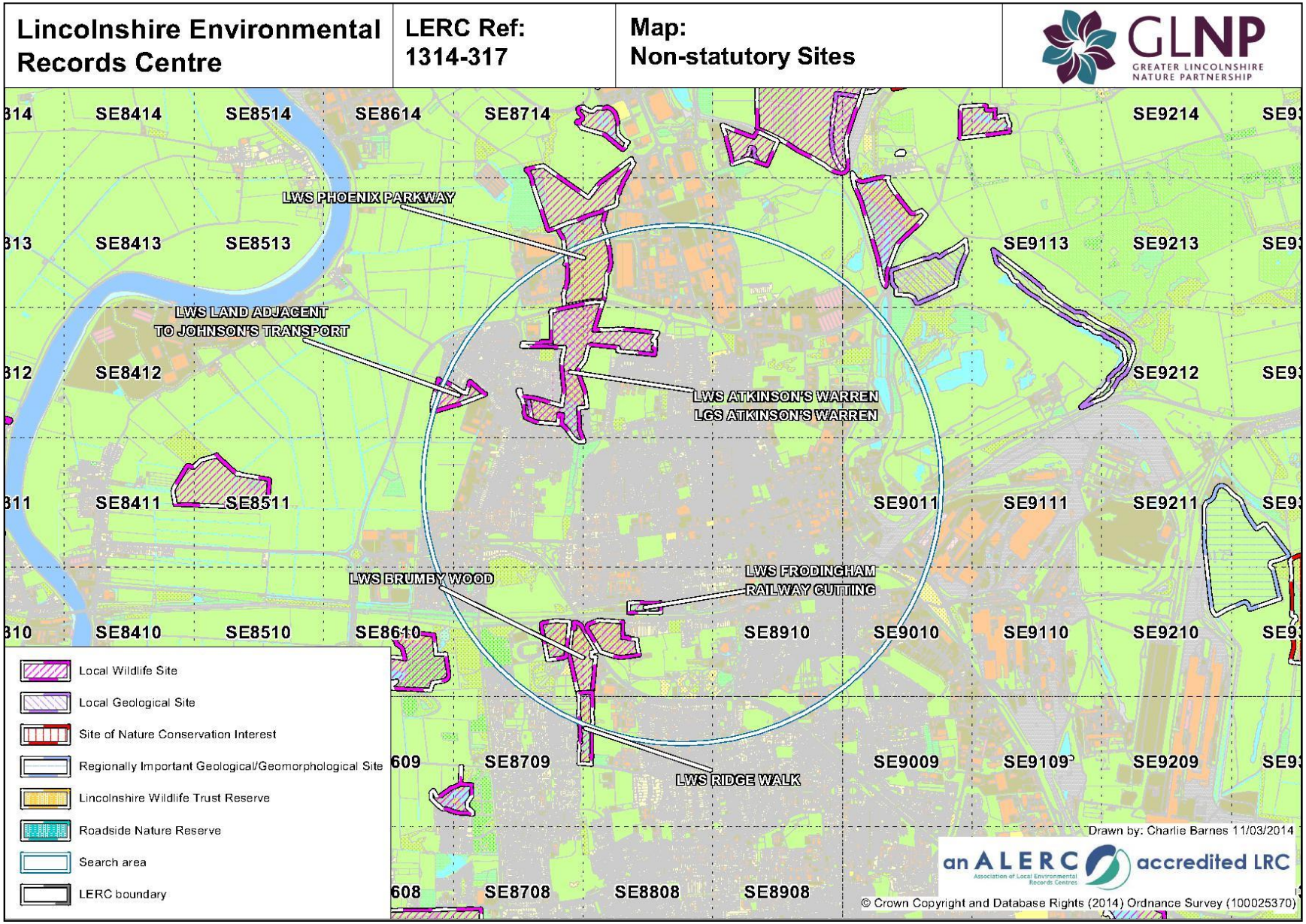
Due to the likely small nature of the proposals and that use of the school site will remain the same post development, no adverse impacts on these LNRs are predicted.

D.1.2 Consultation

Local Records Centre
Consultation with the Lincolnshire Environmental Records Centre (LERC) indicated that the following Local Wildlife Sites (LWS) are located within 2km of the school site:

- Atkinson's Warren LWS
- Land adjacent to Johnson's Transport LWS
- Phoenix Parkway LWS
- Frodingham Railway Cutting LWS
- Ridge Walk LWS
- Brumby Wood LWS

The location of these sites is shown in figure 4, below. Due to their distance from the school site and the small scale of the proposals no adverse impacts on these sites is anticipated.


Lincolnshire Environmental Records Centre
LERC Ref: 1314-317
Map: Non-statutory Sites
GLNP GREATER LINCOLNSHIRE NATURE PARTNERSHIP
LWS PHOENIX PARKWAY
LWS LAND ADJACENT TO JOHNSON'S TRANSPORT
LWS ATKINSON'S WARREN
LGS ATKINSON'S WARREN
LWS BRUMBY WOOD
LWS FRODINGHAM RAILWAY CUTTING
LWS RIDGE WALK
SE8414
SE8514
SE8614
SE8714
SE9214
SE8413
SE8513
SE9113
SE9213
SE8412
SE9212
SE8411
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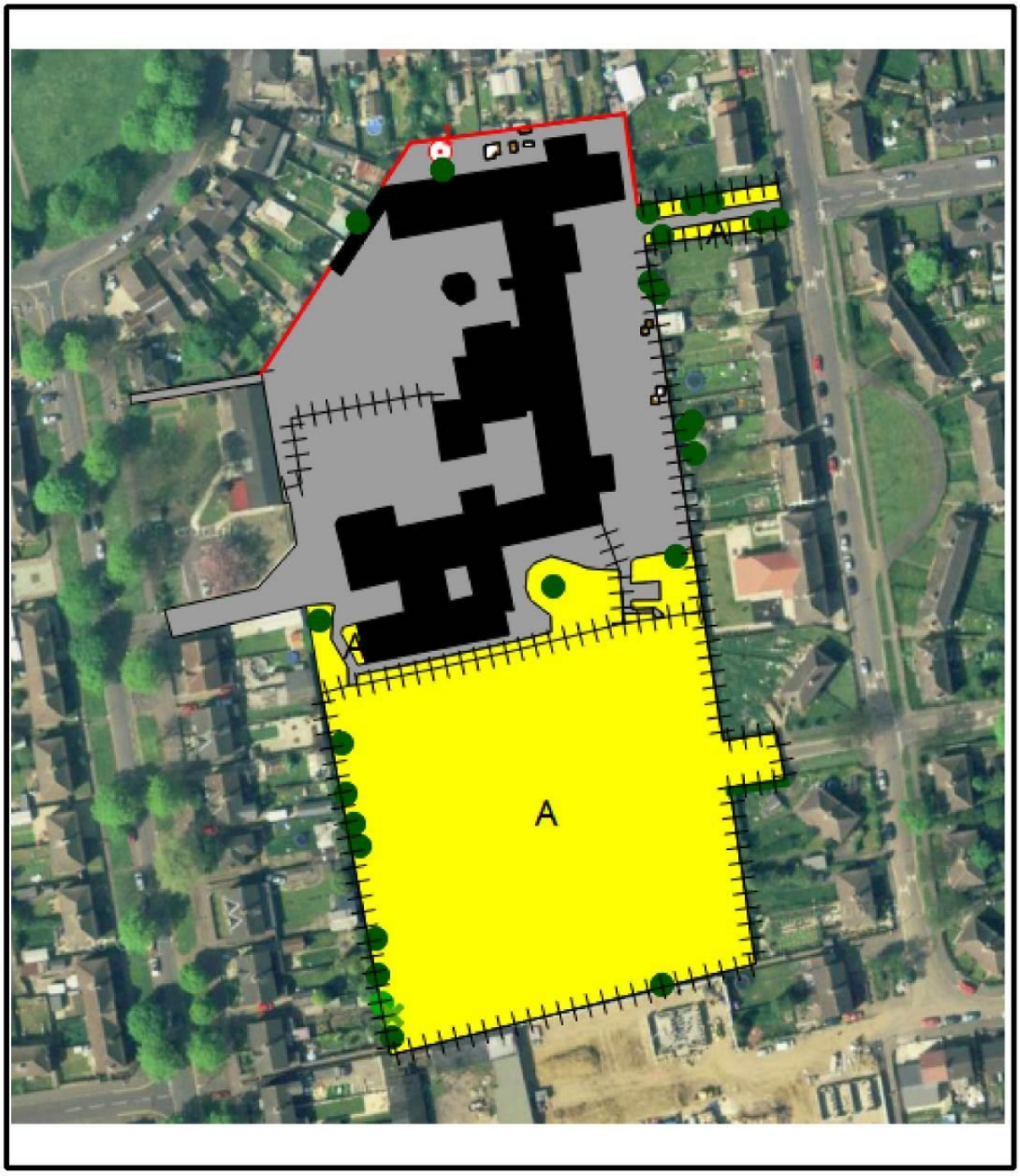
SE8410
SE8510
SE8610
SE8910
SE9010
SE9110
SE9210
SE8709
SE9009
SE9209
SE8708
SE8808
SE8908
Local Wildlife Site
Local Geological Site
Site of Nature Conservation Interest
Regionally Important Geological/Geomorphological Site
Lincolnshire Wildlife Trust Reserve
Roadside Nature Reserve
Search area
LERC boundary
Drawn by: Charlie Barnes 11/03/2014
an ALERC accredited LRC
© Crown Copyright and Database Rights (2014) Ordnance Survey (100025370)

In addition, LERC provided records of the following protected and notable species from within 2km of the proposed development; common toad, great crested newt, small heath, grayling and wall butterflies, common lizard, hedgehog, brown hare and Daubenton's, whiskered, noctule, common pipistrelle, soprano pipistrelle and brown long-eared bat.

D.2 Field Survey

D.2.1 Habitats

The phase 1 map, Figure 4 below, illustrates the habitats present on site.



Key

Phase 1 Boundaries
- Intact Species Poor Hedge
- Fence
- Wall

Target Notes/Trees
- Target Note
- Broadleaved Tree
- Coniferous Tree

Phase 1 Habitats
- A Amenity Grassland
- Building
- Introduced Shrub
- Hard Standing

North

E3 Ecology Ltd

Oasis Academy Habitat Map

The southern section of the site is dominated by the amenity grassland playing field, whilst the northern half of the site is dominated by the school buildings and hard standing. Site boundaries comprise either fences or walls and there are a number of amenity trees and small sections of scrub that are generally associated with these boundaries. There are a number of raised beds within the site, which contain predominantly bare ground and small ornamental shrub species or vegetable plants.

Amenity Grassland

The playing field comprises managed amenity grassland, which was mown to a sward height of approximately 5cm at the time of survey. Grass species dominate and include perennial rye grass (*Lolium perenne*), fescues (*Festuca* sp.), bent grasses (*Agrostis* sp.) and meadow grasses (*Poa* sp.). Forb species recorded include daisy (*Bellis perennis*), dandelion (*Taraxacum* agg.), white clover (*Trifolium repens*), ribwort plantain (*Plantago lanceolata*) and creeping thistle (*Cirsium arvense*).

Amenity trees

There are a number of immature semi-mature broadleaf trees within the site, generally at the site boundaries. Species recorded include false acacia (*Robinia pseudoacacia*), sycamore (*Acer pseudoplatanus*), lime (*Tilia* sp.), elder (*Sambucus nigra*), holly (*Ilex aquifolium*), cherry (*Prunus* sp.), ash (*Fraxinus excelsior*) and Lombardy poplar (*Populus nigra Italica*). In addition, there is a mature elm (*Ulmus* sp.) within a playground area to the centre of the site, which is considered to have a low risk of supporting roosting bats as a result of its size and maturity and the presence of a single potential roosting location. All other trees on site are well sealed and considered to have a negligible risk of supporting roosting bats.

Hedgerow

There is a short length of Leylandii hedgerow encroaching from an adjacent garden on the eastern site boundary.

Buildings

The school buildings comprise a large complex of similar construction throughout. The walls are of non-cavity brick construction and pointing is generally in good condition. The majority of the building is single storey in height with a gambrel roof that is covered with slates and has clay ridge tiles. There are a number of two storey adjoining sections, which have hipped roofs, which are also slate covered with clay ridge tiles. Two well-sealed brick chimneys are present on each. Flat roofed sections over corridors are present on the elevations of the majority of the building and there are a small number of flat roofed extensions around the whole building. These all have felt covered roofs. Window and door frames are a mixture of PVC, timber and metal and are well sealed. Timber cladding is present in some areas, as are timber/asbestos boxed eaves. Fascias are present on some of the flat roofed sections. Skylights are present in some sections of the roofs. There are a number of gaps within the building, associated with slipped and missing tiles and numerous areas of failed mortaring beneath the ridge tiles and at gable ends.

There is a more recent extension to the south of the complex, which is of similar construction to the rest of the complex. This is very well sealed. To the centre of the complex is a two storey height hall with non-cavity brick walls. Interlocking coping stones are present at the gable ends and the roof is slate with clay ridge tiles. Dormer windows are present and there are concrete lintels over the windows and timber/asbestos boxed eaves. There are gaps associated with slipped tiles and a gap in the mortaring at the apex on the northern gable end.

On the western site boundary is a small single storey shed of non-cavity brick construction. This has a slate roof, with several missing slates, and clay ridge tiles. Fascia boards are present, to which guttering is attached. The windows are boarded up with wooden boarding. There is also a small storage shed on the northern boundary of the playing field.

D.2.2 <u>Target Notes</u>

Target Note 1 – Cotoneaster

Wall cotoneaster (*Cotoneaster horizontalis*) is present within a garden area on the northern site boundary. This species is listed on Schedule 9 of the Wildlife and Countryside Act (1981) as invasive and if affected by the works it should be removed to a careful method statement (appendix 1).

D.2.3 Species

Bats
The risk of roosting bats being present within the site is considered to be moderate. There is a single tree within the site, a mature elm, which is considered to have a low risk of supporting roosting bats. The remainder of the trees are considered to be of negligible risk. Foraging habitats on site for bat species are of limited value, being dominated by amenity grassland and hard standing and habitats within 500m of the site are dominated by residential development. There are better quality woodland habitats located approximately 750m to the west and 1km to the south west, but connectivity to these areas is limited.

Birds
Bird species recorded on site during the survey work include woodpigeon (6), magpie, blackbird and carrion crow. The amenity trees, short section of hedgerow and buildings within the site may provide nesting opportunities for small numbers of locally common nesting bird species, but the site as a whole is considered to be of low value to birds. The playing field is unlikely to be used by ground nesting species as it lacks cover and is regularly disturbed, but it may provide foraging opportunities for species including gulls and woodpigeon.

Great Crested Newt
There are no ponds within the site and none apparent within 500m on the Ordnance Survey 1:25,000 maps and aerial photographs. Habitats on site are considered to be of low value for great crested newts, being dominated by hard standing and amenity grassland. This species is therefore considered most likely to be absent.

Badger
The site offers no opportunities for sett creation and foraging opportunities are limited. The urban nature of the site is likely to preclude the presence of this species.

Otter/Water Vole
There are no watercourses within the site boundary and none apparent within 500m of the site. Otter and water vole are therefore considered most likely to be absent.

Reptiles
The site lacks the mosaic of basking, foraging and hibernacula sites required by reptile species and the urban nature of the site will restrict movement into the area. This taxon is therefore considered most likely to be absent.

Other
The UK BAP species hedgehog may be present on site on occasion.

E ASSESSMENT

The value and significance of the habitats and species found was assessed against the following criteria developed from the Guidelines for Ecological Impact Assessment produced by the Institute of Ecology and Environmental Management[2].

Level of Value	Examples
International	• An internationally designated site or candidate site. • A viable area of a habitat type listed in Annex I of the Habitats Directive, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • Any regularly occurring population of an internationally important species, which is threatened or rare in the UK. • Any regularly occurring, nationally significant population/number of any internationally important species.
National	• A nationally designated site. • A viable area of a priority habitat identified in the UK BAP, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • Any regularly occurring population of a nationally important species, which is threatened or rare in the region or county. • A regularly occurring regionally or county significant population/number of any nationally important species. • A feature identified as of critical importance in the UK BAP.
Regional	• Viable areas of key habitat identified in the Regional BAP or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • A regularly occurring, locally significant number of a regionally important species.
County	• County designated sites. • A viable area of a habitat type identified in the County BAP. • Any regularly occurring, locally significant population of a species which is listed in a County "red data book" or BAP on account of its regional rarity or localisation. • A regularly occurring, locally significant number of a species important in a County context.
District	• Areas of habitat identified in a District level BAP. • Sites designated at a District level. • Sites/features that are scarce within the District or which appreciably enrich the District habitat resource. • A population of a species that is listed in a District BAP because of its rarity in the locality.
Parish	• Area of habitat 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, could only be replicated in the medium term, but are common in the local area. • Loss of such habitats would ideally be mitigated if local biodiversity is to be conserved and enhanced.
Low	• Habitats of poor to moderate diversity such as established conifer plantations, species poor hedgerows and unintensively managed grassland that may support a range of Local BAP species but which are unexceptional, common to the local area and whose loss can generally be readily mitigated.

2 Institute for Ecology and Environmental Management (2006) Guidelines for Ecological Impact Assessment in the United Kingdom (Version 7 July 2006). http:/www.ieem.org.uk/ecia/index.html.

E.1 Habitat Conservation Value

Overall the habitats on site are considered to be of low ecological value, being dominated by hard standing and amenity grassland. The small number of semi-mature to mature trees within the site are considered to be of local ecological value.

E.2 Protected and Biodiversity Action Plan Species

The school complex is considered likely to be of moderate risk of supporting small numbers of roosting bats, although a detailed risk assessment is recommended to confirm this. There is a single elm tree within the site that is considered to have a low risk of supporting roosting bats. Foraging opportunities within close proximity to the site are limited to small residential gardens with habitats on site considered to be of low value to bat species. There are woodland habitats of greater value further afield, but commuting routes to these areas from the site are limited.

The trees, section of hedgerow and buildings on site may provide nesting opportunities for small numbers of nesting bird species, potentially including species listed as birds of conservation concern (BoCC), such as starling (BoCC red listed) and house sparrow (red listed) within the buildings and song thrush (red listed) and dunnock (amber listed) elsewhere. The site is considered unlikely to be used by ground nesting species, lacking cover and being regularly disturbed.

Given the lack of suitable habitats on site, no other protected species are considered likely to be present on site. However, hedgehog, a UK BAP species, may forage within the site on occasion.

E.3 Limitations

There were not considered to be any significant constraints to the survey work.

E.4 Impact Assessment

An impact assessment cannot be fully completed until further survey work, detailed in section F, has been undertaken and finalised development plans provided. However, the likely effects of the proposed development, without appropriate targeted mitigation, are:

- Loss of potential bat roosts within the school buildings as a result of demolition works.
- Harm/disturbance to roosting bats should they be present within the buildings at the time of demolition.
- Harm/disturbance to nesting birds should tree felling/vegetation clearance/building demolition be undertaken during the nesting season (March to August inclusive).
- Loss of amenity grassland habitat of low ecological value.
- Loss of a small number of immature to mature amenity trees of local ecological value.
- Damage to retained trees during works.
- Low risk of harm to hedgehog should the species be present on site.

F MITIGATION AND RECOMMENDATIONS

F.1 Further Survey

In order to be able to complete a full and robust ecological assessment of the site, along with potential impacts and mitigation measures, it is recommended that:

- A detailed bat risk assessment of the school complex is undertaken, including access into loft voids where present and safely accessible.
- Two bat dusk activity surveys of the buildings are undertaken (May to September), in line with the Bat Conservation Trust's Bat Surveys: Good Practice Guidance. Should evidence to suggest the presence of a roost be recorded then an additional survey may be required. It is considered that the elm tree to the centre of the site with a low risk of supporting roosting bats will also be covered by this work.

Transect surveys of the site are not considered necessary given the small size of the development footprint, the low value of the site for bat species and that there will be no net loss in habitats post development. However, it is recommended that the level of survey work is agreed with the local council ecologist beforehand.

F.2 Mitigation Requirements

Mitigation measures will require updating following the additional survey work highlighted above and the provision of final development plans, however, likely mitigation measures may include:

- Should further survey work confirm the presence of roosting bats, demolition works affecting the roost will require a Natural England licence to be in place.
- All works to the buildings will be undertaken to a careful method statement and bat mitigation will be provided within the new build. These will be drawn up following further survey work.
- Any tree and hedgerow removal/building demolition will be undertaken outside of the breeding bird season (March to August inclusive) unless a checking survey by an appropriately qualified ecologist confirms the absence of active nests.
- Retention of semi-mature to mature trees on site, where possible, in particular the mature elm to the centre of the site.
- Retained trees will be protected from harm during works by implementing root protection zones in line with BS:5837:2012.

F.3 Additional Enhancement Recommendations

The following mitigation measures are recommended in order to further enhance the site for biodiversity:

- The installation of bat and/or bird boxes at appropriate locations on site.
- Landscaping post development should incorporate native species of local provenance or nectar, fruit or seed bearing species of known value to wildlife.

G APPENDICES

G.1 Appendix 1: Cotoneaster sp. Method Statement

Background
Cotoneasters have been cultivated in the UK for almost 200 years and more than 100 species are known. However where they become established they can become dominant to the exclusion of native species.

Cotoneasters generally reproduce mainly by seed but can also grow from shallow roots of other plants. The seed dispersal strategy used by this genus is generally targeted at birds, which eat the seeds and then disperse seeds in their droppings. Typically these seeds then germinate in the first year after being deposited. Cotoneaster fruit in the autumn, and this can continue through the winter, providing a winter resource for birds.

What are the environmental issues associated with *Cotoneaster*?

Under the Wildlife and Countryside Act 1981 / Wildlife (Northern Ireland) Order 1985, which was updated in 2010, under section 14(2) it is an offence "to plant or otherwise encourage" the growth of a number of species of *Cotoneaster*. This could include cutting the plant or roots and disturbing surrounding soil if not correctly managed.

Any polluted soil or plant material which is viable that you discard or intend to discard should be appropriately disposed of at a licensed landfill.

Control of Cotoneaster sp

Although there are a number of options available for the treatment of these species, the majority of these require a number of years in order to be effective. The two methods outlined below are the most effective in the time scales generally required by the construction industry.

Physical Control

Small, individual plants can be removed by hand, ideally before the fruits ripen to prevent further spread. If cotoneaster plants are removed before the fruits ripen, any fruits that fall to the ground will be unlikely to spread viable seed.

Larger plants or groups of plants can be removed with mechanical equipment with the roots dug out. It is essential that the stumps and roots are completely removed, as both can re-sprout. In such a situation it pays to remove too much material – which can involve clearing the area 2m around the plant to a depth of 1m, in order to ensure that the entire root system has been removed.

Ongoing maintenance of such areas needs to be undertaken to ensure that there is no re-growth through seedlings.

Even with great care, a certain amount of regrowth in the spring would be expected and any should be treated with an appropriate herbicide as discussed above.

Chemical Control

Cotoneasters can be treated with glyphosphate to control spread. Smaller plants can be sprayed directly while larger individuals should be mechanically cut to the stump with the stump then painted with glyphosphate.

Anyone planning to spray a herbicide must be "competent in their duties and have received adequate instruction and guidance in the safe and efficient use of pesticides." This means that the person who will be undertaking the spraying must hold a Certificate of Competence for herbicide use or should work under the direct supervision of a certificate holder. A Certificate of Technical Competence can be obtained by attending a short course at an agricultural college or similar institution.

The most effective active ingredient for use is called glyphosate. This is the active ingredient found in 'Round Up' and other similar herbicides. It is because it does not kill the plant immediately. Instead, the herbicide soaks through the leaves and is taken into the plant root system. The greater the number of green leaves present, the larger the quantity of herbicide that can be absorbed into the plant. It can take up to ten days for the plant to begin to die off after treatment and you should always watch for regrowth.

Disposal of *Cotoneaster* sp – Removal from Site

- Polluted material should be removed from the site for disposal, unless otherwise agreed with the Environmental Regulator and Client.
- Any bags/skips containing these species should be covered to avoid spread of seeds along public highways.
- If contaminated soil is not treated on site or retained on site, Waste Transfer documentation will be required for any polluted material leaving the site.
- Check with the disposal site in advance that they can receive material containing these species. Be aware, the disposal site may require notice to allow an area to be prepared for this material away from the landfill liner.
- Chipped waste that is removed from the site should not be disposed of in adjacent waterbodies or left on adjacent land.

Working Methods in Areas Where Cotoneaster sp is Present

- Polluted areas should be clearly marked out on site.
- Use of tracked machinery should be limited until areas polluted with these species have been cleared and/or identified and cordoned off.
- Areas where these species have been identified should be cleared slowly, one at a time with ongoing assessment of the extent of polluted ground. Only essential vehicles should be present in polluted areas.
- Never stockpile potentially polluted material within 10 metres of a watercourse.
- Care should be taken to ensure that polluted material is not dropped or transferred to other areas of the site.
- Remaining contaminated soil should be monitored for regrowth, particularly during the growing season and, if necessary, treated with an appropriate herbicide as discussed above.
- All site operatives should be made aware of the requirements associated with the removal/disposal of this species in order to help limit accidental spread.
- All haulage lorries or dumpers carrying these species should be covered.
- Never use a strimmer, mower (without collection bucket) or chipper on these species material.