EXTENDED PHASE 1 HABITAT SURVEY AND BAT RISK ASSESSMENT

St Johns Nursery, Clacton-on-Sea, Essex, CO16 8BP

E3 Design

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1. EXECUTIVE SUMMARY

Total Ecology was commissioned by Mr Dave Caruso in February 2018 to undertake a desk based study and a Phase 1 habitat and bat risk assessment survey of St Johns Nursery, Clacton-on-Sea, Essex, CO16 8BP. The approximate National Grid Reference for the centre of the site is **TM 14514 16089.** The survey is required prior to the proposed redevelopment of the site for mixed business and residential purposes.

The results obtained from the MAGIC search revealed that there are no statutory designated sites within 2km of the site. The consultation with EWT revealed five local wildlife sites within 2km, Coppin's Hall Wood (approximately 808m east of site), Pump Hill Verges (approximately 939m west), Hartley Wood (approximately 1.1km north-east), High Grove (approximately 1.2km north-west) and St. Osyth Cemetery (approximately 1.7km west of site).

Twelve main habitat land categories were identified on site under the Phase 1 system of habitat description. The site itself is largely hardstanding and buildings with small sections of amenity grassland, trees and hedgerow. There is a slightly larger area of semi improved grassland to the eastern side of the site which is rank and grades into scrub and hedgerow habitat.

No controlled invasive species were noted on site.

Habitats on site largely provide negligible potential to support protected species. However, semi improved and amenity grassland may provide foraging opportunities for small mammals and birds, along with the hedgerow which may provide foraging and sheltering opportunities. The semi improved grassland and scrub provides habitat suitable for reptiles along with areas of bare ground for basking. Building references E, I, J, M, N and O along with three trees were assessed as providing low potential to support roosting bats. Swallows were noted nesting in several of the buildings.

Based upon the building features recorded during the external assessment, building reference E, I, J, M, N and O along with three trees were assessed as having low potential to contain roosting bats. Therefore a single nocturnal survey is recommended to be carried out on each of the above buildings and trees between May and September during the active season for bats.

Habitats on site provide opportunities for reptiles to bask and shelter. Although no reptile records were presented from EWT, local records of lizards, slow worm and grass snake are present (pers. Comm., site workers, 2018). It is therefore recommended that reptile surveys are carried out on this site.

Any works affecting the buildings, trees or hedgerow, with the exception of minor pruning of overhanging branches, will require a nesting bird check if carried out during the bird nesting season (March – September), although ideally works will take place outside of the nesting season to avoid impacting on nesting birds.

Working methods should be followed to ensure that all mammals are safeguarded. This includes safe storage of materials that may be poisonous to mammals and the covering of any steep-sided excavations at night (or a ramp placed inside the excavation) to allow egress to any mammals that may become trapped.

2.0 INTRODUCTION

2.1 Background

Total Ecology was commissioned by Mr Dave Caruso on behalf of E3 Design in February 2018 to undertake a desk based study and a Phase 1 habitat and bat risk assessment survey of St Johns Nursery, Clacton-on-Sea, Essex, CO16 8BP. The approximate National Grid Reference for the centre of the site is **TM 14514 16089** (Figure 1, Appendix A). The survey is required prior to the proposed redevelopment of the site for mixed business and residential purposes.

2.2 Site Description

The site is located within Clacton-on-Sea, a town within the Tendring peninsula, Essex. The site is immediately bordered by arable fields to the north and west, residential properties to the south and Earl's Hall Drive road to the east, separating from further arable land as well as scrub and woodland habitat. Further from site, arable fields continue to both the north and south. To the east, are the residential buildings of Clacton-on-Sea, leading to the North Sea, approximately 5.5km from site. At it's closest point, the sea is approximately 3km south-east of site. West of site is dominated by both residential dwellings and arable land. An area of woodland is approximately 2.4km west of site. Flag Creek runs inland approximately 4km east of site.

2.3 Survey Objectives

The principal objective of the ecological assessment was to characterise and map the habitats present within the site. In addition, the study area was assessed for features that would indicate the presence of protected species, habitats of nature conservation importance and the presence of non-native invasive species that could represent a constraint to development. In addition, the buildings were assessed in terms of their potential to support, or actual evidence of, roosting bats. This assessment will form the basis of recommendations for further survey work and/or mitigation and compensation for the species.

3.0 METHODOLOGY

3.1 Desk Based Study

An area search was conducted using the Multi Agency Geographic Information for the Countryside (MAGIC) website to ascertain whether there are any designated sites of interest, on or near the site being surveyed. Essex Wildlife Trust (EWT) was contacted for records of protected species and sites within 2km of the site.

3.2 Survey Approach

The ecological assessment and bat risk assessment took place on Wednesday 7th March 2018 in accordance with the standard Phase 1 Habitat Survey methodology (JNCC, 2010) and following the methodology outlined in the Bat Worker's Manual. The survey was carried out by Ian Craft Principal Ecologist (Bat Licence No. 2015-15085-CLS-CLS). The information collected during the survey was then approximately mapped and can be found in Figure 3, Appendix A.

3.3 Controlled Invasive Species

The site was surveyed during an Ecological Walkover survey for the presence of invasive non-native species including Japanese knotweed *Fallopia japonica,* Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*, which are listed under Schedule 9 part ii of the Wildlife and Countryside Act 1981 (as amended). Under section 14 of the Act it is an offence to cause the spread or relocation of either species.

3.4 Buildings

The building exteriors were visually assessed for potential access points and evidence of bat activity in March 2018. Features which have potential as access points were sought, such as small gaps in barge/soffit/fascia boards, raised or missing ridge tiles or flashing and gaps in mortar, brick and/or stonework. Evidence that potential access points were actively used by bats including staining within gaps and bat droppings or urine staining under gaps was recorded. Indicators that potential access points were likely to be inactive included the presence of cobwebs and general detritus within the access.

3.5 Constraints and Assumptions

Due to the time of year some annual flowering species may be under represented. However due to the identification of a variety of common and widespread species, habitats present and the experience of the surveyors, it is considered that there is

sufficient information to produce a reasonable ecological assessment of the areas of site to be affected by the current proposals.

The bat risk assessment survey was conducted in March when bat species are less active, and a number of bats species roost deep in crevices where visible evidence of their presence is less likely to be encountered. In addition, bat species utilise a number of roosts throughout the year and a lack of evidence should not therefore be considered proof of lack of bat roost, as roosts remain protected throughout the year, including periods during which they are not occupied.

4.0 SURVEY RESULTS

4.1 Desk Based Study

The results obtained from the MAGIC search revealed that there are no statutory designated sites within 2km of the site. The consultation with EWT revealed five local wildlife sites within 2km, Coppin's Hall Wood (approximately 808m east of site), Pump Hill Verges (approximately 939m west), Hartley Wood (approximately 1.1km north-east), High Grove (approximately 1.2km north-west) and St. Osyth Cemetery (approximately 1.7km west of site).

A summary of designated sites within 2km of the land in question is given in Table 1 below. Summarised data relating to other species of conservation concern is incorporated into the relevant species sections below.

Table 1 Designated sites within 2km.

Site Name	**Designation**	**Approx. Distance from Site**	**Further Information**
Coppin's Hall Wood	LWS	808m east	This is a badly disturbed deciduous woodland containing Hazel (*Corylus avellana*) coppice, Pedunculate Oak (*Quercus robur*) and Hornbeam (*Carpinus betulus*) standards with occasional Honeysuckle (*Lonicera periclymenum*) and Holly (*Ilex aquifolium*). A typical ground flora includes Bramble (*Rubus fruticosus* agg.), Lesser Celandine (*Ranunculus ficaria*), Greater Stitchwort (*Stellaria holostea*) and Wood Sage (*Teucrium scorodonia*). Creeping Soft-grass (*Holcus mollis*) and Moschatel (*Adoxa moschatellina*) were also recorded. Control over the pressures on the wood is required in order to retain its character, although its role in environmental education in an urban setting should not be ignored.

			This site contains the UK BAP priority habitat lowland mixed deciduous woodland and the local BAP habitat ancient woodland, urban habitats.
Pump Hill Verges	LWS	939m west	These verges are of note for their population of Wild Clary (*Salvia verbenaca*), an Essex Red Data List plant strongly associated with dry, sandy grasslands. Other plant species include Agrimony (*Agrimonia eupatoria*), Corn Mint (*Mentha arvensis*) and Sheep's Sorrel (*Rumex acetosella*).
Hartley Wood	LWS	1.1km north-east	This ancient woodland is of neglected coppice-with-standards structure containing Pedunculate Oak (*Quercus robur*), Hornbeam (*Carpinus betulus*), Ash (*Fraxinus excelsior*), Silver Birch (*Betula pendula*), Elm (*Ulmus sp.*) and Sweet Chestnut (*Castanea sativa*). The ground flora includes Honeysuckle (*Lonicera periclymenum*), Bramble (*Rubus fruticosus* agg.), Lesser Celandine (*Ranunculus ficaria*) and Primrose (*Primula vulgaris*). BAP priority habitats on this site include lowland mixed deciduous woodland (UK BAP) and Ancient woodland (Essex BAP).
High Grove	LWS	1.2km north-west	This small wood is typified by Sweet Chestnut (*Castanea sativa*), Ash (*Fraxinus excelsior*), Hornbeam (*Carpinus betulus*) and Silver Birch (*Betula pendula*) with occasional Pedunculate Oak (*Quercus robur*). Bluebell (*Hyacinthoides non-scripta*) and Wood Anemone (*Anemone nemorosa*) occur within the ground flora as well as Lesser Celandine (*Ranunculus ficaria*), Bramble (*Rubus*

			fruticosus agg.) and Bracken (*Pteridium aquilinum*). A small brook that runs through the wood adds to the habitat diversity. BAP priority habitats on this site include lowland mixed deciduous woodland (UK BAP) and Ancient woodland (Essex BAP).
St. Osyth Cemetery	LWS	1.7km west	This piece of long sward grassland is being managed as wildflower meadow by St. Osyth Parish Council since 1998. Many grass and herb species are present, including Sweet Vernal-grass (*Anthoxanthum odoratum*), False Oat-grass (*Arrhenatherum elatius*), Yellow Oat-grass (*Trisetum flavescens*), Yarrow (*Achillea millefolium*), Common Knapweed (*Centaurea nigra*), Lady's Bedstraw (*Galium verum*) with Common Sorrel (*Rumex acetosa*), Creeping Cinquefoil (*Potentilla reptans*), Oxeye Daisy (*Leucanthemum vulgare*), Bulbous Buttercup (*Ranunculus bulbosus*) and Field Wood-rush (*Luzula campestris*). The site contains UK BAP priority habitat lowland meadows and the local Essex BAP habitat lowland grassland.

4.2 Walkover Survey

Twelve main habitat categories were identified within the area under the Phase 1 system of habitat description. These were:

- Hardstanding
- Built structure
- Amenity grassland
- Bare ground
- Bare ground/ Semi-improved grassland mosaic
- Scrub

- Semi-improved grassland
- Scattered trees
- Intact hedge
- Wall
- Fence
- Ditch

Appendix A shows the habitat map for the site whilst Appendix B gives selected photographs.

Hardstanding

Hardstanding is present on site as tarmac access roads and car parks. There are also areas of concrete between the glasshouses and where glasshouses have been dismantled which merges in with Semi Improved grassland in places. Hard standing holds negligible ecological value.

Built Structure

The majority of the site is covered with glasshouses which are used for raising plants and also form parts of the retail section of the garden centre. Some of these buildings have wooden panelling on the sides or corrugated metal sides. Additionally there are a range of water tanks, metal containers and also some brick built structures on site.

Amenity Grassland

A garden is present in the western portion of the site, composed of amenity grassland and scattered shrub and tree species. There is also a section of amenity grassland adjacent to this to the south around the entrance to the car park. Species diversity is low with typical improved grassland species present dominated by perennial rye-grass *Lolium perenne*, with springy turf-moss *Rhytidiadelphus squarrosus* abundant and creeping buttercup *Ranunculus repens* occasional. This grassland provides little ecological value but is suitable for foraging birds.

Bare Ground

There are two areas of bare ground in the south eastern corner of the site. Target note 2 is an area of waste planting material and target note 3 is an area of spoil.

Bare Ground/ Semi-improved grassland mosaic

An area between the glasshouses which is used to store materials grades from concrete hard standing into this bare ground/ semi-improved grassland mosaic which is made up of hardcore with typical grassland species becoming prominent to the western end where it grades into semi-improved grassland.

Scrub

Areas of scrub are present both within and adjacent the site boundary. This habitat is dominated by bramble *Rubus fruticosus,* with tree saplings and early mature trees present along the eastern boundary and the north-eastern section of the site.

Semi- improved grassland

The main area of semi improved grassland is present down the eastern side of the site. The sward is rank and tussocky in places and dominated by yorkshire fog *Holcus lanatus*, perennial rye grass *Lolium perenne* and false oat grass *Arrhenatherum elatius*. Herb species present include common nettle *Urtica dioica*, creeping thistle *Cirsium arvense*, cleavers *Galium aparine*, daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata*, dandelion *Taraxacum officinale* and common ragwort *Senecio vulgaris*.

Scattered trees

Scattered trees are present at various locations within the site, concentrated along the boundaries. The eastern and northern boundaries contain Ash *Fraxinus excelsior* and Oak *Quercus spp*. There is a line of Leyland cypress *Cupressus x leylandii* trees along the western and northern boundaries and areas of introduced ornamental trees around the car park and garden area on the western side of the site.

Intact Hedge

There is a small section of garden hedge towards the western end of the southern boundary bordering the gardens to the south of the site.

Wall

A short, brick wall runs along the southern boundary of the site in the western corner, bordering the residential gardens to the south of the site.

Fence

The majority of the southern boundary of the site is made up of a fence separating the site from the residential gardens to the south.

Ditch

A ditch runs just outside the eastern boundary of the site in the adjacent arable field, it was dry at the time of the survey.

4.3 Controlled Invasive Species

No Himalayan balsam, Giant Hogweed or Japanese knotweed were noted on site.

4.4 Protected Species and Species of Nature Conservation Importance

Breeding and wintering birds

All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy the nest (whilst being built or in use) or its eggs.

Bird species listed in Schedule 1 of the 1981 Act, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

The features/habitat types with potential to support birds includes the woodland, and scrub and any works scheduled to these features should ideally take place outside the bird nesting season.

Greenfinch *Chloris chloris*, Great Tit *Parus major*, Feral Pigeon *Columba livia domestica*, blackbird *Turdus merula* and Carrion Crow *Corvus corone* were noted during the site walkover. These species are common and widespread. Swallows *Hirundo rustica* were noted to be nesting in several of the buildings on site.

The EWT consultation data revealed 2 bird records within 2km of the site; waxwing *Bombycilla garrulous* and barn owl *Tyto alba*. Barn owl is a Schedule 1 species. Schedule 1 species are afforded a higher degree of legal protection than common species. No evidence of either of these species was noted and they are considered unlikely to use the site itself so should not be affected by the proposed works.

Mammals

Bats

All bat species and their roosts in Britain are protected under the Wildlife and Countryside Act 1981 (as amended) (WCA) through their inclusion on Schedule 5. The implementation of the Countryside and Rights of Way Act 2000 (CRoW 2000) has amended the WCA 1981 to include 'reckless' damage to, or destruction of a roost, disturbance of bats whilst in a roost.

Bats are also included on Annex IV of Council Directive 92/43/EEC of 21st May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (known as the Habitats Directive). As a result of the United Kingdom ratifying this directive, all British bats are protected under The Conservation of Habitats and Species Regulations 2010. Combined, these make it an offence to kill, injure, capture or disturb bats or obstruct access to, damage or destroy roosts.

Paragraph 41(1) (b) of the Regulations states: A person who deliberately disturbs wild animals of any such (European Protected) species, is guilty of an offence. For the purposes of this paragraph, the disturbance of animals includes in particular any disturbance which is likely: -

a. to impair their ability-
    i. To survive, to breed or reproduce, or to rear or nurture their young, or
    ii. In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
b. to affect significantly the local distribution or abundance of the species to which they belong.

Under the law, a bat roost is any structure or place used for shelter or protection e.g. a building, bridge or tree. Bats use many roost sites and feeding areas throughout the year and they tend to re-use the same roosts for generations.

There are 7 records of bats within 2km of the site. Records are for unknown bat species as well as common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus*. The closest record is for a soprano pipistrelle approximately 946m east of site at Coppin's Hall Wood. Out of the 7 records, 2 are for bat roosts; one unknown species roost 1.3km west of site, and one pipistrelle

roost 1.5km south-east of site. These were the most recent records, from 2012 and 2013 respectively.

The buildings on site were risk assessed for their potential to support roosting bats, most of the buildings on site were assessed as having negligible potential for bats, being a mixture of greenhouses, portacabins and metal storage containers.

Building references E, I, J, M, N and O were assessed as having low potential to support roosting bats. All other buildings on site were assessed as having negligible potential to support roosting bats. A single Ash *Fraxinus excelsior* to the south of the site and two Oaks *Quercus spp.* to the north of the site were also classified as low risk of roosting bats.

Buildings E, M, N and O all had areas of wooden panelling and buildings I and J had gaps at wall tops and in fascias as well as access to the interior for bats, although an internal inspection was not possible.

The three trees had rot holes and/ or cracked limbs suitable for bats

Overall, no evidence of bats was observed during the risk assessment.

Table 1 below shows the features considered when attributing a level of potential to a building.

Table 1 Guidelines for assessing the potential suitability of proposed development sites for bats. (BCT, 2016).

* For example temperature, humidity, height above ground, light levels, levels of disturbance

Suitability	Description Roosting Habitats	Commuting and Foraging Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions* and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of	Habitat that could be used by small numbers of commuting bat such as a gappy hedgerow or vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a

	bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRF's but with none seen from the ground or features seen only with very limited roosting potential.	lone tree (not in parkland situation) or a patch of scrub.
Moderate	A structure or 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 – irrespective of species conservation status).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees. scrub. grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size. shelter. protection. conditions* and surrounding habitat.	Continuous. high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys. streams. hedgerows. lines of trees. and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broad-leaved woodland. tree lines watercourses. and grazed parkland. Site is close to and connected to known roosts.

Table 2. Building Structural Features.

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
A	Single- storey. glass roofed greenhouse type building with some side walls composed of corrugated sheet materials.	✓	X	X	X	X	X	None noted	None noted	Single open space. glass roof and sides. used mostly for storage	None noted.
B	As for Building A above	✓	X	X	X	X	X	None noted.	None noted	Single open space. glass roof and sides. used mostly for growing plants	None noted.
C	As for Building A above	✓	X	X	X	X	X	None noted.	None noted.	Single open space. glass roof and sides. used mostly for growing plants	None noted.

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
D	As for Building A above. although half has been removed recently	✓	X	X	X	X	X	None noted.	None noted.	Single open space. glass roof and sides. open to the south where it is partly demolished. Currently disused	None noted.
E	As for building A above	✓	X	X	X	X	X	Small amount of wooden panelling on the exterior near to the main entrance	Wooden panelling	Single open space. glass roof and sides. used as retail space	None noted
F	Corrugated metal warehouse	✓	X	X	X	X	X	None noted	None noted	None noted	None noted
G	Corrugated metal shed	X	X	X	X	X	X	None noted	None noted	None noted	None noted

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
H	Breeze block extension to building B. corrugated plastic roof	X	X	X	X	X	X	None noted	None noted	Sliding warehouse doors and lots of holes in the roof.	None noted
I	Single- storey. greenhouse type building with asbestos roof and guttering. Breeze block foundations.	✓	X	X	X	X	X	None noted	Gaps within roof edges on east and west elevations. Missing glass panels. Beneath roof overhang.	Lots of pipes and machinery. Appears unused/ derelict.	None noted
J	Two- storey breeze block building used as storage. Corrugated asbestos roof. wooden window and door frames. several missing	✓	X	X	✓	X	?	None noted	Wall plate and under fascias. Interior accessible to bats. panelled interior.	Access not possible	None noted
K	Breeze block construction with corrugated asbestos roof. southern elevation with plastic panelling in places. Wooden window frames.	✓	✓	X	✓	X	X	None noted	Under asbestos panelling at southern end.	None noted	None noted

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
L	Small breeze block outbuilding with corrugated asbestos roof and no door	X	X	X	✓	X	X	None noted	Under fascias	None noted	None noted
M	Retail unit selling garden furniture. Corrugated and wooden cladding to sides and corrugated roof.	✓	X	X	X	X	X	Wooden panelling to south elevation and overhanging eaves	Wooden panelling	None noted	None noted
N	Main entrance to garden centre. wooden panelling to walls	X	X	X	X	X	X	None noted	Wooden panelling	Wooden panelling to walls around entrance	None noted
O	Plastic cladded breeze block building with corrugated roof. Forms main entrance to garden centre. southern elevation cladded with wood.	✓	✓	X	X	X	X	None noted	Wooden panelling	None noted	None noted

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
P	Caravan	X	X	X	X	X	X	None noted	None noted	No access	None noted
Q	Small breeze block and part rendered building with corrugated roof	✓	X	X	X	X	?	None noted	Wall plate		
R	Wooden constructed single storey portacabin with corrugated metal roof atop wood. Metal window and door frames. External metal girders.	X	X	X	✓	X	X	Artificial lighting on north west elevation	Gaps beneath fascia (noted to be heavily cobwebbed at time of survey)	No access	None noted
S	Plastic coated metal. single storey portacabin. Plastic guttering west elevation of building. Metal girders run down the external walls.	X	X	X	X	X	X	Artificial lighting on south west elevation.	None noted	No access	None noted

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
	Metal door and window frames.										
T	As for Building A above	✓	X	X	X	X	X				
U	Single storey brick built building with flat felt roof and wooden fascia's. Doors are constructed of wood and noted to be rotting. Plastic guttering is on the north elevation.	X	X	X	✓	X	X	Thin covering of ivy on the south. west and east elevations.	Split felt on roof edge. Gap present above wooden doors. Fascia is rotten on the south west elevation creating a small gap.	No access	None noted.

Badger (*Meles meles)*

Badgers receive strict protection under the Protection of Badgers Act 1992, which makes it an offence to wilfully kill, injure or take a badger or interfere with a badger sett by damaging a sett or any part thereof. It is also an offence to wilfully destroy a sett, obstruct access to a sett or disturb a badger while occupying a sett. The 1992 Act defines a badger sett as 'any structure or place, which displays signs indicating current use by a badger'. Work that disturbs badgers whilst occupying a sett is illegal without a licence.

Badgers are largely nocturnal, omnivorous mammals and live predominately in social groups within setts. They are territorial, marking the borders of the territory with dung which is deposited in latrines or boundary dung pits. Territories occupied by a badger group or 'clan' can be between 14 and 300 ha in size dependant on the quality of the habitats present, with a cited average of 50 ha (Neale and Cheeseman, 1996). Badger territories will usually include a wide range of habitats and favour areas with a mosaic of habitats that include woodland, pasture and arable land and will locate their setts in a variety of habitats including woodland (deciduous, coniferous and mixed), scrub, hedgerows, orchards, quarries, sea cliffs, moorland, open fields and downland, although they show a marked preference for wooded areas.

There are no badger records within 2km of site. No evidence of badger presence was observed during the survey.

West European Hedgehog (*Erinaceus europaeus)*

The west European hedgehog is a species of principal importance under section 41 of the NERC Act (2006). In rural areas, preferred habitats include woodland edges, hedgerows in meadowland and rough pasture, where sufficient cover is provided for nesting. Hedgehogs are rarely found in marshy or upland habitats and in coniferous woodland. Hedgehog presence is a good indicator of plentiful ground-dwelling invertebrates, especially worms, caterpillars, snails, slugs and beetles which are preferred food items, and of varied habitat features, such as hedges and copses. Hedgehogs hibernate to conserve energy between November and March, when food is scarce, remaining largely inactive. During the rest of the year, they are predominantly nocturnal, and may travel 1-2km in a night within home ranges of 10-50ha. Badgers are natural predators, and the highest numbers are found in

urban and suburban gardens where badgers are largely absent. Hedgehogs are widespread in lowland Britain but are patchily distributed.

Due to the survey visits being carried out during the day and in low temperatures, no hedgehogs were noted on site. The hedgerow present adjacent to the site may provide sheltering opportunities, and grassland will provide foraging opportunities for hedgehogs.

Great Crested Newt *(Triturus cristatus)*

The great crested newt (GCN) is fully protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in Schedule 2 of The Conservation of Habitats and Species Regulations 2010 as a European protected species. Great crested newts are also listed under Section 41 of The Natural Environment and Rural Communities (NERC) Act (2006) subject to a national Biodiversity Action Plan (BAP).

A small, drainage ditch is present just outside the eastern boundary of the site that was dry at the time of the survey. A pond is present approximately 280m to the south west of the site, separated from the site by residential housing and a busy road (B1027). The habitat on site offers good opportunities for GCN during their terrestrial stage with rank vegetation and piles of debris present.

Habitat Suitability Index

Ten key habitat criteria were assessed using objective habitat measurements to produce a HSI for the pond to the south west of the site, based on the methodology detailed by Oldham et al., (2000). The following bullet points provide a summary of this information together with a summary of the criteria fully outlined by Oldham et al., (2000).

1. Geographic Location – The site falls within the optimal zone for the known newt distribution, based on existing maps of newt distribution, therefore the pond scored a high 1.

2. Pond Area – The pond area is a determinant of the magnitude of biological productivity of the pond ecosystem on which the newt population depends. The waterbody is small in size. Small pond size affects the potential size of a viable

breeding population of newts. This pond is approximately 7000m^2 and there are no data for such large ponds, meaning that this factor must be omitted from this HSI calculation.

3. Pond Permanence – Pond permanence is crucial to permit completion of metamorphosis in any given year. The waterbody was deemed to never dry and scored a 0.9.

4. Water Quality – The adult GCN is capable of using atmospheric oxygen and is relatively tolerant of eutrophic conditions. The gill-breathing larva is more vulnerable and shares the need for reasonably well-aerated water with a number of aquatic invertebrates. The water quality of the watercourse was considered to be moderate quality, giving a score of 0.67.

5. Pond Shading – Shading by trees may increase the organic content through leaf fall and cause eutrophication. The watercourse has very little shading and received the maximum score of 1.

6. Number of Waterfowl – Common waterfowl may damage the habitat, partly by mechanical interference, but also by excessive nutrient enrichment. Waterfowl were observed during the site visit however they are expected to have only a minor effect on this pond, giving a score of 0.67

7. Occurrence of Fish – The effect of fish varies with species, but some (such as Stickleback) may be predatory and competitive. While on site, a member of the public was observed catching fish on site and so fish are definitely present within this pond. The pond scored a 0.33 for fish.

8. Pond Density – Swan and Oldham, (1993) suggested that a minimum pond density threshold of 0.7 ponds / km-2 for great crested newts to occur in the area. Great crested newts generally exhibit metapopulation dynamics and population persistence depends, in part, upon the distance separating breeding sites (Halley et al., 1996). There were another 10 ponds within 1km of the surveyed pond, giving a score of 0.95.

9. Proportion of "Newt Friendly" Habitat – The habitat occupied by GCN is highly variable, but newts are frequently found on land of low intensity use (scrub,

woodland), rather than on pasture and arable land (Swan and Oldham, 1993). The habitat surrounding the pond consisted of pasture land with evidence of grazing. To the north of the pond is a small area of road immediately adjacent to a busy road. The surrounding habitat was therefore deemed to be poor, giving the pond a low score of 0.33.

10. Macrophyte Content – Although not a direct food source for GCN, macrophytes fulfil a number of roles. They provide a food source (direct and indirect) for prey organisms, cover from predators and a substrate for egg attachment. Beyond a certain density however, they restrict space for courtship. The watercourse had approximately 5% macrophyte cover and scored 0.32.

Based on these figures, the waterbody has average potential to contain GCN with an overall score of 0.62. The HSI calculation is shown in Appendix C.

Reptiles

All reptile species present in the south of England *i.e.* slow-worm *Anguis fragilis*, common lizard *Lacerta vivipara*, adder *Vipera berus* and grass snake *Natrix natrix* are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Sections 9(1) and 9(5) which makes it an offence to intentionally or recklessly kill, injure or sell the animals. The much rarer smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* are fully protected under UK and EU law and require a European protected species licence from Natural England if a development affects them or their habitat.

Reptiles are cold-blooded (exothermic) and require external sources to raise their body heat. They hibernate during the winter months and use areas of exposed ground for basking during the summer months, but return to refuges, vegetation or underground during periods of prolonged exposure to the sun and at night.

Adders feed on small mammals, grass snakes feed on amphibians and slow-worm and common lizard feed on a range of invertebrate species. As such reptiles require a varied habitat structure that provides shelter, a range of sunny and shady areas, food and frost free areas to hibernate in (JNCC, 2003b).

The site itself provides some of the necessary habitats suitable for reptiles with a rank grassland and areas for basking. There are also areas of spoil and debris which could provide shelter. During the site visit one of the employees of the nursery reported having seen slow worms, common lizard and grass snakes on the site.

No records of reptiles were returned with 2km of the site.

Dormouse *Muscardinus avellanarius*

Dormice are protected under the Wildlife and Countryside Act (1981) and regulation 41 of the Conservation of Habitats and Species Regulations (2010).

Dormice are successional feeders and require a range of foods to allow them to feed while they are active. In spring they will feed on the flowers of oak, hawthorn, sycamore and willow and as the season progresses move onto later flowering shrubs such as honeysuckle and bramble. During the summer they take advantage of caterpillars, aphids and wasp galls and then they fatten up for hibernation on fruits and berries such as blackberries and hazelnuts. Across their range dormice prefer the successional stage of woody vegetation; this is the new growth that arises after woodland management such as coppicing, ride widening, thinning or glade creation. In the UK the species tends to be more closely associated with old coppice woodland but they also occur in scrub habitat, old hedgerows and are sometimes found in conifer plantations.

No records of Dormice were returned within 2km of the site and the habitats on site are considered sub-optimal comprising species poor hedgerow with poor connectivity to surrounding habitats and areas of scattered trees.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Habitats

Twelve main habitat land categories were identified on site under the Phase 1 system of habitat description. The site itself is largely hardstanding and buildings with small sections of amenity grassland, trees and hedgerow. There is a slightly larger area of semi improved grassland to the eastern side of the site which is rank and grades into scrub and hedgerow habitat.

Habitats on site largely provide negligible potential to support protected species. However, semi improved and amenity grassland may provide foraging opportunities for small mammals and birds, along with the hedgerow which may provide foraging and sheltering opportunities. The semi improved grassland and scrub provides habitat suitable for reptiles along with areas of bare ground for basking. Building references E, I, J, M, N and O along with three trees were assessed as providing low potential to support roosting bats. The following risk assessment and recommended survey effort for protected species is based upon currently known proposed works. Any changes to these will require additional survey effort.

5.2 Bats

Based upon the building features recorded during the external assessment, building reference E, I, J, M, N and O along with three trees were assessed as having low potential to contain roosting bats. It is not possible to definitively determine the presence of roosting bats without further nocturnal survey work at the correct time of the year.

The nocturnal survey requirement is determined through reference to the recommended bat survey guidance (BCT, 2016) and based upon the assessed potential of the surveyed buildings to contain roosting bats. Following this guidance, one nocturnal surveys should be conducted on the buildings and trees above during the bat activity season (May-September) in order to gain a satisfactory understanding of how they are utilised by bats, and their importance to local bat populations.

5.3 Other Protected Species

Birds – It is an offence to intentionally or recklessly destroy an active bird nest or disturb birds close to their nest during the breeding season. Therefore, any works affecting the buildings, hedgerow or trees, with the exception of minor pruning of overhanging branches, will require a nesting bird check if carried out during the bird nesting season (March – September), although ideally works will take place outside of the nesting season to avoid impacting on nesting birds.

Great Crested Newts – A small, drainage ditch is present just outside the eastern boundary of the site that was dry at the time of the survey. A pond is present approximately 280m to the south west of the site, separated from the site by residential housing and a busy road (B1027)

The pond was assessed as having average potential to support GCN using the HSI methodology. The pond was therefore run through Natural England's 'Rapid Risk Assessment' assuming that GCN are present within the pond. The total area of suitable habitat on site that is not either hard standing or buildings is approximately 0.5 ha which results in offence highly unlikely when run through the risk assessment, therefore no further survey work is recommended for GCN.

Reptiles – There are habitats on site that provide opportunities for reptiles to bask and shelter. Although no reptile records were presented from EWT, local records of lizards, slow worm and grass snake are present (pers. Comm., site workers, 2018). It is therefore recommended that further reptile surveys be carried out on this site.

Badgers – As no evidence of badger was noted on site, no further surveys are recommended for this species. Although as badgers are a highly mobile species a walkover should be carried out two weeks prior to works on site to ensure that the situation hasn't changed.

West European Hedgehog – Due to parts of the site providing suitable habitat for hedgehogs it is recommended that the fences and walls of the gardens in the proposed development include hedgehog passes, both around the perimeter and between gardens. A hedgehog pass comprises a hole 13 x 13cm to allow hedgehogs to pass through, which will also be suitable for other small mammals

but too small for most domestic pets. The hedgehog pass should be labelled so the homeowner is aware of what it is for and so it isn't filled in. Suitable labels are available from www.hedgehogstreet.org and are shown below:

Other mammals – No evidence of mammals was found on site, however, it is likely small mammals such as voles and shrews may use the hedgerow and amenity grassland on site. As such, working methods should be followed to ensure that all mammals are safeguarded. This includes safe storage of materials that may be poisonous to mammals and the covering of any steep-sided excavations at night (or a ramp placed inside the excavation) to allow egress to any mammals that may become trapped.

5.4 Potential Ecological Enhancements

The National Planning Policy Framework (NPPF) outlines government planning policies and how they should be applied within local authorities. The framework places an emphasis on sustainable development, encouraging the re-use of land that has previously been developed in preference to using land that has a higher environmental value and by minimising impacts on biodiversity. The NPPF states that developments should aim to conserve or enhance biodiversity and encourages opportunities to incorporate biodiversity in and around developments.

Taking the requirements of the NPPF into account, opportunities should be sought where possible for nature conservation enhancement at this site, such as installing

bat and bird boxes on the new buildings. The presence of trees and/ or shrubs within the gardens of the new buildings will improve opportunities for birds on site.

Further mitigation and enhancement measures will be provided following the completion of the recommended surveys for bats and reptiles.

6.0 REFERENCES

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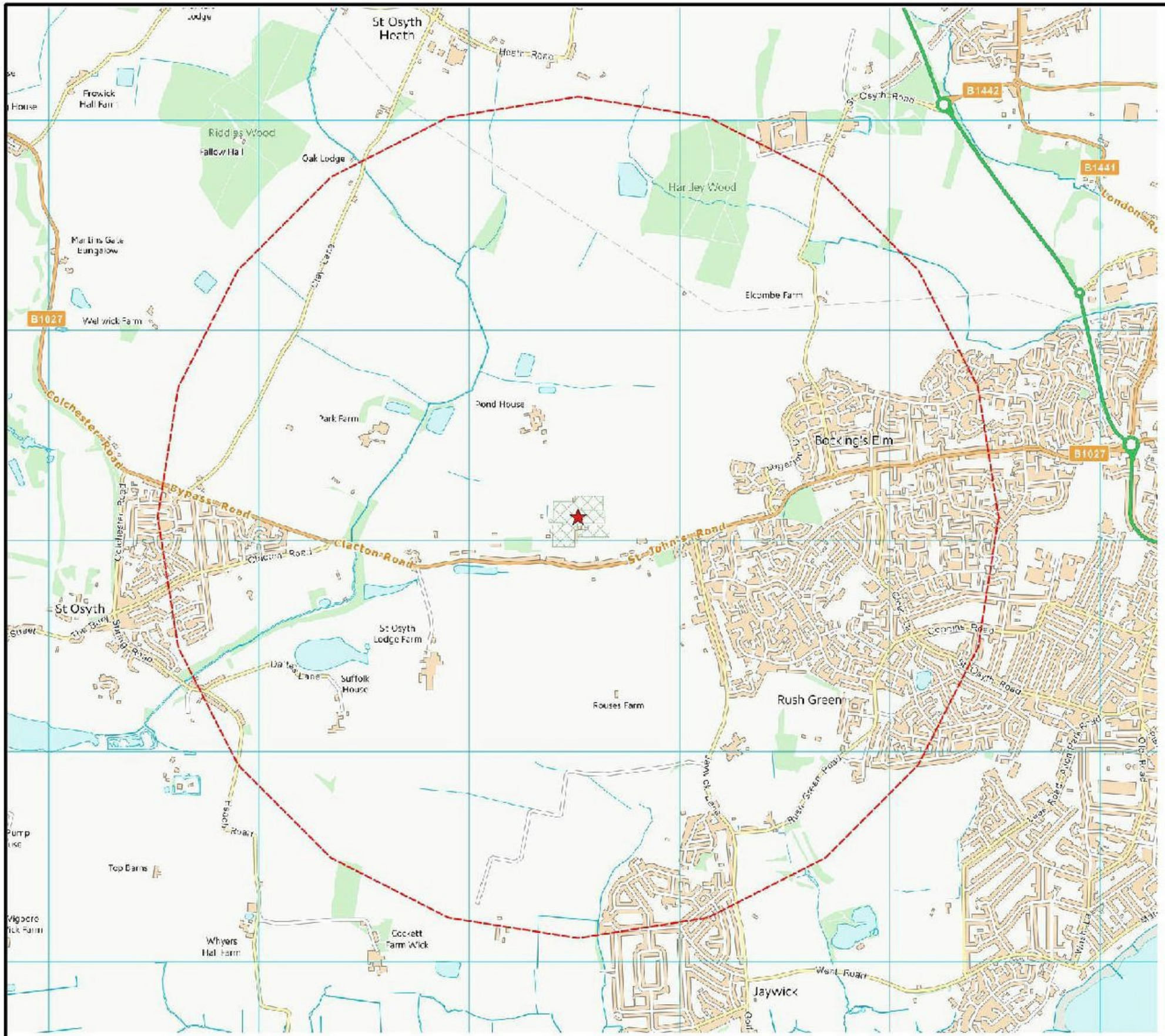
APPENDIX A

Figures



Legend

- Site Location
- 2km Buffer

TOTAL ECOLOGY

Unit 4, Shawwell Business Centre
Stagshaw Road
Corbridge
Northumberland
NE45 5FE

[redacted]

Project	St Johns Nursery, Clacton-on-Sea
Title	Site Location
Client	Mr Dave Caruso
Date	14th March 2018
Ref	Figure 1

Legend

★ Site Location

TOTAL ECOLOGY
innovative ecological consultants

Unit 4, Shaswell Business Centre
Stagshaw Road
Corbridge
Northumberland
NE45 5PE

[redacted]

Project	St Johns Nursery, Clacton-on-Sea
Title	Aerial Map
Client	Mr Dave Caruso
Date	14th March 2018
Ref	Figure 2

Legend

- Scattered Trees
- Target note
- Built Structure
- Hedge
- Wall
- Fence
- Ditch
- Arable
- Amenity Grassland
- Bare Ground
- Bare Ground/ Semi-improved Grassland Mosaic
- Hardstanding
- Other
- Scrub
- Semi-improved Grassland

TOTAL ECOLOGY
innovative ecological consultants

Unit 4, Shawwell Business Centre
Eastgate Road
Cramlington
Northumberland
NE45 5PE

[redacted]

Project	St Johns Nursery, Clacton-on-Sea
Title	Habitat Map
Client	Mr Dave Caruso
Date	16th March 2018
Ref	Figure 3

Legend

Building Reference

TOTAL ECOLOGY

Unit 4, Shawwell Business Centre
Eastgate Road
Cramlington
Northumberland
NE45 5PD

[redacted]

Project	St Johns Nursery, Clacton-on-Sea
Title	Building Reference Plan
Client	Mr Dave Caruso
Date	11th April 2018
Ref	Figure 4

APPENDIX B

Selected Photographs

Photograph 1 Hardstanding present on site.

Photograph 2 Car park and building reference E

Photograph 3 Hardstanding and building reference A

Photograph 4 Building reference M

Photograph 5 Interior of retail greenhouse (Ref E)

Photograph 6 Portakabin

Photograph 7 South elevation of building reference K.

Photograph 8 Interior of building reference K

Photograph 9 Building reference J

Photograph 10 Dismantled greenhouses south of building reference D

Photograph 11 Amenity grassland and building reference U

Photograph 12 Semi improved grassland and scrub along eastern site boundary

Photograph 13 Scattered trees around car park

Photograph 14 Wall, fence and hedge along car park boundary

Photograph 15 Building reference M showing wooden panelling

Photograph 16 Composting area

Photograph 17 Potential reptile habitat

Photograph 18 Intact hedge along eastern boundary

Photograph 19 Overgrown garden area

Photograph 20 Trees along northern boundary

APPENDIX C

Habitat Suitability Index Calculation

				Location	Area	Drying	Water quality	Shade	Fowl	Fish	Ponds	Terrestrial	Macrophytes		
Pond	**Site boundary distance (m)**	**Maximum area (m2)**	**Ponds /1km2**	**SI1**	**SI2**	**SI3**	**SI4**	**SI5**	**SI6**	**SI7**	**SI8**	**SI9**	**SI10**	**HSI**	**Pond suitability**
1	280m south west	7000	10	1	N/A	0.67	1	1	0.67	0.33	0.95	0.33	0.32	**0.62**	Average

APPENDIX D

Report Conditions

Total Ecology Ltd

REPORT CONDITIONS

St Johns Nursery, Clacton-on-Sea, Essex, CO16 8BP

This report is produced solely for the benefit of ES Design and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Total Ecology. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Total Ecology using due skill and care in the preparation of this report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best opinion held within the scope for this report.

Reliance has been placed on the documents and information supplied to Total Ecology by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially incorrect, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Total Ecology accept no liability for issues with performance arising from such factors

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