

Preliminary Ecological Appraisal (PEA) Survey Report

For:	Influence
Site	The Priory SEND School, Neville Avenue, Spalding, PE11 2EH
Report Date:	16 th January 2023
Report Reference:	SQ-749

Surveying Ecologist:

Sam Toon BSc (hons), Gradcieem

Natural England Licences:

Bat: 2018-35446-CLS-CLS

Great Crested Newt: 2019-41851-CLS-CLS



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The Priory SEND School
Neville Avenue
Spalding
PE11 2EH

Client:	Influence
Site Name:	The Priory SEND School, Neville Avenue, Spalding, PE11 2EH
Grid Reference:	TF 25778 22624
Report:	Preliminary Ecological Appraisal
Date of survey:	9 th January 2023
Surveyed by:	Sam Toon BSc (hons), Gradcieem

Issue:	Revision:	Stage:	Date:	Prepared by:	Approved by:
1	-	Draft for review	12 th January 2023	Sam Toon BSc (hons), Estrada Ecology Ltd	Natasha Estrada BSc(hons), MRes, MCIEEM, Estrada Ecology Ltd
2	n/a	FINAL	16 th January 2023	Sam Toon BSc (hons), Estrada Ecology Ltd	Natasha Estrada BSc(hons), MRes, MCIEEM, Estrada Ecology Ltd



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The contents of this report have been produced with due consideration of current best practice guidance, and in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct.

This report should not be submitted as part of a planning application without any accompanying species-specific reports which may have been recommended herein.

Data within this report is valid for a maximum of eighteen months from the date of the survey. After this period an updated site visit will be required to determine a new ecological baseline.

Summary

The survey site is approximately 3 hectares in size, the majority of which comprises areas of bare ground (J4), buildings (J3.6) and amenity grassland (J1.2). Along the western, eastern and northern boundaries are scattered trees (A3.1) with further small areas of species poor amenity grassland. The south of the site is dominated by an area of semi-natural broad- leaved woodland (A1.1.1) with a pond located on the south eastern aspect.

Findings

No field sign evidence of badger (*Meles meles*) was recorded within the site boundary or immediately adjacent.

No evidence of breeding birds was recorded at the time of survey. The site recorded suitability for breeding birds within scattered trees and broadleaved woodland.

The site recorded no suitable habitat for reptiles. The pond on site recorded suitability for assemblages of common amphibians.

The site recorded no suitability for aquatic or riparian mammals during the survey.

The Priory SEND School
Neville Avenue
Spalding
PE11 2EH

The school buildings within the site were assessed externally for their potential to support roosting bats. Suitable features were recorded around the northern aspect of the building, leading to a categorisation of low for roosting suitability (2018-35446-CLS-CLS).

The site was recorded as containing limited suitability for use by bats for commuting / foraging. A small pocket of deciduous woodland was located within the southern boundary and recorded moderate suitability for use by bats. Under current proposals no impacts are predicted via encroachment. Any artificial lighting on the redeveloped site should limit splay on habitats outside the site boundary.

Scattered trees within the site recorded negligible roost suitability at the time of survey when assessed by a licensed bat ecologist (2018-35446-CLS-CLS). No impacts on bats and their roosts are predicted.

The site was recorded to lack floral diversity and is unlikely to support important assemblages of invertebrates. No species which feature on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded within the application boundary or immediately adjacent.

No evidence of use of the site by western European hedgehog (*Erinaceus europaeus*) was apparent, boundary features recorded some suitability for the species. Precautionary measures in respect of site clearance works are, therefore, recommended.



Contents:

- 1 Introduction and Background to the Site**
 - 2 Protected Species Legislation**
 - 3 Survey Methodology**
 - 4 Ecological Constraints**
 - 5 Survey Results**
 - 6 Conclusions**
 - 7 Biodiversity Enhancements**
- Appendices and References**

Whilst every effort has been taken to ensure the accuracy of this report and its contents in view of potential ecological constraints to development or the likely presence or absence of species it must only be viewed as a snapshot in time and not be viewed as definitive. Due to external factors, such as seasonality, weather etc. having the potential to affect survey results no liability can be assumed for omissions or changes that may or may not occur after the date this report was produced.



1 Introduction and Background to the Site

- 1.1 Estrada Ecology Ltd was commissioned to conduct a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of land and buildings at the Priory SEND school, Neville Avenue, Spalding, PE11 2EH. Under current proposals, it is understood that the school is to be extended.
- 1.2 The dominant habitats within the site are bare ground and buildings, amenity grassland and scattered trees. The far southern elevation of the site contains broadleaved woodland and a small pond.
- 1.3 Immediately outside the northern, eastern, and southern boundary is residential housing and associated minor road networks beyond which is the River Welland. To the immediate west, the site is bordered by a school building and associated playing fields.

1.4 Report Objectives

- Present the findings of the ecological survey.
- Assess the potential of existing on-site habitats to support protected or notable species.
- Evaluate any likely ecological impacts on protected and notable species or habitats because of the proposed development.
- Provide recommendations for any further species-specific survey and mitigation measures that may be required; and
- Provide habitat enhancement recommendations in line with the National Planning Policy Framework (NPPF, 2019).

Figure 1: The survey site.



Google Earth

1.5 Location of the Site

- 1.5.1 The site lies approximately 1.1 Kms south east of the town of Spalding in the county of Lincolnshire.
- 1.5.2 The survey site's central OS grid reference is TF 25778 22624.

1.6 Site Description

- 1.6.1 The survey site is approximately 3 hectares in size, the majority of which comprises areas of bare ground (J4), buildings (J3.6) and amenity grassland (J1.2). Along the western, eastern and northern boundaries are scattered trees (A3.1) with further small areas of species poor amenity grassland. The south of the site is dominated by an area of semi-natural broad- leaved woodland (A1.1.1) with a pond located on the south eastern aspect.

2 Protected Species Legislation

- 2.1 Relevant legislation includes the Birds Directive (79/409/EEC) and the Wildlife and Countryside Act 1981 (as amended), which states that all birds, their nests, and eggs are protected by law. Special considerations of Schedule 1 Birds and European Protected Species should be made.
- 2.2 The EC Council Directive on the Conservation of Natural Habitats of Wild Flora and Fauna, 1992 (The 'Habitats Directive') requires the UK to maintain and/or restore naturally occurring habitats, especially those which are deemed to be vulnerable and declining in Europe. It also requires the protection of many species of plants and animals which are similarly threatened and declining throughout their European range, therefore giving effect to both site and species protection objectives. Appendix One lists habitats, and Appendix Two lists species, some of which the UK has responsibility to maintain in favourable conservation status.
- 2.3 The Natural Environment and Rural Communities (NERC) Act came into force on 1 Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.
- 2.4 The UK Post-2010 Biodiversity Framework was developed in response to the Convention on Biological Diversity's Strategic Plan for Biodiversity 2011 – 2020. Its five strategic goals and twenty biodiversity targets supersede the UK Biodiversity Action Plan.
- 2.5 The Hedgerow Regulations came into force on 1 June 1997. It is against the law to remove most countryside hedgerows without permission. To get permission to remove a hedgerow you must contact your local planning department.

2.6 Environment and Biodiversity

2.6.1 Under the National Planning Policy Framework (NPPF, 2019), local planning authorities should aim to conserve and enhance the natural environment when determining planning applications. Local planning authorities also have an obligation to seek opportunities to further enhance the conservation status of Species and Habitats of Principle Importance.

2.6.2 Species and Habitats of Principal Importance for the conservation of biodiversity in England (JNCC, 2009) are covered under section 41 of the Natural Environmental and Rural Communities (NERC) Act (2006). Species and habitats listed within Section 41 need to be taken into consideration by a public body when performing any of its functions, such as assessing planning applications.

2.7 Wildlife

2.7.1 European Protected Species, such as bats (all species) and great crested newt, are afforded protection under the Conservation of Habitats and Species Regulations 2017, as well as under the Wildlife and Countryside Act 1981 (as amended) and the Countryside Rights of Way Act 2000. It is an offence to:

- Deliberately or recklessly capture, injure or kill any wild animal of a European protected species;
- Deliberately or recklessly disturb any such animal;
- Damage or destroy their breeding site or resting place; and
- Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead animal, or any part of, or anything derived from these species

2.7.2 Disturbance of European Protected Species constitutes any activity which is likely to:

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

2.8 UK Legislation

2.8.1 Breeding birds (all species) are protected under the Wildlife and Countryside Act 1981 (as amended). It is an offence to intentionally kill, injure or take any wild bird and to take, damage or destroy the nest (whilst being built or in use) or eggs. Schedule 1 species are afforded additional protection from disturbance at or near nest sites, including reckless disturbance under the Countryside Rights of Way (CRoW) Act 2000.

2.8.2 Reptiles (common species of adder, grass snake, common lizard and slow worm) are protected under the Wildlife and Countryside Act 1981 (as amended). It is an offence to intentionally kill, injure and trade these animals.

2.8.3 Amphibians (smooth newt, palmate newt, common frog, and common toad) are protected by the Wildlife and Countryside Act 1981 (as amended). The sale, barter, exchange, transporting for sale and advertising to sell or to buy are an offence.

2.8.4 Badgers are protected by the Protection of Badgers Act 1992 and under the Wildlife and Countryside Act 1981 (as amended). It is an offence: to wilfully, or attempt, to kill, capture, ill-treat or injure any badger; to obstruct, destroy or damage a badger sett or to disturb a badger whilst within its sett; to sell or offer for sale a live badger, or have possession or control of a live badger; and marking a badger or attaching any ring, tag, or other marking device to a badger

2.8.5 Otters are a European Protected Species (EPS) and are also fully protected under Schedule 5 of the Wildlife and Countryside Act 1981. It is against the law to: capture, kill, disturb or injure otters (on purpose or by not taking enough care); damage or destroy a breeding or resting place (deliberately or by not taking enough care); obstruct access to their resting or sheltering places (deliberately or by not taking enough care); and possess, sell, control or transport live or dead otters, or parts of otters.

2.8.6 Water voles are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and is a priority conservation species. It is against the law to:

- intentionally capture, kill or injure water voles;

- damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care);
- disturb them in a place of shelter or protection (on purpose or by not taking enough care); and
- possess, sell, control or transport live or dead water voles or parts of them (not water voles bred in captivity).

3 Survey Methodology

3.1 Desktop Survey

- 3.1.1 A biological data records search was requested from the Greater Lincolnshire Nature Partnership, for a 2km radius from the central grid reference.
- 3.1.2 Further inspection, using colour 1:25,000 OS base maps (www.ordnancesurvey.co.uk), MAGIC (www.magic.defra.gov.uk), aerial photographs from Google Earth (www.maps.google.co.uk), was also undertaken to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.
- 3.1.3 Furthermore, consultation with MAGIC was undertaken to ascertain any European Protected Species Mitigation Licences granted within a 1km radius from grid.

3.2 Field Survey

- 3.2.1 The survey area was investigated on foot to ascertain habitats on site and the potential of those habitats to support ecological diversity. The vegetation types present within the site were assessed by experienced ecologist; Sam Toon BSc (hons), using methodology based on that described in the JNCC Handbook for Phase 1 habitat survey (2010, revised 2016) and CIEEM's Guidelines for Ecological Impact Assessment (2018).
- 3.2.2 Habitats and features with potential to support protected and / or conservation priority faunal species, together with any field signs of such species were recorded on the field map using target notes. A search was undertaken for the following key habitats and / or field signs for protected or conservation priority species highlighted in Table 1.

Table 1: Key habitats and field signs of protected and priority species

Taxon	Indicative habitats	Field signs
Bats	Roosts – Trees, buildings, bridges caves etc. Foraging areas – e.g. parkland, water bodies and streams, wetlands, woodland edge, hedgerow Commuting routes – linear features (e.g. hedgerows).	In or on potential roost sites: Droppings stuck to walls; urine spotting in roof spaces; oil from fur staining around roost entrances; feeding remains (e.g. moth wings).
Great crested newt	Ponds within 500m of suitable habitat within the site boundary. Suitable (terrestrial) habitat includes rough grassland, scrub and woodland, log and rubble piles and other debris, animal burrows.	Eggs, Individuals of all life stages. Egg rolled plants.
Reptiles	Rough grassland, log and rubble piles, compost heaps.	Sloughed skins; eggs, individuals.
Birds	Trees, scrub, hedgerow, field margins, grassland.	Nests; droppings below nest sites (especially in buildings of trees); tree holes.
Badger	Found in most rural and many urban habitats.	Excavations and tracks; sett entrances, latrines, hairs, well-worn paths; prints; snuffle holes.
Water vole	Water bodies / water courses.	Burrow entrances; prints; latrine areas; faeces; feeding stations.
BAP invertebrates	Each butterfly species has its own habitat requirements determined by the food plant of the caterpillar, the nectar source for the adult butterfly and the conditions needed for the caterpillar to survive and then pupate successfully.	Eggs, larva, Pupa, adult butterfly. Habitat type and presence of food plants.

3.3 Timing

3.3.1 The survey was conducted 9th January 2023.

3.4 Weather Conditions

3.4.1 Weather conditions at the time of the site visit were dry, with 20% cloud cover, a gentle breeze, and temperatures of 8°C.

3.5 Personnel

3.5.1 The survey was undertaken by experienced ecologist Sam Toon BSc (hons) (Natural England Bat Licence: 2018-35446-CLS-CLS and Great Crested Newt Licence: 2019-41851-CLS-CLS) Qualifying member of the Chartered Institute of Ecology and Environmental Management (GradCIEEM); a licensed bat ecologist with over eight years of ecological surveying experience including phase one habitat surveys.

4 Ecological Constraints

- 4.1 It should be noted that this ecological appraisal provides baseline ecological data at the time of survey only and does not include flora or fauna which may be present at different times of the year.
- 4.2 An absence of species records from within a search radius does not provide confirmation that a species is absent from within the search area.
- 4.3 Internal access to the school buildings was not possible during the survey due to the visit being conducted during school times, meaning that inspections of the buildings was conducted from external aspects only.
- 4.4 Due to the survey being conducted during school term time, photos of certain areas were limited due to child welfare reasons.

5 Survey Results

5.1 Desktop Survey Results

- 5.1.1 Biological records were returned by Greater Lincolnshire Nature Partnership (GLNP). The list of protected and notable species data records is available upon request. In summary, the following records were returned:
- One hundred and twenty-five amphibian records were returned for the search radius including records for great crested newt (*Triturus cristatus*), common toad (*Bufo bufo*), common frog (*Rana temporaria*), dated between 1972 and 2022. A single great crested newt record was returned, dated 2011, approximately 93 meters east of the site.
 - Eleven Eurasian badger (*Meles meles*) records were returned for a 2Km radius from grid dated 1999 to 2020. The specifics have been omitted intentionally from the report but no from analysis.
 - Records for European Water vole (*Arvicola amphibious*), Otter (*Lutra lutra*) and teleost species records have been discounted from further analysis due to the absence of suitable habitat on the survey site or immediately adjacent.
 - Twenty-seven reptile records were returned dated between 1992 to 2015, including grass snake (*Natrix helvetica*) and slow worm

(*Anguis fragilis*). A single record for leather turtle (*Dermochelys coriacea*) was also returned in 1997, potentially due to an owner release or escape from a residential property.

- One hundred and thirty-two western European hedgehog (*Erinaceus europaeus*) records dated 1976 to 2022 for field observations.
- Seven hundred and seventy-six bat records were returned comprising eight confirmed species, including; Brown long eared bat (*Plecotus auritus*), common pipistrelle (*Pipistrellus pipistrellus*), Daubentons bat (*Myotis daubentonii*), Nathusias pipistrelle (*Pipistrellus nathusii*), Natterers bat (*Myotis nattereri*), Noctule (*Nycatalus noctula*), Soprano Pipistrelle (*Pipistrellus pygmaeus*) and Whiskered/ Brandts bat records. The remaining records comprise unidentified bat species dominated by field observations.
- The remaining records applicable to the survey site are over seven hundred flowering plant records and two thousand bird records.
- A full list of biological records is available upon request.

5.1.2 Consultation with MAGIC returned no European Protected Species Mitigation Licences granted within a 2km radius from grid.

5.2 Habitat Description

5.2.1 Overview

5.2.1.1 The Phase 1 habitat mapping description is, predominantly:

- J4 Bare Ground.
- J1.2 Amenity grassland
- A3.1 Scattered trees
- J4 Building
- A1.1.2 Broadleaved woodland
- G1.1 Standing Water - Eutrophic

5.2.1.2 A list of all species recorded on the site during the survey can be found in Appendix One.

5.2.2 Bare Ground

- 5.2.2.1 Dominating the northern aspect and forming access to the site, areas of car parking and amenity hardstanding are present.
- 5.2.2.2 These areas offer no intrinsic ecological value and do not pose an ecological constraint to the proposed redevelopment of the site.

5.2.3 Amenity grassland

- 5.2.3.1 Dominating the southern and eastern aspects of the site are areas of short sward amenity grassland. Species composition is poor and dominated by Perennial rye grass (*Lolium perenne*) with occasional herbs of creeping buttercup (*Ranunculus repens*) and common daisy (*Bellis perennis*).
- 5.2.3.2 The site is managed and has a short sward height throughout. On the southern aspect bordering broadleaved woodland are occasional tall ruderals of Yarrow (*Achillea millefolium*), Common nettle (*Urtica dioica*) and Broad-leaved dock (*Rumex obtusifolius*).
- 5.2.3.3 The amenity grassland offers no intrinsic ecological value.

Figure 2: Amenity grassland



5.2.4 Scattered trees

- 5.2.4.1 Isolated to the site boundaries are occasional scattered trees. Semi-mature Silver birch (*Betula pendula*) is present on the north western boundary with semi-mature beech (*Fagus sylvatica*), Sycamore, Yew (*Taxus baccata*), immature Elder (*Sambuccus nigra*) and Holly (*Ilex aquifolium*) occurring occasionally on the south eastern boundary.
- 5.2.4.2 At the time of survey when assessed by a licensed bat ecologist (2018-35446-CLS-CLS) all scattered trees within the zone of influence recorded no suitable cracks or fissures which bats could utilise for roosting or as a place of shelter. For the purposes of assesment with due consideration to Collins 2016 they have been classified as containing negligible roost suitability.
- 5.2.4.3 No evidence of breeding birds was recorded within the scattered trees at the time of survey.

Figure 3: Scattered trees



5.2.5 Buildings

- 5.2.5.1 Situated within the site, a complex of buildings which facilitate the school are present, all joined together with no standalone structures, except for the temporary fibreglass buildings south of the building, also used to facilitate the school.
- 5.2.5.2 The main school building comprised of brick walls which were assessed as being in a good condition, with no evidence of any cracks or fissures. All mortar and pointing was present and intact, showing no damage.

- 5.2.5.3 The top section of the wall contained a plastic bargeboard on all elevations, with security lighting also present at intervals. The bargeboard was largely in good condition with no gaps present to allow potential access for bats. Several sections recorded warping, potentially due to weathering, however, these sections appeared to present no gaps accessible for bats, as the gap between the warp and the wall presented further plastic materials to prevent deep access.
- 5.2.5.4 An elevated section of the building above the main footprint was present centrally, which was identified as the main assembly hall. The wall of the elevation recorded wooden cladding running horizontally. A single section of cladding, situated on the northern aspect had become dislodged, potentially providing a suitable gap for bats to utilise.
- 5.2.5.5 Windows were present on all elevations to the building, comprising of uPVC throughout. All windows were intact and in good condition. The frames were all well sealed, showing no evidence of gaps or warping.
- 5.2.5.6 All roofs to the main structure were flat, except for one section which was identified as the roof to the main assembly hall, central to the main structure, which comprised of a square-pyramid structure, comprising of metal. The remaining roof section comprised of a bitumen roof lining, which was well sealed and showed no sign of warping.
- 5.2.5.7 For the purpose of this report in relation to the school buildings at The Priory SEND School, when considering bats potentially utilising suitable features recorded, the school building recorded low potential to support roosting bats when assessed by a licenced ecologist (2018-35446-CLS-CLS). Further recommendations have been made within this report.

Figure 4: Buildings



5.2.6 Broadleaved Woodland

- 5.2.6.1 Within the southern section of the site, a small pocket of broadleaved woodland was present which is used to educate students within the school in line with woodland studies. The woodland is fenced off from free entry to the students with locked gates within a wire fence. The woodland is due to be retained within the plans.
- 5.2.6.2 The woodland comprised of a variety of aged trees, ranging between immature to mature specimens. The ground flora was considered to contain basic vegetation, with perennial ryegrass, bramble (*Rubus fruticosus*), nettle, daffodil (*Narcissus sp.*), snowdrop (*Galanthus nivalis*) and lords and ladies (*Arum maculatum*).
- 5.2.6.3 Tree species within the wood recorded a good diversity, including beech (*Fagus sylvatica*), pedunculate oak (*Quercus robur*), hazel (*Corylus avellana*), sycamore (*Acer pseudoplatanus*), field maple

(*Malus campestris*), cherry (*Prunus avium*) and silver birch (*Betula pendula*).

Figure 5: Woodland



5.2.7 Standing Water

- 5.2.7.1 Situated within the woodland to the south of the site, a single pond was present. The pond was quite large and appeared to be in the early stages of eutrophication, with algae dominating the surface of the water. Plant colonies were also recorded around the perimeter of the pond.
- 5.2.7.2 The pond appeared to provide a suitable habitat for common assemblages of amphibian and is understood to be retained within the plans.

Figure 6: Pond



5.3 Designated Sites

5.3.1 Consultation with MAGIC and Greater Lincolnshire Nature Partnership (GLNP) recorded one statutory designated sites within a 2Km radius from grid.

Table 2: Statutory Designated Sites Within 2km Radius from Grid.

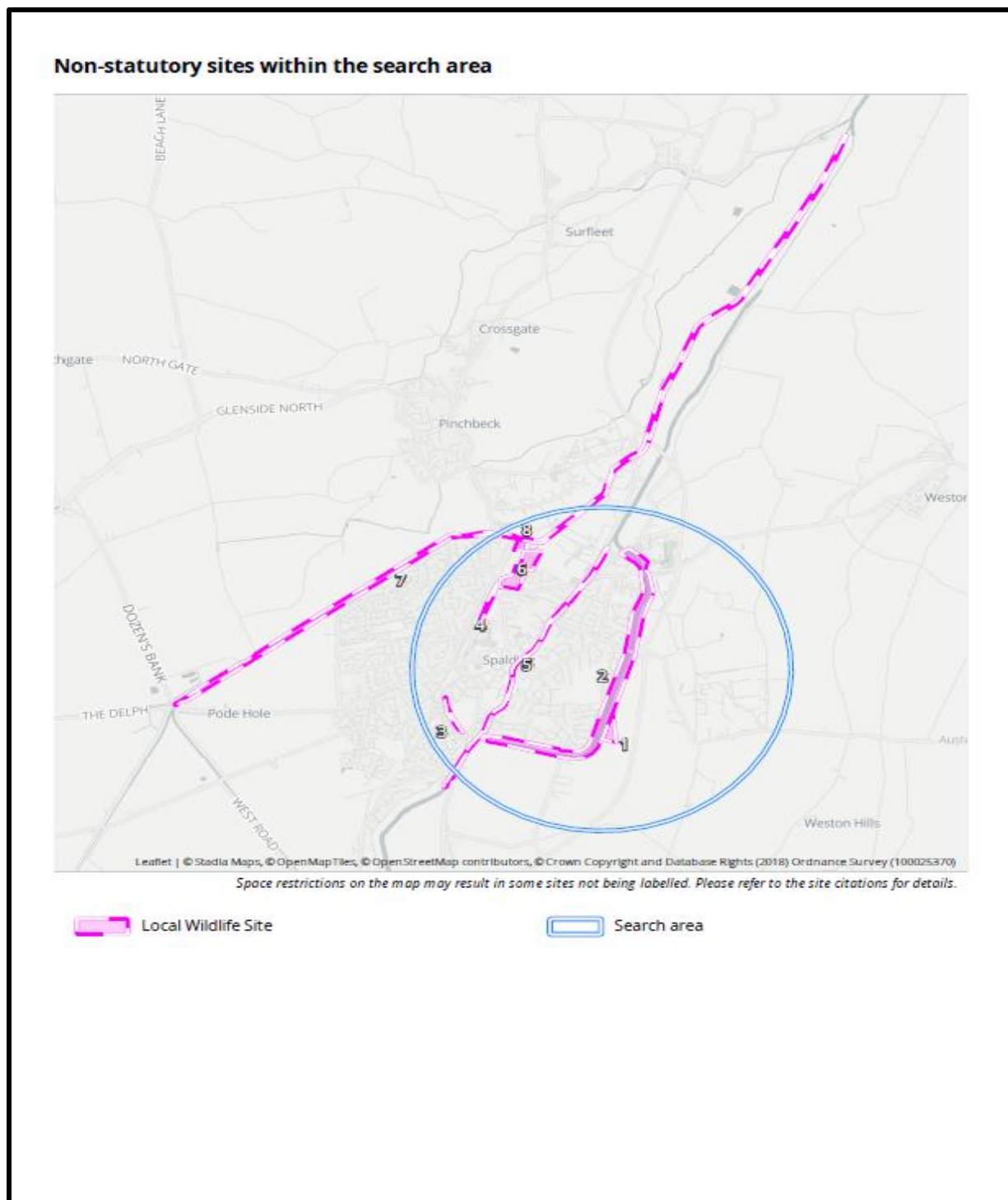
Name	Area	District	Grid Ref.	Description	Distance from Site
Vernatts LNR	1.68 ha	South Holland District Council	TF 249 240	Wildflower meadow that in summer is dazzling with bright flowers like yellow rattle and knapweed. These attract many colourful insects including damselflies and small copper butterflies. The other half of the reserve is a mixture of wetland habitats including reedbeds, marsh and a large pond. This is home for the elusive water vole, reed warblers and buzzes with insect life.	1.48km northwest

5.3.2 Eight non-statutory designated sites are located within a 2Km radius from grid, all of which are Local Wildlife Sites (LWS) as outlined in table 3 and figure 7.

Table 3: Non Statutory Designated Sites Within 2km Radius from Grid.

Name	Designation	Number (Figure 7)
Arnolds Meadow	Local Wildlife Site	1
Coronation Channel	Local Wildlife Site	2
Disused March Line, Spalding	Local Wildlife Site	3
Land North of Spalding Station	Local Wildlife Site	4
River Welland in Spalding	Local Wildlife Site	5
Spalding Cemetery	Local Wildlife Site	6
Vernatts Drain	Local Wildlife Site	7
Vernatts Nature Reserve	Local Wildlife Site	8

Figure 7: Non Statutory Designated Sites within 2km of Grid



GLNP

5.4 Priority Habitats

- 5.4.1 No priority habitat is recorded within the site boundary via consultation with Magic Map.
- 5.4.2 No ancient semi-natural woodland / ancient replanted woodland is present within 100 metres of the site boundary.
- 5.4.3 Priority habitats present within the search radius but outside the site boundary includes:
- Rivers, the closest, the river Welland is located approximately 90 metres east.
 - Coastal and Floodplain Grazing Marsh, the closest compartment being approximately 240 meters northeast.
 - Deciduous Woodland, the closest compartment being approximately 306 meters south.
 - Traditional Orchard, the closest compartment being approximately 804 meters northwest.
 - Mudflats, the closest compartment being approximately 1.4km north.
- 5.4.4 No species listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as ammended) were recorded within the application boundary.
- 5.4.5 No non- native/ invasive species were recorded within the site boundary.

5.5 Protected Species

5.5.1 Badger

- 5.5.1.1 Eleven Eurasian badger records were returned for the records search for a 2 km radius from grid.
- 5.5.1.2 No field sign evidence, synonymous with use of the site by badger, was recorded at the time of survey. No evidence of use of land within 30 metres of the site boundary was recorded.
- 5.5.1.3 No impacts are predicted on badgers and no further surveys are recommended at this juncture.

5.5.2 Bats

- 5.5.2.1 All trees within the development boundary recorded negligible roost suitability when assessed by a licensed bat ecologist (2018-35446-CLS-CLS).
- 5.5.2.2 The main school building recorded low roost suitability when assessed by a licensed bat ecologist (2018-35446-CLS-CLS).
- 5.5.2.3 In a local context the site fails to provide major foraging grounds or commuting lines for bats.
- 5.5.2.4 Deciduous woodland to the south of the application boundary, under the ownership of the applicant provides suitability for use as a foraging ground / minor commuting line for bats within the locality. The woodland is also due to be retained.
- 5.5.2.5 Should artificial lighting be proposed for the site then measures should be taken to avoid splay onto adjacent habitats to the south.

5.5.3 Amphibians

- 5.5.3.1 One hundred and twenty-five amphibian records were returned for the search radius, including a single great crested newt in 2011.
- 5.5.3.2 A single waterbody was recorded within the site, with none recorded to feed directly into the site. The site is deemed to provide suitable habitat for the aquatic life stages of amphibians; however, this section of habitat is due to be retained and not encroached upon by the proposed works.
- 5.5.3.3 Within a five hundred metre radius several waterbodies were recorded as present, including a small stream, ditches, ponds and the river Welland.
- 5.5.3.4 The pond within the southern woodland of the site, was subject to a habitat suitability index assessment by a licenced ecologist during the survey (2019-41851-CLS-CLS). The pond was assessed as scoring a suitability index of 0.71, which is categorised as good potential for supporting great crested newt.
- 5.5.3.5 However, as the pond is a single pond, with deteriorating water quality and isolated from other suitable habitat within the area, it is deemed

highly unlikely that great crested newt will be present within the waterbody. Furthermore, as the pond and surrounding woodland are due to be retained, considering the habitats between the proposed works and pond being suboptimal for supporting great crested newt, it is deemed highly unlikely the scope of works will impact on any fragmented populations of great crested newt within the area.

- 5.5.3.6 No impacts are predicted on amphibians and no further surveys are recommended, provided a suitable precautionary method statement is incorporated within the scheme.

5.5.4 Reptiles

- 5.5.4.1 Twenty-seven reptile records were returned for the biological search radius.

- 5.5.4.2 No evidence of reptiles was recorded during the site survey. The site provides sub-optimal habitat to support reptiles being small and dominated by hardstanding, bare ground, and short sward amenity grassland, with isolated pockets of suitable habitat present within the south of the site, including the pond and woodland. No impacts are predicted, and no further surveys recommended.

5.5.5 Breeding Birds

- 5.5.5.1 No evidence of breeding birds was recorded within the site, at the time of survey. However, the survey offers a snapshot in time and, therefore, must not be viewed as definitive as there is potential for nesting birds to be present at other times.

- 5.5.5.2 Boundary features which are not due to be encroached upon recorded suitability for breeding birds although no evidence of breeding activity was recorded at the time of survey.

5.5.6 European Hedgehog

- 5.5.6.1 No evidence of European hedgehog (*Erinaceus europaeus*) was recorded during the site visit existing features.

- 5.5.6.2 It is unlikely that the species will be adversely impacted by the proposed development, providing that suitable precautionary site clearance works are undertaken. No further survey is recommended at this juncture.

5.5.7 Other Species

- 5.5.7.1 The site does not support suitable habitat for any other protected or significant fauna, such as: barn owl, dormouse, brown hare, Otter, water vole or white-clawed crayfish.
- 5.5.7.2 The habitats on site and species composition are unlikely to support important assemblages of invertebrates.

6 Conclusions

6.1 Designated Sites

- 6.1.1 One Statutory Designated Site was recorded within a 2km radius from grid.
- 6.1.2 Eight non- statutory designated sites were recorded within a 2Km radius from grid.
- 6.1.3 No direct or indirect impacts are predicted via encroachment. Due to the size of the proposed development and the distance from non-statutory designated sites, it is considered likely that any ecological impacts will be restricted to a site level, as works will be concentrated within the site itself. No impacts are predicted.

6.2 Habitats and Vegetation

- 6.2.1 No priority habitat occurs within the application site or immediately adjacent.
- 6.2.2 No trees which feature on the Ancient Tree Inventory were recorded on site via consultation with woodlandtrust.org.uk.
- 6.2.3 No protected or notable flora was recorded during the survey period. No species which feature on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded during the survey.

6.3 Recommendations for Further Survey

6.3.1 Birds

- 6.3.1.1 It is recommended that vegetation clearance works are undertaken outside the breeding bird season, which is typically recognised as March to September (inclusive).
- 6.3.1.2 Should these timings not be feasible then a walkover survey in advance of site clearance is recommended to ensure no breeding bird activity.
- 6.3.1.3 Should birds be recorded breeding then a suitable buffer should be erected as advised by a suitably qualified ecologist. The buffer should be retained until breeding has ceased and the young have fledged.

6.3.2 Bats

- 6.3.2.1 The main school building recorded a single feature on the northern aspect of the assembly hall sector, within the wooden cladding that has been dislodged. As a result, the building was categorised as having low potential for supporting roosting bats.
- 6.3.2.2 A single survey, comprising of a dusk survey, is therefore recommended prior to the demolition of the building, to ascertain presence/likely absence of bats utilising the building within the recognised bat season (May to September inclusive).

6.3.3 Western European hedgehog

- 6.3.3.1 No evidence of Western European hedgehog was recorded during the survey. Any residual impact from construction can be minimised by considering the timing and method of clearance.
- 6.3.3.2 Whilst there is no optimum time of year for habitat clearance, due to hedgehogs' use of nests all year round, an autumn site clearance will avoid the bulk of the breeding season and will be prior hibernation. A high cut / low-cut method of removal on any landscaped areas will also allow a check for nests in between cuts.

6.3.4 Amphibians

- 6.3.4.1 The pond within the south of the site has the potential to support common assemblages of amphibians, however, it is deemed highly unlikely that great crested newt will be present as previously assessed.
- 6.3.4.2 The scope of works is not due to encroach upon the pond or the woodland, with both due to be retained within the scheme, suggesting no displacement will occur and no impacts are predicted.
- 6.3.4.3 Due to the presence of the pond within the southern section of the site within the woodland, considering the scopes of works, it is deemed that there may be a residual possibility of amphibians within the area and that a precautionary method statement is required prior to development, to ensure that no impacts occur on common amphibians.

7 Enhancement

- 7.1 In line with National planning Policy Framework (NPPF) paragraph 170 the application should demonstrate a net gain of biodiversity.
- 7.2 Specific habitat enhancements could include:
- The planting of native tree species within landscaped areas to replace any trees lost throughout redevelopment.
 - The erection of bird boxes on any retained mature trees, which should be a minimum of four metres above ground level to avoid disturbance and reduce the potential for predation, particularly by cats: and
 - Where feasible, bat boxes could be integrated into 10% of the scheme design to enhance roosting provision over the wider site.
- 7.3 Upon completion of the scheme design, the biodiversity net gain assessment can be completed.

Appendix One: Survey site species list.

Vernacular	Taxon
Flora	
Ash	<i>Fraxinus excelsior</i>
Beech	<i>Fagus sylvatica</i>
Bramble	<i>Rubus fruticosus</i>
Broad-leaved Plantain	<i>Plantago lanceolata</i>
Broad leaved Dock	<i>Rumex obtusifolius</i>
Buddleia	<i>Buddleja davidii</i>
Cherry	<i>Prunus avium</i>
Cocksfoot	<i>Dactylis glomerata</i>
Common Bent	<i>Agrostis capillaris</i>
Common Daisy	<i>Bellis perennis</i>
Common Nettle	<i>Urtica dioica</i>
Creeping buttercup	<i>Ranunculus repens</i>
Dandelion	<i>Taraxacum officinale</i>
Daffodil	<i>Narcissus sp.</i>
Elder	<i>Sambucus nigra</i>
Field Maple	<i>Acer Campestre</i>
Hazel	<i>Corylus avellana</i>
Holly	<i>Ilex aquifolium</i>
Ivy	<i>Hedera sp.</i>
Laurel	<i>Prunus laurocerasus</i>
Lords and Ladies	<i>Arum maculatum</i>
Pedunculate Oak	<i>Quercus robur</i>
Perennial Ryegrass	<i>Lolium perenne</i>
Privet	<i>Ligustrum ovalifolium</i>
Ribes	<i>Ribes sp</i>
Silver Birch	<i>Betula pendula</i>
Snowdrop	<i>Galanthus nivalis</i>
Sycamore	<i>Acer pseudoplatanus</i>
White clover	<i>Trifolium repens</i>
Yarrow	<i>Achillea millefolium</i>

Appendix Two: Phase One Habitat Map



KEY	
Site Boundary	
Hardstanding	
Building	
Amenity Grassland	
Broadleaved Woodland	
Pond	
Scattered Trees	
TN1 – Low Bat Potential	

Appendix Three: Non-Statutory Site Citations.

LWS Citation

Arnold's Meadow



OS copyright No. AL100016739; Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref:	TF258218	Survey:	15 September 2010
Area:	2.6 ha	Surveyor:	J.Poole

Main habitat: Native plantation, Improved grassland
Additional habitat: Wet woodland, Neutral grassland, Pond, Reedbed, Marsh, Coarse grassland, Species-rich hedgerows
Additional features: Seasonally wet/damp areas, Permissive path

Ponds and Woodland
 Over half of this reserve is taken up by three quite large ponds and the planted, mixed woodland that surrounds them. There is no particular dominant woody species though cherry *Prunus* sp., field maple *Acer campestre*, hazel *Corylus avellana* and birch *Betula* are probably the most prevalent. Towards the northern point there are a lot of weeds encroaching from the neighbouring arable field, while other ground flora consists mainly of ivy *Hedera helix*, upright hedge-parsley *Tonina japonica* and ground-ivy *Glechoma hederacea*. There is a lot of bramble *Rubus fruticosus* in places, with some patches of male-fern *Dryopteris filix-mas* and currant *Ribes* sp.

Large amounts of common reed *Phragmites australis*, comfrey *Symphytum* sp. and angelica *Angelica sylvestris* occur on the margins of all three ponds. Other marginal aquatics are well distributed around the edges of the ponds (including reed canary-grass *Phalaris arundinacea*, reed sweet-grass *Glyceria maxima*, meadowsweet *Filipendula ulmaria*, common fleabane *Pulicaria dysenterica* and water chickweed *Myosoton aquaticum*), being most rich around the central pond. Alder *Alnus glutinosa* and many willow species *Salix* sp. also occurred in these damper areas of the woodland. Floating and emergent vegetation seen included bulrush *Typha latifolia* and common duckweed *Lemna minor*.

Also included in this subsite are two areas of grassland or marsh. This has been done because they were separated from the pasture area by barbed wire fence and therefore left ungrazed. In terms of management units it was thought best to include them here.

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LWS Citation

The first is a small area of coarse grassland that has recently had some young trees planted in it at the southwest corner of the woodland. It is probably similar to the pasture in species composition but more herb species were seen here as it was not grazed; these included common knapweed *Centaurea nigra*, meadow buttercup *Ranunculus acris*, common sorrel *Rumex acetosa*, meadow barley *Hordeum secalinum* and soft rush *Juncus effusus*.

The second is a marshy neutral grassland area that protrudes from the northeastern corner of the southern pond and the southeastern corner of the central pond, where the bird hide is. This area has a lot of soft rush, hard rush *Juncus inflexus*, reed sweet-grass, common fleabane and purple loosestrife *Lythrum salicaria*. Other species seen in smaller numbers were greater spearwort *Ranunculus lingua*, water-piantain *Alisma plantago-aquatica* and common spotted-orchid *Dactylorhiza fuchsii*. This area also had the main concentration of New Zealand pigmyweed *Crassula helmsii* on the site.

The drains running down either side of the site provide little interest botanically.

Pasture

This is a small pasture/grassland area grazed by horses with a sward dominated by "undesirable species" such as perennial ryegrass *Lolium perenne*, creeping buttercup *Ranunculus repens*, hogweed *Heracleum sphondylium* and curled dock *Rumex crispus*.

There are seasonally wet/damp areas with hard and soft rush; while yellow-flag *Iris pseudacorus* and New Zealand pigmyweed are spreading out from the marshy neutral grassland area described above.

This area also includes the car park and small wooded area in the southeast corner, though there were no notable species recorded here.

Criteria passed: NG1, Sta2, Sw2

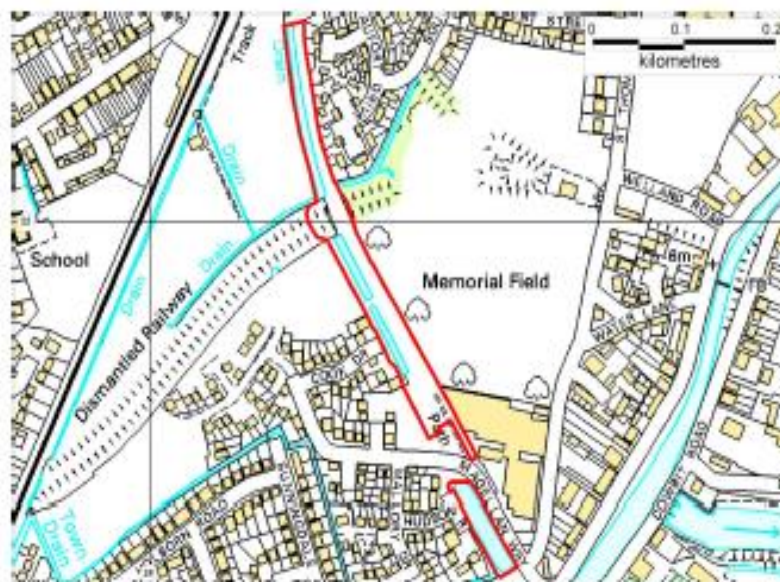
Recommended as a Local Wildlife Site: 1 April 2011

Lincolnshire Biodiversity Partnership
 Last updated 7 September 2011



LWS Citation

Disused March Line, Spalding



OS copyright No. AL100016739, Barrowallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: TF242219
Area: 1.6 ha

Survey: 2008
Surveyor: A. Faulkner

Main habitat: Neutral grassland, standing water
Additional habitat: Scattered scrub, reedbed, brownfield mosaic
Additional features: Pollarded trees, standing/fallen dead wood, tussocky vegetation, abundant nectar sources, structural diversity, anthills, bare ground, seasonally wet/damp areas, ditches, species-poor hedgerows, access

The March Line was closed in 1982 and most of the railway track was removed a year or two later. Ballast was removed from much of the south end in early 1991. At that stage the habitat was very open. Over the years the site badly deteriorated, but active management started in winter 2008 and the site is now starting to recover.

The remnant embankment, consisting of a bridge abutment, a 3 m flat top and a 45° west facing slope, came under management in early 2006, when trees were removed and the grassland allowed to recover.

From north to south there is a long wedge-shaped dyke and three borrow pits that run parallel with the railway line, originally dug in the 1880s. Buffer strips have been created along the dyke and north pond. The dyke is permanently wet from about half way along and it is here that there are two large osiers whose stems have been colonised by red-tipped clearwing moth larvae. The south end was dug in winter 2008 to form a narrow pond, currently dominated by common reed. The buffer strip has a number of ruderals and much reed, having previously been arable.

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Last updated 4 October 2011

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The north pond is currently undergoing management, and is dominated by reed and great pond sedge. A recent survey showed water vole to be present. Some grassland plants are beginning to colonise the buffer strip from the adjacent bank at the north end.

Willows around the middle pond are being progressively pollarded. The far bank consists of ballast from the railway line and has dense scrub and much fallen and standing dead wood.

The south pond is much bigger and dominated by common reed. It is surrounded by trees, mainly ash and willow with much ivy that is used extensively by nesting birds.

A number of unusual or rare aquatic beetles and other invertebrates have been recorded from the ponds in the past. Common pipistrelles forage along the railway line and over the ponds.

Criteria passed: Mos1(NG1, Sta2)

Recommended as a Local Wildlife Site: 6 December 2010

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Last updated 4 October 2011

LWS Citation

Coronation Channel



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Last updated 4 February 2013

LWS Citation

OS copyright No. AL100016730, Banovallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: TF245217 – TF260240

Survey: 22 August 2012

Length: 3.9km

Surveyor: J.Fraser

Main habitat: Drain, Coarse or rank grassland

Additional habitat: Scattered scrub, Linear reedbed

Additional features: Scattered non-planted trees, Planted specimen trees,
Open access, Steep slopes, South-facing slopes

This is a 50m wide and 4km long watercourse created in 1953 to reduce the occurrence of flooding in and around Spalding. It diverts much of the water in the northward-flowing River Welland around the eastern edge of the town. Grassland with some trees and scrub are included on both sides of the channel, as are small drains along much of the perimeter.

Amongst the aquatic plants in the Channel are fennel, lesser and curled pondweed, common & ivy-leaved duckweed, fan-leaved water-crowfoot, rigid hornwort and stonewort. The many native waterside species (some of which have resulted from planting) include water mint, water forget-me-not, purple-loosestrife, water-cress, water figwort, hemp-agrimony, branched bur-reed, common reed, reed canary-grass and reed sweet-grass. Non-native water plants are also present, such as galingale, orange balsam and Nuttall's waterweed. The small, western, marginal drain is in places densely vegetated, but recently managed stretches with much open water hold water-starwort, creeping-jenny, common fleabane, bulrush, false fox-sedge and floating or plicate sweet-grass.

Much of the drier bank vegetation is botanically poor, particularly the un-managed parts. Elsewhere, the flora includes typical plants of neutral grassland, such as cat's-ear, tufted vetch, meadow vetchling, autumn hawkbit, smooth hawk's-beard and common bird's-foot-trefoil. Woody species, scattered across the site, include many that have been planted. Some of the trees present are sycamore, ash, silver birch, field maple, wild cherry, Norway maple, poplar and alder.

Criteria passed: Flo3, Sw2, Mos1(Flo3, Sw2)

Selected as a Local Wildlife Site: 18 March 2013

Greater Lincolnshire Nature Partnership
Last updated 4 February 2013



LWS Citation

Land North of Spalding Station



OS copyright No. AL100016739, Barsovalum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: TF245231 – TF246236 Survey: 12 September 2012

Length: 0.5km Surveyor: J.Frazer

Main habitat: Brownfield mosaic, Scrub

Additional habitat: Semi-improved neutral grassland, Coarse or rank grassland

Additional features: Scattered non-planted trees, Abundant nectar sources, Bare ground, Structural diversity

This is a strip of former sidings and other largely unused Network Rail land in Spalding, located to the north of the station and immediately east of railway tracks that are still in use. Thirty years ago, a much larger area of similar brownfield habitat occurred in the vicinity, but most has now been developed. The site supports a species-rich mixture of trees, scrub, grassland and bare ground.

Of most interest botanically are trackways that are still subject to occasional vehicular use for access, and hence are sparsely vegetated and receive quite a lot of sun. Here, the barest ground supports biting stonecrop, blue fleabane, thyme-leaved speedwell, small cudweed, mouse-ear-hawkweed, wild basil, squirmetail fescue, fern-grass and early hair-grass. Less open swards hold many more species typical of good neutral grassland, such as autumn hawkbit, cat's-ear, perforate St John's-wort, lesser trefoll, selfheal, yarrow, common restharrow, oxeye daisy and red fescue. Other plants characteristic of brownfield sites include great mullein, evening-primrose, rosebay willowherb, tansy, fox-and-cubs, hawkweed, purple and common toadflax, ploughman's spikenard and buddleia. Damp areas support common fleabane, water figwort, wood small-reed, common reed, goat willow, grey willow and osier. Other woody species include silver birch, ash, pedunculate oak, sycamore, elm, hawthorn, apple, holly, ivy, bramble, dewberry and a little gorse.

Although invertebrates and other fauna were not conspicuous at the time of survey, the site appeared suitable for a wide range of species. A gall on stems of cat's-ear caused by the uncommon gall wasp *Panacis hypochoeridis* was noted.

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Survey: 22 August, 5
September 2012

Surveyor: J.Fraser

Main habitat: River, Improved grassland, Coarse or rank grassland

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Last updated 6 February 2013

LWS Citation

Additional habitat: Scattered scrub, Semi-improved neutral grassland
Additional features: Scattered non-planted trees, Planted specimen trees,
Open access, Anthills, Steep slopes

This is a 3.5km stretch of the River Welland and its banks immediately upstream from the sluice that now marks the tidal limit. The watercourse bisects Spalding from south to north and has been subject to two major events in recent decades. The first of these was construction of Coronation Channel around the eastern edge of the town in 1953 for flood alleviation purposes, resulting in a decrease in river flow. Subsequently, in the mid-1990s, there was major dredging and re-profiling, followed by introduction of various native water plants. The banks are heavily managed, except at the northern end.

Although not rich in aquatic plants, the river does support flat-stalked and small or lesser pondweed, rigid hornwort, yellow water-lily and common duckweed. A wide range of waterside species includes hemp-agrimony, purple-loosestrife, marsh-marigold, meadowsweet, water mint, marsh woundwort, gypsywort, water figwort, branched bur-reed and reed canary-grass.

On a substantial proportion of both banks the short and in places rather sparse grassland sward includes cat's-ear, autumn hawkbit, smooth hawk's-beard, common knapweed, selfheal, yarrow, blue fleabane, red fescue and fern-grass. Unmanaged grassland in the north is much longer, coarser and less species-rich. Some of the many planted shrubs and trees are London plane, lime, oak, horse chestnut, hornbeam, walnut, willow, field maple and non-native dogwood. There has also been more natural colonisation by woody plants such as elm, sycamore, silver birch, ash and holly.

Criteria passed: Flo3, Sw2, Mos2
Selected as a Local Wildlife Site: 18 March 2013

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Last updated: 5 February 2013



LWS Citation

Spalding Cemetery



OS copyright No. AL100016739, Barrowallum House, Manor House Street, Horncastle, Lincolnshire. LN9 5HF

Grid ref: TF249237

Area: 7.9 ha

Survey: 17 July 2009

Surveyor: J.Goodley, D.Fairchild

Main habitat: Woodland, Neutral grassland

Additional features: Veteran trees

This site is a typical suburban cemetery set on the northern edge of Spalding and adjacent to the Vematt's Local Nature Reserve and the Vematt's Drain wildlife corridor. The site is currently heavily managed as parkland extending to 8 hectares, with some splendid specimen Copper Beech trees and several other specimen non-native species that have been planted over the years.

First consecrated in 1854 the site is now mostly mature parkland with only the northern end currently active as a burial ground. A hedgerow with trees surrounds the site; much of this is a mature beech hedge recently reduced in height from 4 metres to just over 2 metres. The centre area could be described as Broad Leaved High Forest with the trees closer in some sections. The area is rich in birdlife with at least one pair of Sparrow Hawks breeding on site. The parkland grass is planted in places with spring flowers and bulbs but the grass cutting regime is often too severe to allow them to develop fully.

Parkland and woodland of any sort is a rarity in this part of Lincolnshire. Although the northern modern burial ground is not so botanically diverse this site is well worth retaining. Altering the management schedule slightly will greatly increase biodiversity allowing species already present to flourish.

Criterion passed: Mos2

Recommended as a Local Wildlife Site: 24 March 2010

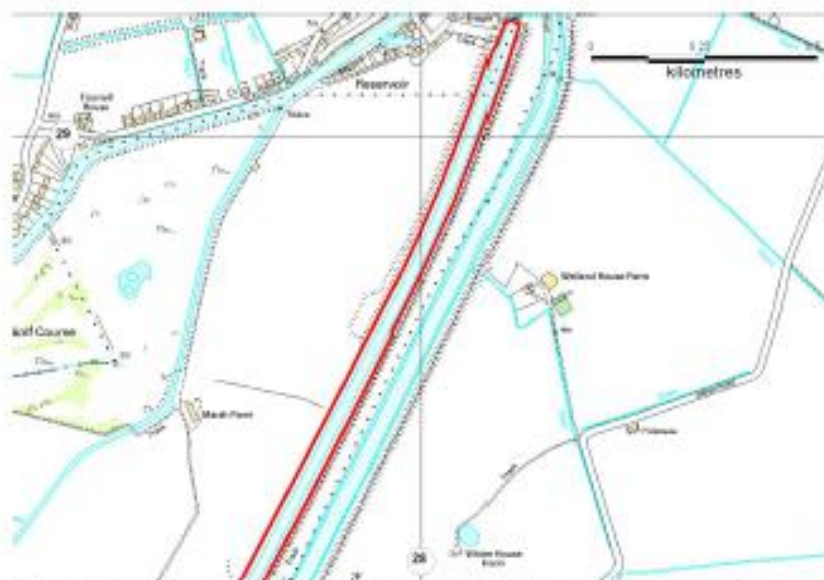
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Last updated 12 January 2012

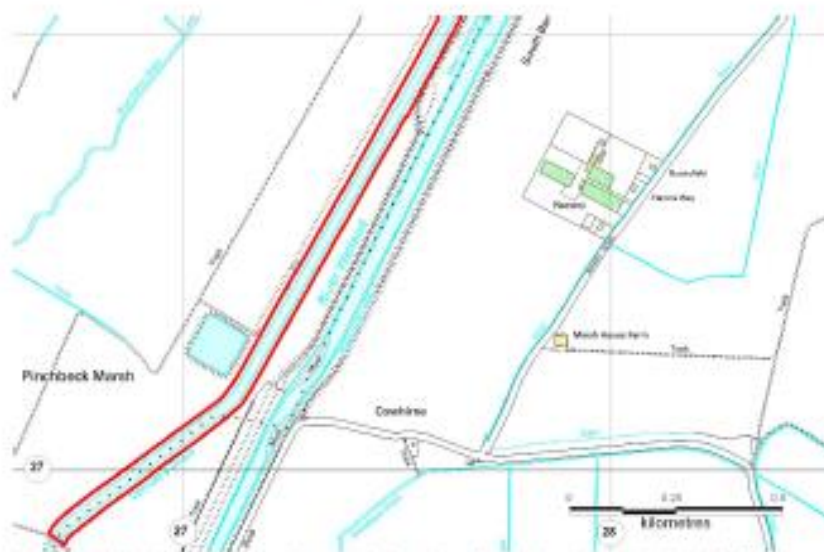


LWS Citation

Vernatt's Drain



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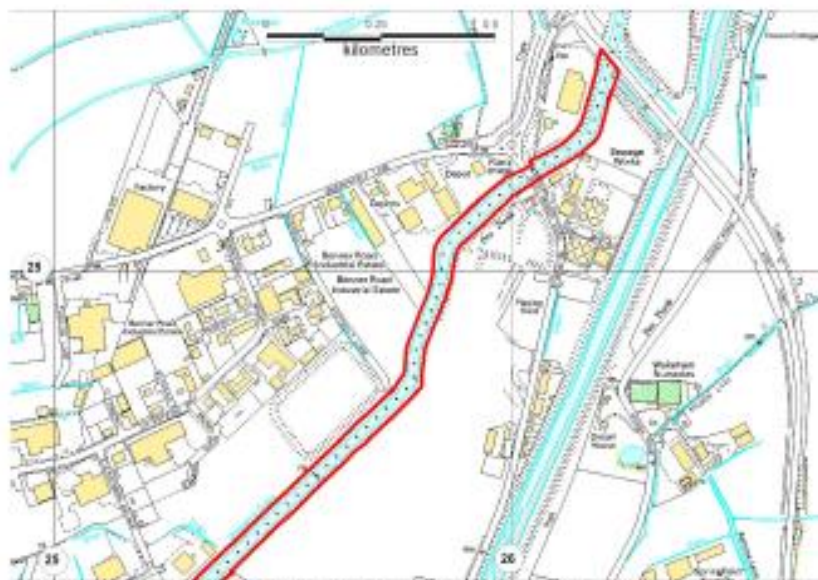
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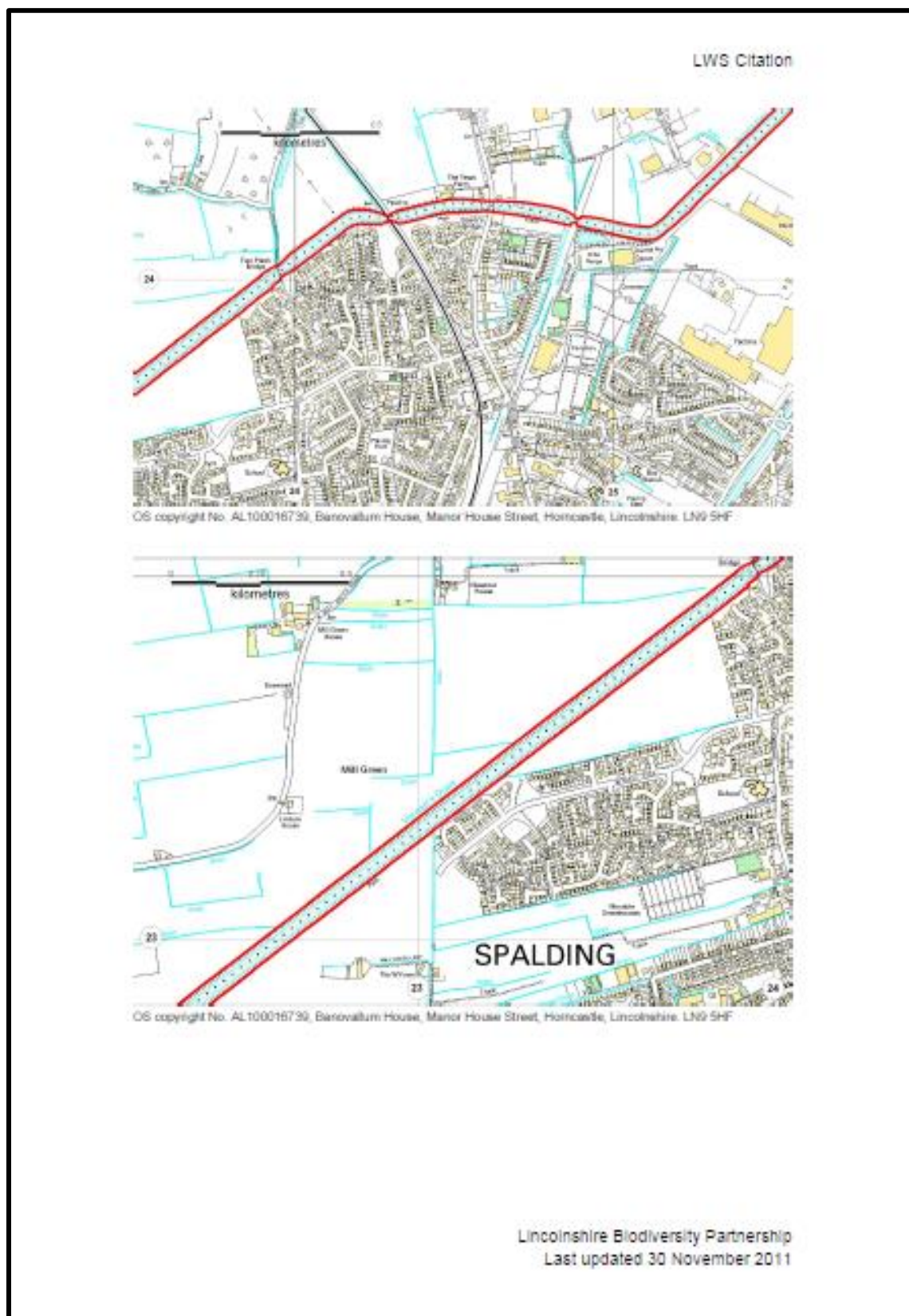


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Grid ref: TF282292 – TF213220 Survey: Various, 2010, 2011
Length: 10.7 km Surveyor: J. Goodley, D. Fairchild, J. Fraser

Main habitat: Drain, Calcareous grassland, Neutral grassland, Reedbed, Coarse grassland
Additional features: Scattered non-planted trees, Tussocky vegetation, Steep slopes, South-facing slopes, Earthworks/Hummocky ground

Vernatt's Drain is a large man-made watercourse resulting from the amalgamation of Counter Drain, North Drove Drain and South Drove Drain at Podo Hole. It flows north-eastwards for around 11km, past the north-western edge of Spalding to the tidal limit at Surfleet, where it joins the River Welland.

Although many parts of the drain banks are covered in coarse and weedy vegetation, there are substantial stretches with a rich grassland flora. Species often found in good quality neutral grassland include yellow rattle, common knapweed, lady's bedstraw, pignut, southern marsh-orchid, tufted vetch, meadow vetchling, crested dog's-tail and sweet vernal-grass. Plants typical of calcareous soils are also present, such as marjoram, pyramidal orchid, common spotted-orchid, perforate St John's-wort, common bird's-foot-trefoil, quaking-grass and tor-grass. Woody vegetation is largely absent in most places.

Common reed dominates much of the water's edge, but there are sections where a rich mixture of other wetland vegetation occurs. Some of the waterside plants in these places are flowering-rush, yellow iris, water dock, common club-rush, branched bur-reed, fool's-water-cress, lesser water-parish, water-cress, reed canary-grass and reed sweet-grass. Species characteristic of marshy areas include meadowsweet, marsh-marigold, angelica, common fleabane, brooklime, water mint, common spike-rush, and common and jointed rush. In addition, the presence of sea club-rush, sea-purslane, sea couch and reflexed saltmarsh grass suggests that the drain water includes a slightly saline element.

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Last updated 30 November 2011

LWS Citation

Amongst the many aquatic plants recorded in the period 2009-11 are five pondweeds, namely curled, hairlike, fennel, flat-stalked and perfoliate. The aquatic flora also includes arrowhead, spiked water-milfoil, mare's-tail, water-violet, rigid hornwort, fan-leaved water-crowfoot, fat duckweed, unbranched bur-reed and the national rarity ribbon-leaved water-plantain.

The site supports a good range of fauna, including breeding populations of reed and sedge warblers, reed bunting and sand martin. Amongst the invertebrates present are small skipper, small heath, ringlet, meadow brown, gatekeeper, smoky wainscot moth, common blue damselfly and Roesel's bush-cricket. An otter spraint was also found.

Criteria passed: NG1, CG1, \$w1, \$w2, Flo3, Mos1(NG1, CG1, Flo3, \$w2)

Recommended as a Local Wildlife Site: 1 April 2011, 29 March 2012

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Last updated 30 November 2011

LWS Citation

Vernatt's Nature Reserve



Grid ref: TF249240
 Area: 1.7 ha

Survey: 14 May 2008
 Surveyor: J. Goodley, D. Fairchild
 Monitoring survey: 16 July 2015

Main habitat: Neutral grassland - semi-improved, Pond

Additional features: Ditch, Scrub - scattered / dense, Wet woodland / Carr

This diverse small area lies on the northern edge of Spalding, between Spalding Cemetery to the south and Vernatt's Drain to the north, and between a disused railway line to the west and a factory to the east. Much of the site is wooded, but there is also a pond and an area of grassland.

Two low-lying borrow pits on the western edge of the site were excavated in the 19th century during railway construction and today are largely wooded. Other parts were owned by British Sugar in the 1960s when two single rail tracks were constructed for factory access, although these were soon closed. At the same time, British Sugar workers had access to the newly dug fish pond and a rifle range where the meadow is now located.

South Holland District Council became the new owner in the early 1990s and facilitated development of a nature reserve. At that time the meadow was a rough area of coarse and botanically-poor grassland where dumping of beet washings had taken place. Within a few years the southern end of a bund had been removed and used to fill a hollow where the eastern boundary fence was being erected; also some locally native meadow plants were introduced and a twice-a-year hay cutting regime began, in the absence of grazing. Further appropriate planting took place in subsequent years. Today, it is only feasible to make a single August cut, but this appears to maintain a mixed sward of unimproved neutral grassland plants and coarser vegetation. Amongst

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the many grasses present are yellow oat-grass, sweet vernal-grass, quaking-grass, crested dog's-tail, common bent, red fescue, meadow foxtail, timothy, rough meadow-grass and Yorkshire-fog. More colourful species include common bird's-foot-trefoil, common knapweed, oxeye daisy, perforate St John's-wort, lady's bedstraw, cowslip, tufted vetch, yellow rattle, bulbous buttercup, goat's-beard and meadow vetchling. Of particular note are a large population of the scarce grass vetchling and a few plants of common broomrape. Weedy species include curled and broad-leaved dock, creeping and spear thistle, hogweed, prickly and perennial sow-thistle, common ragwort, rosebay willowherb, cow parsley, common nettle and common couch.

Wetland vegetation occurs in and beside the pond, as well as along part of the east-west Cemetery Drain and in the borrow pits. Plants associated with these habitats are rigid hornwort, water-starwort, fool's-water-cress, purple-loosestrife, common fleabane, cuckooflower, square-stalked St John's-wort, bulrush, yellow iris, common reed, false fox-sedge, greater pond-sedge and remote sedge.

Wooded areas are mostly the result of tree and shrub planting in the 1960s and 1990s, such as pedunculate oak, silver birch, field and Norway maple, hybrid black poplar, rowan, Swedish whitebeam, horse chestnut, walnut, flowering currant, hazel and holly. Probably of more natural origin are white willow, sycamore, yew, wild cherry, hawthorn, blackthorn, guelder-rose, dogwood, wild privet, elder, red currant, dog-rose, bramble, dewberry and ivy. Other plants in shady areas include male-fern, stinking iris, red campion, sweet violet, garlic mustard, hedge woundwort, honeysuckle, upright hedge-parsley, white dead-nettle, an introduced patch of wild basil and the coarse and invasive wood small-reed. The partially shaded entrance track, which used to be a railway line, holds some broad-leaved helleborine, growing on the southern edge beside a beech hedge on the cemetery boundary.

Birds recorded during the survey were moorhen, mallard, robin, blackbird, green woodpecker, common whitethroat, dunnoek, chiffchaff, blue tit, wood pigeon and magpie. Large numbers of butterflies and moths included small & Essex skipper, common blue, orange tip, meadow brown, gatekeeper, ringlet, speckled wood, green-veined white, small tortoiseshell, shaded broad bar and silver Y. Other invertebrates observed were Roesel's bush-cricket, meadow grasshopper, red-tailed bumblebee, various un-identified bees, blue-tailed and common blue damselfly, emperor, brown hawk and a male swollen-thighed beetle.

Criteria passed: NG1, CG1, WD3a, WD4a, We2
Recommended as a Local Wildlife Site: 24 March 2010

Greater Lincolnshire Nature Partnership
Last updated 5 February 2016



References

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