

Green
Environmental
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**FIRS WOOD CLOSE
NORTHAW PARK
POTTERS BAR
HERTFORDSHIRE**

PRELIMINARY ECOLOGICAL APPRAISAL

February 2019

for:

Swing Ltd

Report number: 1178/2

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PRELIMINARY ECOLOGICAL APPRAISAL
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LIMITATIONS AND EXCEPTIONS

Limitations of Surveys

This report records wildlife found during the survey and anecdotal evidence of some species. Access, seasonality and weather conditions may affect survey results. It does not record any animals or plants that may appear at other times of the year and were therefore not evident at the time(s) of the visit(s). Habitats outside the site boundary were only visited where considered appropriate and where access was available.

The behaviour of animals can be unpredictable and may not conform to standard patterns recorded in current scientific literature. Many species are highly mobile and can occupy a site which has previously held no potential for them and factors such as increasing habitat pressure can cause animals to occupy areas that were previously unoccupied, or which might be considered far from suitable. This report therefore cannot predict with absolute certainty that animal species will occur in apparently suitable locations or that they will not occur in locations or habitats which appear to be unsuitable.

Limitations of Report

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

The Executive Summary, Conclusions and Recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon until considered in the context of the whole report.

Interpretations and recommendations contained in the report represent our professional opinions, which were arrived at in accordance with currently accepted industry practices at the time of reporting and based on current legislation in force at that time.

Where the data available from previous reports, or for other subject matter supplied by the Client, have been used, it has been assumed that the information is correct. No responsibility can be accepted by us for inaccuracies within the data supplied.

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This report is prepared and written in the context of the proposals stated in the introduction to this report and should not be used in a differing context. Furthermore, new information, improved practices and legislation may necessitate an alteration to the report in whole or in part after its submission. Therefore, with any change in circumstances or after the expiry of one year from the date of the report, the report should be referred to us for re-assessment and, if necessary, reappraisal.

Scientific survey data will be shared with local biological records centre in accordance with the CIEEM professional code of conduct.

Please note that Green Environmental Consultants Ltd does not purport to provide specialist legal advice.

The data, advice and opinion which we have prepared and provided is true, and have been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. I confirm that the opinions expressed are my true and professional *bona fide* opinions.

This ecological information is supplied in accordance with BS 42020 2013.

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0 EXECUTIVE SUMMARY

This report relates to the proposed residential development of land at Northaw Park, Potters Bar, Hertfordshire; the Site lies on the eastern side of Firs Wood Close, at grid reference TL 27720125.

Results

The Site is a small area ringed by development but in the wider landscape, is within open countryside; it was dominated by rank, weedy grassland with a little scrub. Land to the west had some large trees and scrub; planted trees and ornamental shrubs; and a drainage pond. An assessment of four attenuation ponds in the near area identified them as being 'Poor', 'Below Average', 'Average' and 'Good' for Great Crested Newts.

Further Surveys: There are no recent records of Great Crested Newts in the area. Nevertheless, as a precaution, surveys for Great Crested Newts have been commissioned to be carried out in spring. Surveys for reptiles are also commissioned.

Evaluation: - This Site has been valued as having a low ecological value, but may be reviewed after further surveys. It is very unlikely to be higher than 'Local' importance due to its small size.

Constraints: Until the results of surveys the possible presence of protected species, albeit low risk, is a constraint.

Mitigation and Enhancement

At the time of writing it is not known if Great Crested Newts or reptiles are present and whether mitigation will be required. If they are shown to be present, mitigation would be relatively easy by translocating them to neighbouring land in the same ownership which can be enhanced for these species. If Great Crested Newts are found a mitigation development licence will be required to move them. Vegetation clearance should be undertaken outside the nesting season.

Landscaping with wildlife friendly species is proposed around the Site boundary and also within it. But a greater biodiversity benefit would derive from managing and enhancing the adjacent piece of land on the west side of Firs Wood Close. Some bat and bird boxes would also be better placed in this area than within the development.

Conclusions and Discussion

The Site has habitat generally good for wildlife such as rough grassland but this is negated by its small size and being surrounded by inhospitable habitats, in effect making it an island (there is an area of more diverse and mature habitats on western side of the road but this is equally small). Some protected species could be present but given the Site's size and other factors these are unlikely to be significant populations and mitigation is readily available on adjacent land if required.

The Site falls within the Ecological Network (which has no statutory status) 'purple' zone (a desire to recreate habitats and linkages), which will be lost under this scheme. This area is adjacent to other built habitat, is small and isolated and does not neatly fit in to the network's main aims of reconnecting habitats.

1 INTRODUCTION AND OBJECTIVES

This report has been prepared by Green Environmental Consultants Ltd on behalf of Swing Ltd and relates to the proposed residential development of land to the east of Firs Wood Close, Northaw Park, Potters Bar, Hertfordshire, EN6 4BY. The Site lies at grid reference TL 27720125 and hereafter is called the 'Site'. The Site was first visited and surveyed in 2016 and revisited in February 2019. The main features nearby the Site are shown on figure 1178/2/1 below.

The purpose of this appraisal is to provide evidence of the baseline condition existing at the time of survey, to identify further work required if any, to advise on constraints to development that may arise from ecological issues, and to input in to the project design and planning. It has been produced in accordance with CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal*, 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester and conforms to BS 42020:2013.

The survey was undertaken and the report written by Jacqui Green BSc(Hons), MSc, CEcol, FCIEEM. In the following report binomial scientific names are given after the first mention of a species only; plant names follow Stace 2010 nomenclature.

The objectives are:

- ▶ To undertake an extended Phase 1 survey of the Site; and
- ▶ to undertake a scoping for protected or biodiversity species; and
- ▶ to identify species surveys which may be required to further inform impacts and mitigation; and
- ▶ to undertake an assessment where possible at this stage.

2 EVALUATION CRITERIA

2.1 Baseline Ecological Conditions

The ecological baseline was established through a desk study and site survey as outlined in chapter 3. The results were evaluated against a hierarchy ranging from the highest level (internationally protected) to no statutory protection but which receive consideration under planning legislation. These factors have been assessed against ecological evaluation criteria developed by the Chartered Institute of Ecology and Environmental Management.

2.2 Legislation

2.2.1 European Protected Species (Great Crested Newts, Dormice, bats, Otters and others)

European Protected Species are protected under the EC Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (the Habitats and Species Directive). This legislation is enacted under the Conservation of Habitats & Species Regulations 2017 (the 2017 Regulations). Works which involve impacts on EPS are likely to require a Natural England licence.

2.2.2 Wildlife & Countryside Act Protected Species (Water Voles, Barn Owls, reptiles etc)

2.2.2.1 *General*

A number of species receive protection at a national level, usually against injury and killing, but may also include destruction of a resting place, collection and sale (the latter may also apply to selected named plants).

2.2.2.2 Reptiles

The more common species of reptile - Grass Snake *Natrix natrix*, Slow-worm *Anguis fragilis*, Viviparous (Common) Lizard *Lacerta vivipara* and Adder *Vipera berus* - have partial protection. They are listed under the Wildlife and Countryside Act 1981, part of Section 9(1) and all of Section 9(5); that is, they are protected against intentional killing and injuring (but not 'taking'), and against sale etc. They are also Species of Principal Importance (SPI).

2.2.3 Other Species Legislation

Certain species are protected under other legislation eg the Protection of Badgers Act 1992 which gives special protection against harm to Badgers or their setts.

2.2.4 Biodiversity Species and Habitats

A number of species and habitats which do not merit national protection are nevertheless threatened or endangered at a more localised scale, usually at a county level, or have been discovered to have undergone a rapid decline. These are listed on the UK Species/Habitats of Principal Importance (S41) list (see under 'The England Biodiversity List' in section 2.3), or county (Local) Biodiversity Action Plans (BAPs) and would be considered to be part of the National Planning Policy Framework lower tier.

Further lists are provided for eg Birds of Conservation Concern BoCC (Red Lists) and species of conservation concern eg Red Data lists. There may also be local or county lists.

2.2.5 Birds - General

All nesting birds are protected under Section 1(1)(b) of the Wildlife and Countryside Act (1981) (*ibid*). It is an offence to:

... intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; or take or destroy an egg of any wild bird.

As a consequence no scrub or tree clearance or management should be undertaken during the nesting season, unless works to make the habitats unsuitable are first undertaken, or a detailed examination before clearance starts declares the area free. The nesting season is generally taken to be between mid-March and August if second broods are present, but warm seasons may extend this period to between February and September.

2.3 Planning

2.3.1 General

Government Circular 06/2005 (ODPM 2005) was produced as guidance to PPS9 but remains valid in relation to the NPPF. Paragraph 98 states that.....

'The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Local authorities should consult Natural England before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take steps to secure the long-term protection of the species.'

The Revised National Planning Policy Framework (RNPPF) (MHCLG 2018) sets out the Government's planning policies for England and how these are expected to be applied. The

RNPPF continues to highlight, as with the NPPF, that the purpose of the planning system is to contribute to the achievement of sustainable development. It states that planning policies and decisions should:

- ▶ *encourage multiple benefits from both urban and rural land, including through mixed use schemes and taking opportunities to achieve net environmental gains – such as developments that would enable new habitat creation or improve public access to the countryside;*
- ▶ *recognise that some undeveloped land can perform many functions, such as for wildlife, recreation, flood risk mitigation, cooling/shading, carbon storage or food production;*
- ▶ *give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs, and support appropriate opportunities to remediate despoiled, degraded, derelict, contaminated or unstable land.*

Paragraph 171 of the RNPPF says:

'Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.'

Paragraph 175 of the RNPPF says:

'When determining planning applications, local planning authorities should apply the following principles:

- ▶ *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- ▶ *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- ▶ *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.'*

The Natural Environment and Rural Communities Act (OPSI 2006) (section 40(1)) states that:

'Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.'

2.3.2 Species/Habitats of Principal Importance and Biodiversity

To aid assessment and evaluation of impacts on biodiversity, a list of Species of Principal Importance (SPI) has been produced. Natural England have produced standing advice (*Purpose and use of the England Biodiversity List*) regarding SPI: The England Biodiversity List has been developed to meet the requirements of Section 41 of the Natural Environment and Rural Communities Act (2006). The S41 list will be 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 (author's italics).

2.4 Ecological Evaluation

It is important to put records and results into context using criteria such as designation, rarity, vulnerability, threat, location in a linkage of sites or features, importance at a given scale (eg national, local, parish) etc.

Evaluation criteria based on those developed by the Chartered Institute of Ecology and Environmental Management are given below:

Table 2.1 Ecological Valuation Levels

Level of Value	Comment
International	Sites, habitats or species protected under international legislation eg. The Habitats and Species Directive. These include, amongst others: Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar Sites, Biosphere Reserves, plus undesignated sites supporting populations of internationally important species.
National	Sites, habitats or species protected under national legislation e.g. Wildlife & Countryside Act 1981 and amendments. Sites include Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNRs), Marine Reserves, plus areas supporting significant areas of UK Habitats of Principal Importance, or breeding populations of rare (Red Data Book) species.
Regional	Sites, habitats or species which may have regional importance, but which are not protected under legislation (although Local Plans may specifically identify them) e.g. viable areas or populations of Regional Biodiversity Action Plan habitats or species; regionally important invertebrate assemblages etc.
County	Sites, habitats or species meeting the criteria for Local (County, Metropolitan or Unitary Authority area) designation e.g. Local Wildlife Site. This category includes designated Local Nature Reserves, which have statutory protection. Sites containing viable areas or populations of Species of Principal Importance (SPIs) or County Biodiversity Action Plan habitats or species, local Red Data Book species etc.
Local or Parish	Undesignated sites or features, which enhance or enrich the wildlife resource at a Parish or neighbourhood level.
Zone of influence	Includes nil or low ecological value but which form a function within the site or immediate surroundings.

3 METHODOLOGY

3.1 Desk Study

A desk study was undertaken to gather existing ecological records in relation to the site and the surrounding area, in order to provide ecological context for the site and to inform an assessment of the potential ecological constraints to development. A 2km search was undertaken by the Hertfordshire and Middlesex Environmental Records Centre and the Hertfordshire Badger Group; MAGIC (Multi-Agency Geographic Information for the Countryside) was also searched. OS maps and aerial photographs were used to identify the presence of features up to 500 m from the site which might be used by protected or notable species.

Although there is a county boundary about 1.5kms to the south, a motorway marks this boundary. Motorways being major barriers to wildlife dispersal, and the Site being small, it was decided that it was not necessary to obtain records over 1.5kms to the south.

3.2 Habitat Survey

A Phase 1 habitat survey of the site was conducted according to a methodology devised by the Nature Conservancy Council (revised JNCC 2010), with notes made of dominant or uncommon species. Observations of unusual flora or faunal activity were noted also.

Species were recorded according to the DAFOR scale. The relative frequency and cover of each species identified, as they are distributed in each habitat is estimated using the following scale:

- D** - Dominant - >75% cover
- A** - Abundant – 51-75% cover
- F** - Frequent – 26-50% cover
- O** - Occasional – 11-25% cover
- R** - Rare – 1-10% cover

When used in this context 'rare' does not mean a plant is nationally rare or even unusual, it refers to the small number of plants or its very low cover recorded in that particular area only.

The survey was undertaken by Jacqui Green BSc(Hons), MSc, CEcol, FCIEEM who has forty years of survey experience, on 12 December 2016, when it was drizzly just prior to the survey, overcast and cool. It was revisited on 11 February 2019 when it was bright and sunny.

Survey Limitations

Access to the Site was provided and immediately neighbouring land to the west had open access. Most other neighbouring land could only be seen over fences although some open land to the north was examined. Ideally habitat surveys are conducted between February and October but can be undertaken by experienced surveyors at any time of year in the south of England, subject to suitable ground conditions eg not covered in snow. The revisit was undertaken within the recommended survey period.

3.3 Pond Survey

There were four attenuation ponds nearby. For the purposes of scoping for protected species, these were examined and a Habitat Suitability Index derived for each.

The Habitat Suitability Index (HSI) for the Great Crested Newt was developed by Oldham et

al. (2000). An HSI is a numerical index, between 0 and 1, where 0 indicates unsuitable habitat, and 1 represents optimal habitat. The HSI for the Great Crested Newt incorporates ten suitability indices, all of which are factors thought to affect Great Crested Newts. This methodology/index has been amended by the Herpetological Conservation Trust's National Amphibian and Reptile Recording Scheme (NARRS) which is used below.

The HSI for Great Crested Newts is a measure of habitat suitability; it is not a substitute for newt surveys. In general, ponds with high HSI scores are more likely to support Great Crested Newts than those with low scores. However, the system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or that any pond with a low score will not do so.

Evaluating the suitability of receptor ponds in a proposed mitigation scheme.

The scoring system used to calculate the HSI for water bodies present on site is summarised below:

SI 1 - Location A (optimal) 1 B (marginal) 0.5 C (unsuitable) 0.01

SI 2 Pond area Measure pond surface area (m²) and round to nearest 50 m²

SI 3 Pond drying

Never	1.0	Never dries
Rarely	0.9	Dries no more than two years in ten or only in drought
Sometimes	0.5	Dries between three years in ten to most years
Annually	0.1	Dries annually

SI 4 Water quality

Good	1.0	Abundant and diverse invertebrate community.
Moderate	0.67	Moderate invertebrate diversity
Poor	0.33	Low invertebrate diversity, few submerged plants
Bad	0.01	Clearly polluted, only pollution-tolerant invertebrates, no submerged plants.

SI 5 Shade Estimate percentage perimeter shaded to a least 1m from shore. Read value off graph.

SI 6 Water fowl

Absent	1.0	No evidence of water fowl (although moorhen may be present)
Minor	0.67	Waterfowl present, but little sign of impacts
Major	0.01	Severe impact of waterfowl

SI 7 Fish

Absent	1.0	No records of fish stocking and no fish revealed during survey.
Possible	0.67	No evidence of fish, but local conditions suggest that they may be present.
Minor	0.33	Small numbers of crucian carp, goldfish or stickleback known to be present.
Major	0.01	Dense populations of fish known to be present.

SI 8 Pond density

Number of ponds within 1 km of survey pond, not separated by major barriers, divided by 3.14.

SI 9 Terrestrial habitat

Good	1.0
Moderate	0.67
Poor	0.33
None	0.01

SI 10 Macrophytes

Estimate the percentage of the pond surface area occupied by macrophyte cover (between May and the end of September).

The score obtained using the above criteria is used to calculate the suitability of the pond for Great Crested Newt using the following scale:

HSI Score

<0.5	poor
0.5 – 0.59	below average
0.6 – 0.69	average
0.7 – 0.79	good
>0.8	excellent

Survey Limitations

HSIs are usually undertaken between March and October as some features are best observed at that time. Outside those periods an experienced surveyor will be required to assign values based on pond and adjacent habitat quality. For example, if a pond receives polluted run-off from roads, the water quality is likely to be lower than a good field pond being replenished by fresh rainfall. An element of judgement, based on experience, is required in that case. The HSIs were reviewed in February 2019 which is closer to the recommended period.

3.4 Scoping for Protected & Biodiversity Species

Information from the habitat survey was used to scope (look for indicative habitats, niches or other signs) for protected or biodiversity habitats and species, which may require more detailed survey. Adjacent land was included in this scoping to assess if any protected species might be present on land nearby and which might be indirectly affected or which could use the Site transiently. Maps and aerial photographs were also used to identify features which might be hidden by vegetation or fencing.

4 RESULTS**4.1 Desk Study****4.1.1 Sites**

There is one statutorily designated site within 2 kms: Northaw Great Wood lies about 2kms distance to the north.

Part of Hook Wood, which lies a few hundred metres north, is an Ancient Woodland Inventory (AWI) site. Other AWIs are: Pond Wood - 370m to the south, and Cattlegate Wood 1.7kms to the east.

The search area includes the following Local Wildlife Sites (LWS):

File Code	Site Name	Grid Ref:	Description (abbreviated)	Dist: (m)
79/002	Northaw Brook Pastures	TL282016	Species-rich marshy neutral to somewhat acidic grassland situated within the London Clay region on Valley Gravels. The site lies within the shallow valley of the Northaw Brook... Further diversity is provided by mature scrub associated with the brook and surrounding hedges. Wildlife Site criteria: Grassland indicators.	460
79/008/01	The Vineyard, Nyn Park	TL283027	Part ancient semi-natural, part old secondary woodland. Wildlife Site criteria: Old/ancient woodland with a semi-natural canopy and varied structure; part shown on Bryant's map; >2 ha; woodland indicators.	1400
79/011	Hook Wood	TL276017	Semi-natural woodland with a stand type derived mainly from ancient Pedunculate Oak (<i>Quercus robur</i>)/ Hornbeam (<i>Carpinus betulus</i>) wood pasture, on the former Northaw Common. The canopy is generally closed in the north with Bramble (<i>Rubus fruticosus</i> agg.) below grading to more open Pedunculate Oak/Silver Birch (<i>Betula pendula</i>) with Bracken (<i>Pteridium aquilinum</i>) in the south. Oak is predominantly Pedunculate but with some Sessile Oak (<i>Quercus petraea</i>). There are significant numbers of ancient Hornbeam pollards and one large oak pollard. A diverse ground flora has been recorded. The Northaw Brook flows along the north edge of the wood and further streams, a lake and some small scattered ponds are also present. The stream sides, damper valley floor areas and flush lines are of particular botanical significance. The varied structure of the wood, along with the presence of large over-mature timber and dead wood, provides good habitat for a range of faunal species. Wildlife Site criteria: Ancient Woodland Inventory site; woodland indicators.	100
79/014	Fritillary Meadow	TL268024	Meadow of species-rich damp unimproved neutral grassland noted for the presence of Fritillary (<i>Fritillaria meleagris</i>)... The site is noted as one of the best for Orthoptera in the county. Wildlife Site criteria: Grassland indicators.	1300
79/018	Cattlegate Wood	TL296011	Ancient semi-natural Pedunculate Oak (<i>Quercus robur</i>)/ Hornbeam (<i>Carpinus betulus</i>) woodland with dense mature Hornbeam coppice and Pedunculate Oak present as standards, maiden stems or coppice. Wildlife Site criteria: Ancient Woodland Inventory site; woodland indicators.	1700
79/022	Hook Copse	TL281012	Old, possibly ancient, semi-natural broadleaved woodland with a stream running through the middle. The canopy consists of large mature Pedunculate Oak (<i>Quercus robur</i>), Ash (<i>Fraxinus excelsior</i>) and Hornbeam (<i>Carpinus betulus</i>) with some Hazel (<i>Corylus avellana</i>) and old Hornbeam coppices. Rhododendron is frequent. Wildlife Site criteria: Old/ancient woodland with a semi-natural canopy and ancient features; shown on Bryant's map (1822); woodland indicators.	320
79/023	Grassland by Hook Copse	TL282010	A complex of old neutral to slightly acidic grasslands surrounded by mature hedgerows. The sward is quite variable in quality but overall a reasonable diversity of species has been recorded. Scrub is invading the northern-most field and the south-east field is unmanaged with areas of dense scrub developing. The northern-most field also contains a pond... Wildlife Site criteria: Grassland indicators.	170
79/024	Fir and Pond Woods HMWT	TL278005	Mosaic of habitats including scrub, semi-natural woodland, Cricket-bat Willow (<i>Salix alba</i> var. <i>caerulea</i>) plantation, acid grassland, a lake and a watercourse (the Turkey Brook). Within Pond Wood is an old meadow of acid grassland	140

	Nature Reserve		supporting both wet and dry areas ... The site is important for invertebrates. Wildlife Site criteria: Old/ancient woodland with a semi-natural canopy and ancient features; woodland indicators; grassland indicators.	
79/026	Five Acre Wood (Potters Bar)	TL272012	Semi-natural Pedunculate Oak (<i>Quercus robur</i>)/ Hornbeam (<i>Carpinus betulus</i>) woodland with some old Pedunculate Oak standards and Hornbeam coppice. Stream runs within the wood..., and the southern end of the main wood has the best structure with good shrub and field layers. Wildlife Site criteria: Old/ancient woodland with a semi-natural canopy and ancient features; >2 ha; woodland indicators.	390
79/033	Woodland area S.E. of Little Heath Farm	TL264023	Secondary broadleaved woodland predominantly of Pedunculate Oak (<i>Quercus robur</i>) (and possibly the hybrid with Sessile Oak (<i>Q. petraea</i>)) with Ash (<i>Fraxinus excelsior</i>) and Silver Birch (<i>Betula pendula</i>) plus some scrubby areas. Wildlife Site criteria: Old secondary woodland with a semi-natural canopy and varied structure, >2ha; woodland indicators.	1460
79/043	Meadow E. of Park Rd, Northaw	TL285022	Species-rich unimproved damp neutral to slightly acidic grassland with invading scrub. Wildlife Site criteria: Grassland indicators.	1070
79/044	Woodland S.W. of Northaw Brook Pastures	TL279015	Small area of old secondary woodland composed of Pedunculate Oak (<i>Quercus robur</i>) and Ash (<i>Fraxinus excelsior</i>) with some Hornbeam (<i>Carpinus betulus</i>) and other species Wildlife Site criteria: Old secondary woodland with a semi-natural canopy and varied structure; shown on OS (1880) as a small spinney; woodland indicators.	230
79/051	Chequers Mead House Meadows & Ponds	TL270014	Two fields of semi-improved neutral grassland supporting a reasonable mix of grass and herb species. The northern field contains two ponds... Wildlife Site criteria: Grassland indicators.	430
79/058	Park Road Pastures	TL283021	Old semi-improved/unimproved neutral grasslands with a reasonable diversity of grasses and herbs. Wildlife Site criteria: Grassland indicators.	1030
79/060	Hook Lane	TL276013	Building and environs important for protected species. Wildlife Site criteria: Species.	0
79/066	Parkfield (Potters Bar)	TL259015	Semi-improved, part damp neutral grassland with a good diversity of species recorded ... Wildlife Site criteria: Grassland indicators.	1710
87/005	Fenny Slade Hill	TQ268-999	An area of old, rough, neutral grassland with damp areas, bordering hedges, ... and a dry pond in the west. Wildlife Site criteria: Grassland indicators.	1480

Of the above, Hook Wood lies close to the Site. Although Fir and Pond Woods HMWT Nature Reserve also lies close, it is on the opposite side of a B road. Other near sites include: Hook Lane (building), Grassland by Hook Copse and Woodland S.W. of Northaw Brook Pastures. The relationship between these sites is shown on figure 1178/2/3 in the appendix.

The Hertfordshire Ecological Network Mapping project (ENMP) has mapped the county habitats according to a scale of three levels. These are:

Green areas on the map: - These patches contain habitats listed within S41 of the NERC Act (Habitats of Principal Importance or HPI) and should be avoided by development and

protected by the development management system. Adjacent or surrounding development should provide for the enhancement of these habitats through ongoing positive conservation management.

Purple areas on the map:- These patches contain habitats not currently qualifying under S41 but with high potential to do so. Whilst not receiving the same level of statutory and policy-based protection as the green areas, they should nonetheless be avoided by development and protected by the development management system where reasonable to do so. This is because they are important components of ecological networks and it is much quicker, less risky and more cost-effective to restore these habitats than to create new ones elsewhere.

Orange/yellow/cream areas on the map:- These patches contain no mapped existing habitats of any significance. Therefore, in the context of the ecological networks dataset, these areas are suitable for appropriate development.

In the ENM project the Site is category 2 (purple), despite the fact that the Site is surrounded by 'orange land' eg no habitats of any significance and suitable for development (although it is noted that the land immediately west of Firs Wood Close is category 1).

4.1.2 Protected Species

4.1.2.1 *European Protected Species*

Records of protected species can be confidential for a number of reasons. To safeguard this information the list is not included in full in this report. Information which might be relevant to this Site is itemised below.

Bats: Brown Long-eared *Plecotus auritus*; Common Pipistrelle *Pipistrellus pipistrellus*; Noctule Bat *Nyctalus noctula*; Natterer's Bat *Myotis nattereri* (including hibernation sites); Daubenton's Bat *Myotis daubentonii*. There is a LoWS on Hook Lane (building).

Amphibians: records of Great Crested Newt *Triturus cristatus* are sparse and old.

4.1.2.2 *UK Protected Species*

Reptiles - there are records of Grass Snake *Natrix natrix* and Slow-worm *Anguis fragilis* notably from Fir and Pond Wood but all records are old.

Mammals - Water Vole *Arvicola amphibius* records are also old but it has been recorded from Fir & Pond Wood nearby. There are over thirty Badger records many of which are road casualties, but include setts. The only near ones are: a road casualty on Cooperslane Road, a sett in Fir Wood and another in Pond Wood.

Birds - Of species listed under the Wildlife and Countryside Act, Barn Owl *Tyto alba*; Fieldfare *Turdus pilaris*; Firecrest *Regulus ignicapilla*; Redwing *Turdus iliacus*; Common Crossbill *Loxia curvirostra*; Brambling *Fringilla montifringilla*; Eurasian Hobby *Falco subbuteo*; Red Kite *Milvus milvus*; Common Kingfisher *Alcedo atthis*; Bittern *Botaurus stellaris*; Green Sandpiper *Tringa ochropus* have all been recorded at least once.

Plants: there are numerous records of Bluebell *Hyacinthoides non-scripta* from the search area.

4.1.3 Species/Habitats of Principal Importance and other Biodiversity Issues

Amphibians: a few records of Common Toad *Bufo bufo*.

Birds: Eurasian Tree Sparrow *Passer montanus*; House Sparrow *Passer domesticus*; Spotted Flycatcher *Muscicapa striata*; Tree Pipit *Anthus trivialis*; Common Grasshopper Warbler *Locustella naevia*; Hawfinch *Coccothraustes coccothraustes*; Lesser Redpoll *Carduelis cabaret*; Reed Bunting *Emberiza schoeniclus*; Yellowhammer *Emberiza citrinella*; Skylark *Alauda arvensis*; Grey Partridge *Perdix perdix*; Common Cuckoo *Cuculus canorus*; European Turtle Dove *Streptopelia turtur*; Lapwing *Vanellus vanellus*.

Invertebrates: There are hundreds of invertebrate records, too many to repeat here.

Mammals: records of Harvest Mouse *Micromys minutus* are all old. Hedgehog *Erinaceus europaeus* and Brown Hare *Lepus europaeus* have been recorded but not recently.

Plants: Tower Mustard *Arabis glabra*; Thatch-moss *Leptodontium gemmascens*.

There are thousands of records of non-SPI biodiversity species, most of which are birds and many are either Red List or Amber list species.

Invasive Non-native Species (INNS) listed on Schedule 9 of the WCA: Rhododendron *Rhododendron ponticum*; Japanese Knotweed *Fallopia japonica*; Nuttall's Waterweed *Elodea nuttallii*.

The absence of records does not mean that a particular species or habitat is not present, but may reflect a lack of recording effort in a given location.

4.1.4 Tree Preservation Orders (TPO)

The land west of Firs Wood Close (outlined blue on figure 1178/2/1) is covered by a group TPO TPO178 G3. There are four TPO trees located to the north-east. None are located within the Site.

4.2 **Habitat Survey**

4.2.1 The Site

Figure 1178/2/1 below shows features referred to in the text; detail is provided on the habitat map figure 1178/2/2 in the appendix.

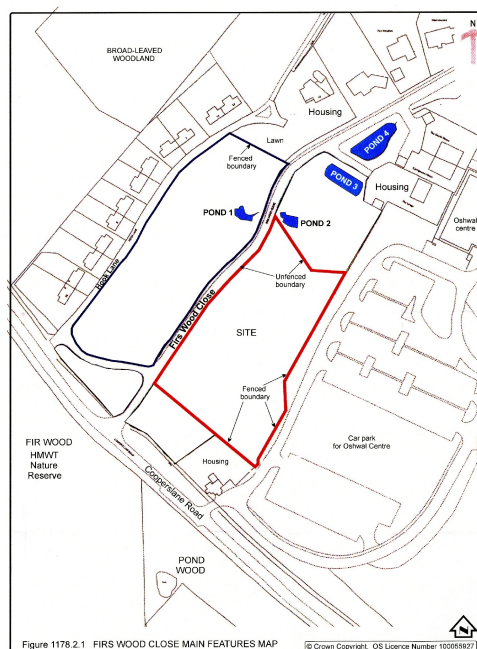


Figure 1178.2.1 FIRS WOOD CLOSE MAIN FEATURES MAP © Crown Copyright. OS Licence Number: 100058627

The Site is a small area of land sandwiched between a religious centre (the Oshwal Centre) to the east, housing to the north-east, Firs Wood Close to the west and Cooperslane Road to the south. Beyond each of the abutting habitats is open countryside or woodland except to the west where a short row of houses lines Hook Lane.

In 2016 the Site was described as open grassland which had been invaded by tall ruderal (weedy) plants resulting in a mixed rough grass/tall ruderal vegetation, and was recorded as: False Oat-grass *Arrhenatherum elatius* (LA); Cock's-foot *Dactylis glomerata* (LF); Red Fescue *Festuca rubra* (O); Creeping Thistle *Cirsium arvense* (LF); Broad-leaved Dock *Rumex obtusifolius* (O); Ragwort *Senecio jacobaea* (R); Sheep's Sorrel *Rumex acetosa* (R); Foxglove *Digitalis purpurea* (R); with abundant mosses, mainly the common moss of this type of slightly wet ground - *Brachythecium rutabulum*. In February 2019 the "weeds" were less conspicuous. Additional species noted were Bugle *Ajuga reptans* and Common Sorrel *Rumex acetosa*.

Some management had been undertaken with most invading scrub removed. The north-eastern boundary was unfenced but as the two areas were managed very differently there was a clear vegetation change from scrub (outside) to grassland (inside) on the ground. On the southern boundary a small stand of trees was present between the Site and Cooperslane Road.

4.2.2 Adjacent Habitats

To the west and north-east were residential properties, a religious retreat (the Oshwal Centre) with associated parking lay to the east.

On the western side of Firs Wood Close was another small block of land covered by a group Tree Preservation Order. It has Hook Lane, a quiet residential road, to its west and housing to the north-east. This area had some large Pedunculate Oak *Quercus robur* trees which mainly formed single species stands. There was some old Silver Birch *Betula pendula* and small areas of mixed oak, Holly *Ilex aquifolium* and Hazel *Corylus avellana*. In the interior and to the east scrub had spread; this included Elder *Sambucus nigra*, young trees, Hazel and Bramble *Rubus fruticosus*. Bramble was common and taking over in places. The only open area was the land adjacent to Firs Wood Close (eastern boundary) which was weedy rough grassland. Other habitats or vegetation in this area included: a line of young trees (oak, Hornbeam *Carpinus betulus* and non-native trees such as Red Oak *Quercus rubra*) had been planted long the Firs Wood Lane "verge"; ornamental shrubs along Hook Lane; a couple of openings within the trees which appeared to have been made by residents to "hide" dumping of garden waste; a drainage pond (pond 1) was also present and drained under Firs Wood Close to join pond 2 on its eastern side and north of the Site.

Immediately to the north of the Site were three attenuation ponds (ponds 2 to 4) and a small stand of scrappy woodland. In 2016 pond 4 appeared to be long term dry; in 2019 there was a little water in the bottom.

4.3 **Pond Survey**

Pond 1 is the only one on the western side of Firs Wood Close and drains under the road to join pond 2. It was a largish dip in the ground but with fairly low water levels. The lack of water in December (and very little in February 2019) suggested that it rarely if ever reaches bank height. It was fairly shaded and there was an accumulation of leaf litter at the pipe entrance where it drained under the road, which implied that the water might drain completely if the outfall wasn't blocked. The HSI score was: **0.53** - Below Average (for Great Crested Newts).

Pond 2 was also an attenuation pond. It was located within amenity grassland but close to woodland, scrub and rough grass. It was less shaded by overhanging trees but had a lot of leaf litter and outfalls were blocked. The HSI score was: **0.67** - Average (for Great Crested Newts).

Pond 3 was a rectangular attenuation pond ringed by Greater Reedmace (Bulrush) *Typha latifolia*. The HSI score was: **0.77** - Good (for Great Crested Newts).

Pond 4, an irregular pond dry in 2016 and with little water in 2019. There was a large amount of fine-leaved emergent plants fringing it such as rushes *Juncus* sp. Its HSI score was - 0.35 Poor.

4.4 Scoping for Protected and Biodiversity Species

The Site is dominated by rough grassland, with occasional scrub. There are water bodies and scrub/wooded areas nearby.

The Great Crested Newt Habitat Suitability Indices (Oldham, Keeble, Swan and Jeffcote 2000) of three ponds are: Below Average, Average, Good and poor. Therefore it is possible that Great Crested Newts are present in the area and the ponds could be used for breeding and surrounding terrestrial habitat for foraging and shelter. There are very few Great Crested Newts records from the area and are old. But it is not clear if this is a genuinely low occurrence or of lack of recording.

The rough grass areas are potentially suitable for reptiles such as lizards or Slow-worms, but they have not been commonly recorded in the area.

No evidence of Badger activity on Site was found.

There are no trees within the Site which present potential bat roost sites.

4.5 Invasive Species

No evidence of invasive non-native species (INNS) was found. Given the amount of garden waste dumped in the western side of Firs Wood Close by Hook Lane, it is possible that they could appear.

5 DISCUSSION & ANALYSIS OF RESULTS

5.1 Discussion

The Firs Wood Close area of Northaw Park appears to have been developed on former estate land with what were probably estate workers cottages to the west along Hook Lane. The Site is a small area of "abandoned" land ringed by development but within open countryside in the wider landscape. The habitats have potential for a number of protected species but only those which are mobile ie able to cross inhospitable habitats, are likely to have managed to colonise. Alternatively animals might have become "marooned" there if they were present when land to the east and north was developed (dwellings to the west appear to be of longer establishment). As the four ponds are all fairly new attenuation ponds it is unlikely that a long-standing population of Great Crested Newts would have been present in this area.

The Hertfordshire Ecological Network Mapping project has mapped the county habitats according to a scale of three levels. These are green, purple and orange.

According to this project the Site is coloured purple, but surrounded by 'orange land' eg no habitats of any significance and suitable for development, and has indeed been developed (the western side of Firs Wood Close is an exception; it is Green and has a group TPO). Although open countryside is nearby the Site is disconnected from it. The Ecological Network is a "desire" with no statutory status and although it would be desirable to keep all such land, in this case the Site's small area and isolation does not neatly fit in to the network's main aims of reconnecting habitats.

5.2 Evaluation

Using the ecological evaluation criteria from table 2.1:

Table 5.1 Ecological Valuation for this Site

Level of Value	Comment
International	Potential, but low risk, for Great Crested Newts in ponds near the Site plus use of terrestrial habitats for foraging and shelter. Although the ponds are graded from Poor to Good for this species, it is unclear how they would have colonised these new attenuation features. No trees on Site with bat roost potential but there are many trees and buildings nearby where they could be present.
National	Good reptile habitat present.
County	None.
Local	None.
Zone of Influence	Small mammals and common birds are likely to use the grassland and small areas of scrub for nesting and feeding. Given the number of dogs seen during a fairly brief visit, ground nesting birds are unlikely to be present.

Using the above criteria, the current information values the site at Zone of Influence as it has low ecological value but has the potential to rise if significant populations of Great Crested Newts or reptiles are found. Even in that case, it is unlikely to achieve greater than Local value due to its small size and being ringed by developed land.

5.3 Potential Constraints

The potential presence of protected species (Great Crested Newts and reptiles) could be a constraint.

6 RECOMMENDATIONS

6.1 Further Surveys

As the ponds achieved HSIs ranging from Poor to Good for Great Crested Newts it is recommended that a survey be conducted. Even though the ponds are outside the Site boundary, the grassland is potential habitat for land based newts and this should be investigated further. Despite the potential 'good' pond quality, there are very few records for this species from the area. Therefore an initial test for environmental DNA (eDNA) would indicate whether a full survey is required and has been commissioned.

The same habitats could be suitable for reptiles and a survey has been commissioned.

6.2 Mitigation

6.2.1 General principles

When designing a scheme the Mitigation Hierarchy should be applied to limit potential impacts on biodiversity. The mitigation hierarchy is:

1. Avoidance - Measures taken such as design changes, to avoid creating impacts from the start. For example, changing the location of the development or development activities within the site to avoid sensitive habitats or species present on site.
2. Minimisation - Measures taken to reduce the duration, intensity, extent and/or likelihood of impacts that cannot be avoided, to a level that is no longer considered significant for the species or habitat feature.
3. On-site compensation - Measures taken on-site, to provide a biodiversity contribution that is proportionate to the long term loss for residual impacts that cannot be completely avoided or minimised.
4. Off-site compensation / offset - Measures taken off-site to provide a biodiversity contribution that is proportionate to the long term loss for any residual, adverse impacts onsite after full implementation of the previous three measures.

6.2.2 The Site

6.2.2.1 *Great Crested Newts*

It is not currently known if Great Crested Newts are present and whether mitigation will be required. If they are shown to be present, mitigation is possible by excluding them from the development area and translocating (moving) them to alternative nearby locations. **This will require a mitigation development licence.**

The land west of Firs Wood Close is within the same ownership and can be enhanced for this species by eg. habitat manipulation¹/enhancement, creation of places for shelter and over-wintering, and improving the pond quality. If this is not sufficient (depending on population size, based on numbers of animals found) there are alternative areas nearby although this would require the permission other landowners.

6.2.2.2 *Reptiles*

Reptiles prefer similar terrestrial habitat to newts but also require open areas for basking. This is also easily achieved on available nearby land.

6.2.2.3 *Birds*

There is little scrub on Site and almost no trees. However, given the legal protection offered to nest sites, it is recommended that all vegetation clearance (where it is possible that birds will be nesting) be undertaken between the months of September and February, outside of the peak bird nesting season (March to August inclusive). Where this strategy is not possible, a targeted watching brief of the removal of key areas of bird habitat must be undertaken both immediately before and during the clearance works. Should an active nest be

¹ It is noted that this area is covered by a group Tree Preservation Order and this will have to be taken in to account when planning habitat management.

encountered at this time, the nest site would have to be left undisturbed until such time that any dependent young had fledged and left the area. This could involve delays to any works carried out during these more sensitive periods.

6.3 Enhancement opportunities

It is proposed to provide green planting along the boundaries which do not currently have it, eg the long east and western sides. There will also be shrub and tree planting within the Site as part of the landscaping scheme.

The provision of bird and bat boxes is usually recommended but given the large areas of woodland and existing buildings nearby, providing plentiful suitable habitat, this may not be necessary. If required, they would be more usefully placed on trees on the western side of Firs Wood Close which is retained mature habitat.

7 CONCLUSIONS

The Site has habitat generally good for wildlife such as rough grassland but is negated by its small size and being surrounded by inhospitable habitats, in effect making it an island (there is an area of more diverse and mature habitats on western side of the road which is equally small. Some protected species could be present but given the Site's size and other factors these are unlikely to be significant populations and mitigation is readily available on adjacent land if required.

The Site falls within the Ecological Network (which has no statutory status) 'purple' zone (a desire to recreate habitats and linkages), which will be lost under this scheme. This small area is adjacent to other built habitat, is small and isolated and does not neatly fit in to the network's main aims of reconnecting habitats.

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APPENDIX

Photographs

1178/2/2 Habitat Map

Figure 1178/2/3 Local Wildlife Sites map

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PHOTOGRAPHS



1 - Firs Wood Close leading to houses. The Site is on the right, with the retained wooded area to the left.



2 - the Site (2019) from south looking towards the scrub on the northern boundary. Houses of Firs Wood Close can be seen to the rear and the retained wooded area west of Firs Wood Close is to the left.



3 - western side of Firs Wood Close showing scrub and trees as well as weedy grassland.



4 - Pond 1 on western side of Firs Wood Close.
Deep litter layer present.



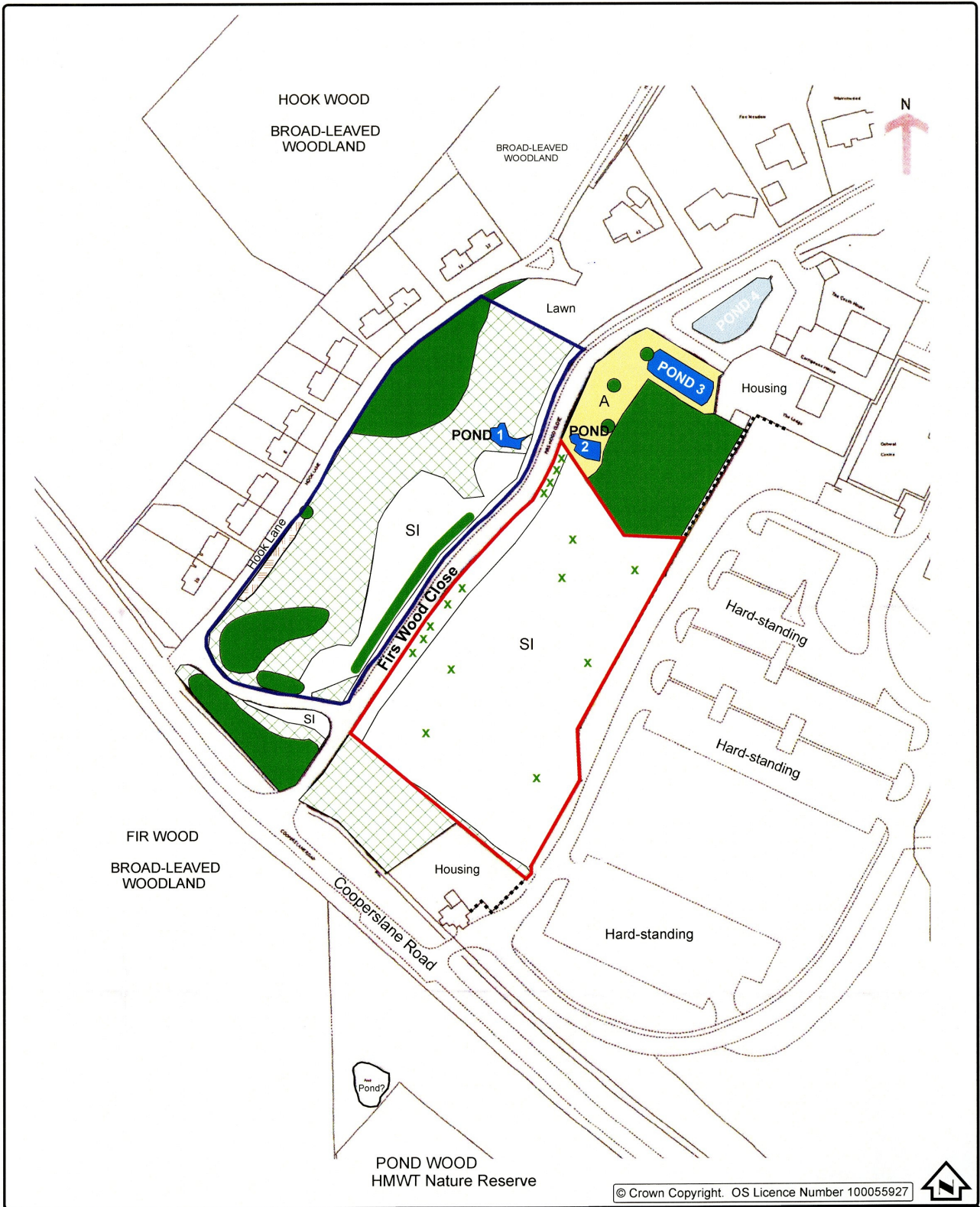
5 - pond 2 just off site.



6 - Pond 3, attenuation pond by housing.



7 - Pond 4, virtually dry attenuation pond
choked by vegetation.



	Broad-leaved tree		Ornamental shrubs
	Broad-leaved tree group		Species-poor semi-improved grassland
	Broad-leaved tree line		Amenity grassland
	Scrub - continuous		Other eg dry pond
	Scrub - scattered		Fence
	Water body (pond)		

Project:
**FIRS WOOD CLOSE,
 NORTHAW PARK**

Client: Swing Ltd

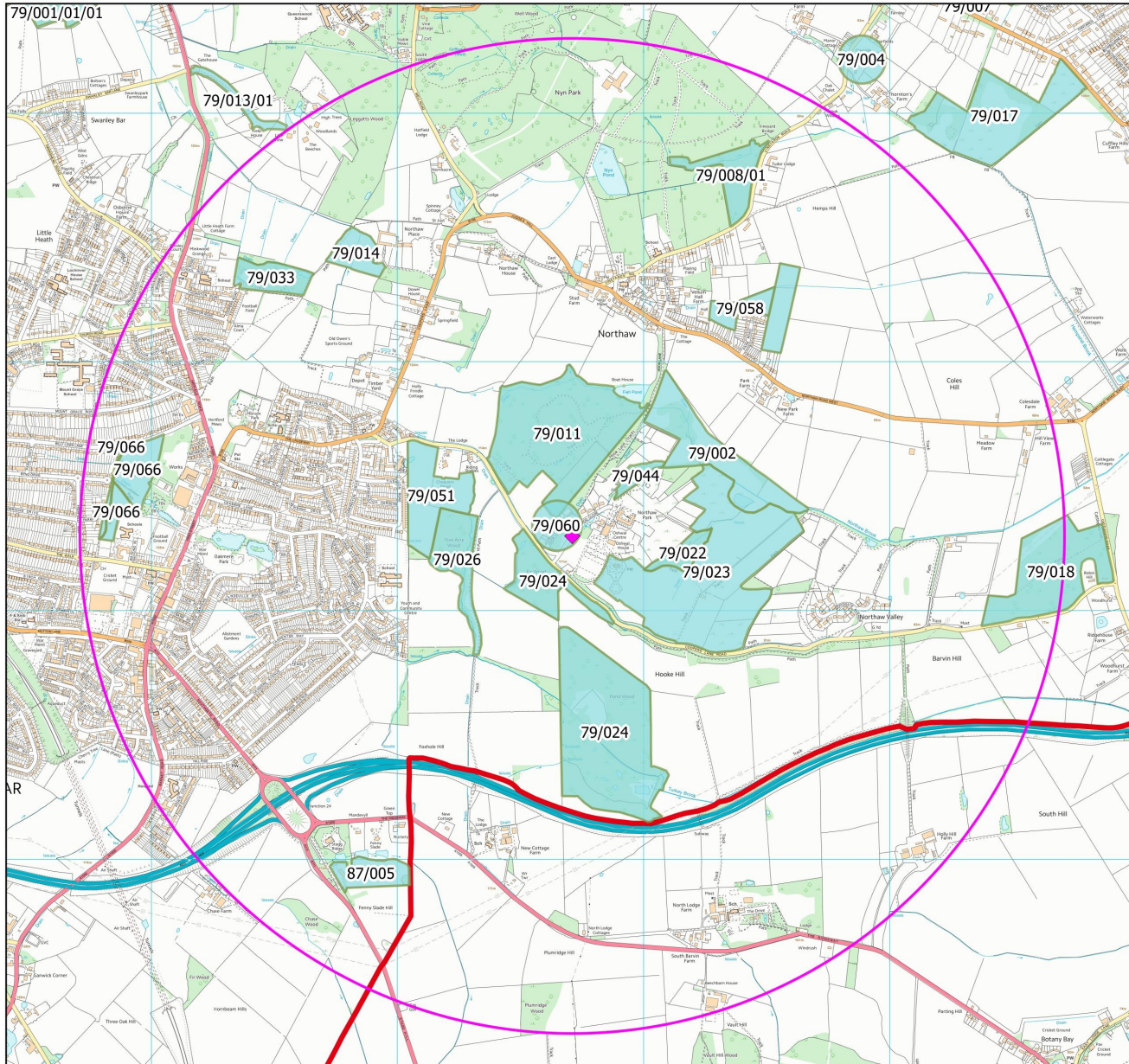
Scale: nts
 Drawn by: JG
 Date: 08.01.2017
 Rev: 15.02.2019

Drawing:
**1178/2/2
 HABITAT MAP**

Green Environmental Consultants
 22 Heath Road, Swaffham Bulbeck,
 Cambridge, CB25 0LS
 Tel: 01223 811190
 e-mail: jgreen@greenecology.co.uk

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Figure 1178/2/3 Local Wildlife Sites map



Local Sites

- Local Wildlife Sites

Administrative

- County Boundary

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19/12/2016