Owl Lane, Dewsbury

Preliminary Ecological Appraisal Report

On Behalf of McDonalds Restaurants UK

V1 January 2020

Document Control

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Contents

Ecological Risk Assessment

The following Ecological Risk Assessment provides an infographics summary of the recommendations made following a Preliminary Ecological Appraisal Survey of a parcel of land adjacent to Owl Lane, Dewsbury to support the development of a restaurant and drive-thru with associated parking. This Eco RA is not intended as a substitute for reading the full report as set out in the proceeding pages.

Risk Code Key	
	**High Risk** – Ecological Issue(s) identified requiring further survey work and/or mitigation
	**Moderate Risk** – Ecological Issue(s) identified requiring mitigation without requiring further survey
	**Low Risk** – No significant ecological issues identified. No further action required.

Risk Code	Factor	Comments and Actions Required	Timings
	Habitats	The Site does not meet the criterion for any notable habitats. The Site comprises of habitats of negligible to low ecological value and will be cleared for development. **Recommendations:** Protect all retained trees and hedgerows with root protection measures in line with BS 5837:2012. Any trees removed to be replaced at a ratio of 2:1. A wildlife friendly lawn mix with flowering species such as clover to be used in areas of amenity grass. **Additional Enhancement:** Three large raised planters stocked with pollinator friendly flowers. Additional amenity planting to consider providing food and shelter opportunity for invertebrates and birds.	Pre- and during construction Design Stage. Design Stage Design Stage Design Stage
	Birds	The scattered trees, scrub, and the brash pile have low suitability for nesting birds. **Recommendations:** Clearance to be undertaken outside nesting bird season, or during nesting season following a check 24-48hr prior by an ecologist. A hedgerow, >15m in length, to be planted along a boundary to provide nesting replacement.	September-February or March – August Design Stage

Risk Code	Factor	Comments and Actions Required	Timings
	Notable species – Hedgehog	Hedgehogs may utilise the site for foraging and commuting. **Recommendation:** Any hedgehog or other small mammal disturbed or encountered during the site works should be allowed to flee the site naturally or should be translocated to the site boundary.	During construction
	Bats	Low value for foraging and commuting bats using the Site. **Recommendation:** Install a bat friendly lighting scheme.	Design Stage
	Statutory and Non-Statutory Designated Sites	Discussed but no further action required.	
	Great Crested Newts	Discussed but no further action required.	
	Reptiles	Discussed but no further action required.	
	Badger, Otter, Water Vole, Invasive Species, White-clawed crayfish, Hazel Dormice and Notable Invertebrates	No further action required.	

1 Introduction

1.1 Background

Practical Ecology Ltd were commissioned by McDonalds Restaurants UK to undertake a Preliminary Ecological Appraisal (PEA) of a parcel of Land adjacent to Owl Lane, Dewsbury, herein referred to as "the Site".

This report presents ecological information gathered during a desk study and an ecological walkover survey of the site undertaken on 10th January 2020.

The purpose of this report is to provide baseline ecological information pertaining to the site, alongside recommendations for further surveys, mitigation, and enhancement as deemed appropriate.

Ecological baseline information for the site is crucial to ensure potential effects of the development upon flora and fauna can be suitably managed. Furthermore, any constraints upon the proposed development of the site, imposed by site ecology, can be assessed. Enhancement measures are presented which allow site biodiversity to be improved, whilst considering the legal requirements and best practice regarding protected species and/or habitats.

1.2 The Site

The Site is approximately 0.3ha (central OS grid reference SE26198 23014, postcode WF12 7TH) and is located on the junction of Owl Lane and the A653 in the northeast of Dewsbury, Yorkshire (Figure 1). The Site consists of mix of semi-improved grassland and tall ruderal habitats, with scattered trees and scrub, with scattered rubble and a large brash pile. The surrounding habitats are residential and non-residential urban development.

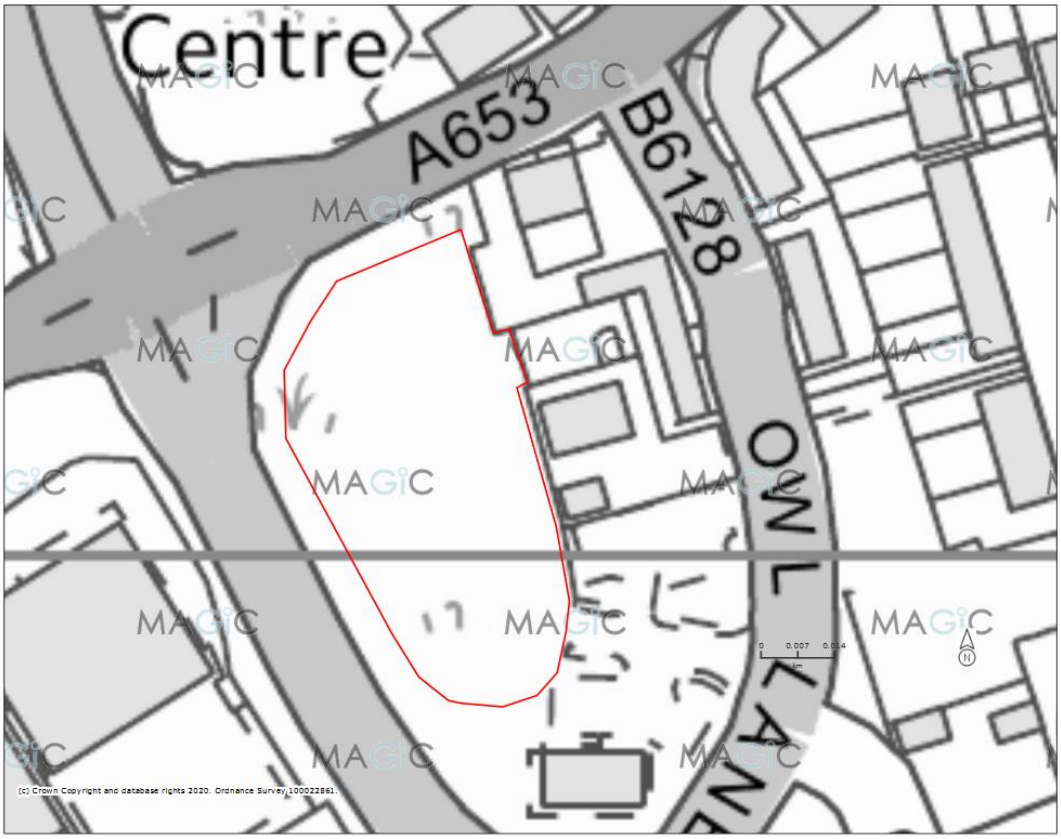

Figure 1: Site Boundary

1.3 Proposed Development

The proposals include clearance of the Site and the development of a McDonalds Restaurant and Drive-Thru with associated car park. A proposal plan has been included in Appendix 1 (Drawing number: 7866-SA-8804-P008 A, December 2019).

2 Methods of Assessment

2.1 Desk Study

A search for Statutory Sites of Nature Conservation Importance within 1km of the site was undertaken using the Multi Agency Geographical Information for the Countryside (MAGIC) website (www.magic.gov.uk).

Ordnance Survey maps and aerial photographs from several online sources were consulted to identify the presence of any water bodies within 500m of the site.

Records of protected species, notable species and non-statutory sites from within 1km of the site were requested from West Yorkshire Ecology Service (WYES)[1] as part of this desk-based study and are presented in this report. Records provided by the record centre that are more than ten years old are only reported on if they are deemed to still be relevant.

The relevant Local Biodiversity Action Plan, Wakefield LBAP[2], was consulted to determine whether species and habitats identified (by both the desk study and the field survey) on and around the site are subject to specific action plans. Although succeeded by The Joint Nature Conservation Committee (JNCC) and Defra UK Post-2010 Biodiversity Framework in July 2012, the list of UK Biodiversity Action Plan (UK BAP)[3] species was also consulted as this remains an important reference source.

2.2 Preliminary Ecological Appraisal Survey

A Preliminary Ecological Appraisal survey of the site was undertaken on 10th January 2020 by Alex Jessop MSC, an Assistant Ecologist with over two years of experience.

This survey assessed the value of onsite and adjacent habitats and their potential to support protected or notable species. Habitats were classified as per the criteria set out in the Handbook for Phase 1 Habitat Survey (2010)[4].

[1] https://www.wyjs.org.uk/ecology/

[2] https://www.wakefield.gov.uk/Documents/sports-leisure/parks-countryside/biodiversity-action-plan.pdf

[3] http://jncc.defra.gov.uk/page-5717

[4] http://www.jncc.gov.uk/pdf/JNCC%20A4%20Handbook%20for%20Phase%201%20habitat%20survey%20April%202008.pdf

Notable species and habitats are those which are legally protected, are nationally or locally rare or endangered, or identified as a Species or Habitat of Principal Importance in England under Section 41 of the NERC Act 2006 and/or Local Biodiversity Action Plan (LBAP).

The site survey sought to identify evidence of the presence of legally protected and notable species and make assessments of the habitats to support them:

- Rare or notable plant species, such as red data list species[5], priority species or those of Principal Importance;
- An appraisal of habitats on site for their suitability to support legally protected and notable species such as great crested newt (*Triturus cristatus*), bats (all species), badger (*Meles meles*), reptiles, dormouse (*Muscardinus avellanarius*), white-clawed crayfish (*Austropotamobius pallipes*), otter (*Lutra lutra*), and water vole (*Arvicola amphibius*);
- An assessment of the potential value of trees as roosting sites for bats using the protocol set out in Collins (ed.) (2016). This included an assessment of each tree and the buildings for suitable roost features. Where necessary this included the use of torches and binoculars to allow for a ground level assessment to search for signs such as staining and/or droppings sometimes found around roost entrances. An assessment of the value of habitats for foraging and commuting bats, also set out in Collins(ed.) (2016);
- A search for evidence of the presence of badgers on site (e.g. setts, paths, prints, foraging signs and latrines);
- An assessment of suitability to support rare or notable invertebrates or diverse invertebrate assemblages; and
- An assessment of the potential of the site to support breeding birds and/or wintering birds and the suitability of onsite habitats for nesting birds.

A search was also made for evidence of the presence of invasive plant species listed in Schedule 9 of the Wildlife & Countryside Act 1981, as amended, as they are subject to strict legal control.

2.3 Limitations to Survey

Due to the seasonal behaviour of animals and the seasonal growth patterns of plants, ecological surveys may be limited by the time of year in which they are undertaken. Some plant species are not readily identifiable in January having died back over winter. Many animals in the UK have variable detectability throughout the year due to seasonal behaviour, including hibernation and migration. Therefore, this survey may not provide a complete list of the plants and animals present, or which may utilise the site throughout the year.

As part of standard practice, a data search has been undertaken from the local biological record centre. This is not considered to be a complete list of species present and is better considered to be a list of species recorded, with many species known to be under recorded.

However, these limitations are not considered to have affected the accuracy of the assessment or the recommendations provided in this report and, where considered necessary, recommendations for further survey have been made to overcome this limitation.

[5] Cheffings, C. and Farrell, L. (Amended 2006) The Vascular Plant Red Data List for Great Britain

3 Existing Conditions and Assessment of Effects

3.1 Summary

The following sites, species or ecological features have the potential to be affected by the development, or their presence has been detected during the desk study or data search. As such, they are discussed further in this report and action points, mitigation and compensation measures are recommended as necessary:

- Notable Habitats;
- Statutory and Non-Statutory Sites of Nature Conservation;
- Great Crested Newts;
- Bats;
- Birds;
- Reptiles; and
- Notable Species.

The following species are very unlikely to occur on the site, in adjacent habitats either due to a lack of suitable habitat or as they have localised distributions in the UK. As such, the proposed development does not pose a threat to the following species and they are not discussed further as no further survey or mitigation is considered necessary:

- White-Clawed Crayfish;
- Hazel Dormice;
- Water Vole;
- Otter;
- Badgers;
- Invasive Species;
- Notable Invertebrates; and
- Notable Plants.

Site photos are included in Appendix 2. Refer to Appendix 3 for details of the legislation and guidance relevant to each protected species.

3.2 Site Description and Habitats

3.2.1 Desk Study

The desk study returned the following records of notable habitats within 1km of the site:

- 1 parcel of Deciduous Woodland (Priority Habitat Inventory)

3.2.2 Field Survey

Habitats noted on the site included a mosaic of Poor Semi-Improved Grassland and Tall Ruderal, Scattered Scrub, Scattered Trees, Hard Standing, a Brash Pile, and Scattered Rubble. Overall the Site is considered to have low ecological value.

Poor Semi-Improved Grassland and Tall Ruderal

The majority of the Site consisted of a mosaic of Poor Semi-improved Grassland and Tall Ruderal. The appearance of this is consistent with a Site colonised by species within the last 20 years, in which time the Site has been managed by occasional earth planing and scrub removal. This had some relevance and similarity to the Open Mosaic Habitats on Previously Developed Land (UK BAP Priority Habitat), commonly referred to as Brownfield Habitat. This is further discussed in Section 3.2.3, below.

Species typical of poor semi-improved grassland and tall ruderal habitats, typical of wasteland, included grasses such as cocksfoot (*Dactylis glomerata*), false oat grass (*arrhenatherum elatius*), rough meadow grass (*Poa trivialis*), perennial rye grass (*Lolium perineum*), and soft brome (*Bromus hordeaceus*). Further species noted included red clover (*Trifolium pratense*), St. John's-wort (*Hypericum perforatum*), common ragwort (*Jacobaea vulgaris*), cleavers (*Gallium aparine*), ribwort plantain (*Plantago lanceolata*), spear thistle sp. (*Cirsium vulgare*), rosebay willowherb (*Chamerion angustifolium*), bramble (*Rubus fruiticosa*), broad-leaved dock (*Rumex obtusifolius*), and field poppy (*Papaver rhoeas*).

The species present are typical of urban waste ground and are all considered common and widespread. This habitat is of low ecological value.

Scattered Trees

Several immature and semi-mature trees were noted around the Site boundaries. These included silver birch (*Betula pendula*), goat willow (*Salix caprea*), cherry (*Prunus avium*), ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*), and pedunculate oak (*Quercus robar*).

There were no mature trees on the Site and as such the trees are considered to be of low ecological value.

Scattered Scrub

Small areas of scattered scrub were noted. These were dominated by bramble, but also included dogwood (*Cornus sanguinea*), dog rose (*Rosa canina*) and spindle (*Euonymus europaeus*).

The scattered scrub provides some habitat for species of note but is of significantly small areas and is considered to be of low ecological value.

Hard Standing

Areas of the Site were considered to be hard standing, primarily comprising of compacted rubble and remnants of foundation from a building (removed prior to 2002). The hard standing is considered to be of negligible ecological value.

Brash Pile and Scattered Rubble

Target Noted features included a brash pile and scattered rubble. The brash pile occurred within the centre of the Site and was comprised of brash created from the clearance of scattered trees and scrubs which appear to have been undertaken between mid-2018 and mid-2019. The brash pile has potential to be used by protected and notable species but is of negligible ecological value within its own right. Scattered rubble, created during the removal of past buildings, was noted across the north of the Site. This is of negligible ecological value.

Surrounding Habitats

The Site is surrounded by amenity grassland and introduced trees and shrubs to the west, north, and southwest, residential dwellings and hard standing to the east and south, and the A653 to the north (beyond the amenity grass). The surrounding habitats are of negligible ecological value.

3.2.3 Assessment of Effects

All of the habitats on site were considered to have negligible to low value as habitats in their own right.

As a former developed area, the Site has been assessed against the criteria outlined within the UK BAP Priority Habitat Descriptions (ed. Maddock, 2008) for Open Mosaic Habitats on Previously Developed Land, commonly referred to as Brownfield Sites, which are considered a UK BAP Priority Habitat. The Site has been assessed against the criteria for the BAP Priority Habitat, below, which shows the Site does not meet the criteria to be defined as Open Mosaic Habitats on Previously Developed Land (UK BAP Priority Habitat).

Table 1: Criterion for Open Mosaic Habitats on Previously Developed Land (UK BAP Priority Habitat)

No.	Criterion	Site Meets Criterion
1	The area of open mosaic habitat is at least 0.25 ha in size.	Yes
2	Known history of disturbance at the site or evidence that soil has been removed or severely modified by previous use(s) of the site. Extraneous materials/substrates such as industrial spoil may have been added.	Yes
3	The site contains some vegetation. This will comprise early successional communities consisting mainly of stress-tolerant species (e.g. indicative of low nutrient status or drought). Early successional communities are composed of (a) annuals, or (b) mosses/liverworts, or (c) lichens, or (d) ruderals, or (e) inundation species, or (f) open grassland, or (g) flower-rich grassland, or (h) heathland.	Yes
4	The site contains unvegetated, loose bare substrate and pools may be present.	No
5	The site shows spatial variation, forming a mosaic of one or more of the early successional communities (a)–(h) above (criterion 3) plus bare substrate, within 0.25 ha.	No

To facilitate the development all habitats on the Site will be cleared. Therefore, the development will see the loss of habitats of negligible and low ecological value.

3.2.4 Recommendations

Root and tree/hedgerow protection measures (in line with the British Standard for trees in relation to construction BS 5837:2012[6]) must be installed in the pre-construction phase and maintained throughout the construction phase and relate to trees outside the Site boundary.

Any trees removed should be replaced at a ratio of 2:1. Trees planted will provide shelter for a range of wildlife. Given the context of the Site, trees suited to a suburban environment should be used.

To compensate for the loss of ruderal species, likely to be used by a range of common pollinators, a flower enriched lawn turf or seed mix, including clover, should be used for areas of amenity grassland planned for the Site.

3.2.5 Additional Enhancements

Additional enhancements can benefit pollinators and be in the form of three large raised planters stocked with pollinator friendly planting.

Further amenity planting on the Site should also benefit wildlife, providing food and shelter opportunity for invertebrates and birds. This can be in the form of shrubs and flowering ornamental grasses.

[6] BS 5837:2012 can be purchased from the British Standards Institute online shop at http://shop.bsigroup.com/en/ProductDetail/?pid=000000000030139494

3.3 Statutory and Non-Statutory Sites of Nature Conservation

3.3.1 Desk Study

The desk study returned no records for Statutory or Non-Statutory sites within 1km of the site. However, the Site does lie within the 5-10km Impact Risk Zone (IRZ) of Denby Grange Colliery Ponds Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI). The Site also lies within the Kirklees Wildlife Habitat Network, which connects local non-statutory wildlife sites[7].

The description of Denby Grange Colliery Ponds SAC and SSSI can be found in Table 2, below.

Table 2: Statutory and Non-Statutory Site Descriptions

Site Name and Status	Distance and Direction from Proposed Development Site	Description
Denby Grange Colliery Ponds SAC	7.3km	Annex II species that are a primary reason for selection of this site, with the species in question being great crested newt. This waterbody in north-east England, created by coal-mining activity, has consistently yielded high counts of great crested newt in recent years. The pond is surrounded by wooded slopes, with adjacent anthropogenic habitat associated with the previous mining activities. A large new pond was created recently to help support the population, which was previously reliant on a single breeding site.
Denby Grange Colliery Ponds SSSI	7.3km	This site lies in the valley of Stony Cliffe Beck, a tributary of the River Calder, close to the village of Netherton, south-west of Wakefield. It contains two areas of open water and associated ancient replanted woodland and rough grassland habitats. To the immediate west is the former Denby Grange colliery, with part of the restored tip included within the boundary. The site supports the largest known breeding colony of great crested newts in West Yorkshire. Counts in recent years indicate that the site has the sixth highest recorded count of great crested newts in Great Britain.

[7] http://consult.kirklees.gov.uk/portal/dlp_pol?pointId=s1434970341492

3.3.2 Assessment of Effects

The Site does not meet the IRZ criteria for further consultation with Natural England, and therefore no impact on Denby Grange Colliery Ponds SAC and SSSI is anticipated.

The Site is considered to be a potential stepping-stone habitat, with potential value connecting local sites (despite none lying within 1km of the Site), as defined by its presence within Kirklees Wildlife Habitat Network.

3.3.3 Recommendations

The recommendations within Section 3.2.3 for pollinator friendly amenity grass and shrubs to be used onsite will ensure that greenspace is maintained, and the Site will retain suitability as a stepping-stone site as part of Kirklees Wildlife Habitat Network.

3.4 Great Crested Newts

3.4.1 Desk Study

The desk study returned no records of great crested newts within 1km of the site.

A single pond was identified within 500m of the proposed development. Figure 2 shows the pond location in relation to the site. Details of the pond are provided in Table 3, overleaf.

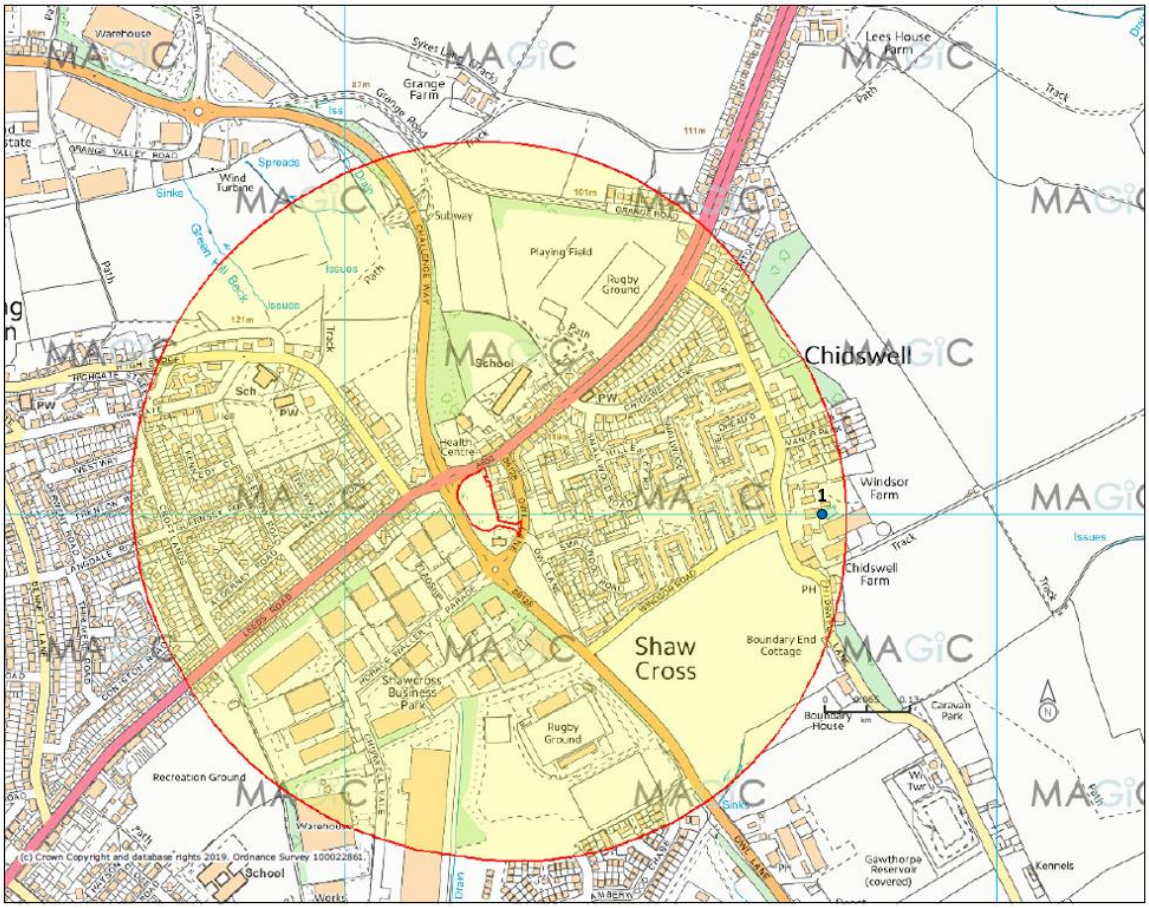

Figure 3: Ponds within 500m of the Proposed Development

3.4.2 Field Survey

The habitats within the Site are of low value to great crested newts. The mosaic of grassland and tall ruderal as well as scattered scrub have some low value as habitat for foraging, with the brash piles and scattered rubble could provide suitable refugia. However, the site is isolated by busy roads to the north and west and no ponds lie within 500m, with hard standing, a minor road, and numerous buildings isolating the Site from Pond 1 which lies 480m east.

Table 2: Pond Details

Pond Number	Distance and Direction from the Site	Visited?	Dispersal Barriers to the Site
1	480m east	No	Urban development consisting of minor roads, buildings, and hard standing

3.4.3 Assessment of Effects

Research from English Nature (now Natural England) has shown great crested newts to primarily remain within 100m of breeding ponds and are rarely present outside 250m from a breeding pond (Cresswell and Whitworth, 2004). This research combined with the isolation of the Site are indicative that great crested newts will not be present on the Site and that no great crested newt aquatic or terrestrial habitat will be impacted by the development.

3.4.4 Recommendations

No further recommendations are made with regards to this species.

3.5 Bats

3.5.1 Desk Study

No records of bats were returned by the desk study within 1km of the site and occur within the last 10 years. A single record of a vesper bat species was returned from 2003.

3.5.2 Field Survey

Potential Roosting Sites - Trees

No trees on the site were noted to have any potential roost features (PRFs) and, consequently, all trees were assessed as having '*negligible*' suitability for roosting bats.

Foraging and Commuting

The Site is likely to be well lit by surrounding streetlights and passing vehicles, lowering its suitability for both foraging and commuting bats.

The habitats onsite are not of high value for invertebrates and therefore the Site has low value for foraging bats; it is considered that light tolerant species, such as common pipistrelle (*Pipistrellus pipistrellus*), may be transiently present but the Site does not constitute an important foraging resource. The Site does not link habitats of note and contains no linear features, and is not a linear feature itself, and is therefore considered to have low to negligible value for commuting bats.

3.5.3 Assessment of Effects

The development plans (Appendix 1) ensure that vegetation will remain onsite, and the previous recommendations for pollinator friendly planting will ensure that the Site will remain suitable as low value foraging habitat for light tolerant species of bat. Changes in lighting could impact commuting or foraging.

3.5.4 Recommendations

As part of best practice, it is recommended any external lighting scheme to be installed as part of the development avoids any unnecessary light spill onto nearby vegetation or boundary features through the use of baffles, hoods, LEDs, timers and directional lighting (Fergusson *et al,* 2018). The following mitigation approaches have been taken from Bat Conservation Trust and Institution of Lighting Professionals: Bats and Artificial Lighting in the UK (Fergusson *et al*, 2018) and other referenced sources:

- Minimise light spill by eliminating any bare bulbs and upward pointing light fixtures. The spread of light should be kept near to or below the horizontal plane, by using as steep a downward angle as possible and/or shield hood. Flat, cut-off lanterns are best;
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used.
- Artificial lighting proposals should not directly illuminate boundary habitats, trees or bat box locations;

With these lighting implementations it is considered that any adverse effects from lighting upon potential bat populations will be minimised.

3.6 Birds

3.6.1 Desk Study

The leading governmental and non-governmental conservation organisations in the UK have reviewed the population status of the birds that are regularly found in the UK. These birds have been placed onto one of three lists – red, amber or green[8] according to their population status and vulnerability.

Red list species are those that are globally threatened; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery. Amber list species are those with an unfavourable conservation status in Europe, those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations. Species that fulfil none of the criteria are green-listed.

No records of birds were returned by the data search.

3.6.2 Field Survey

The field survey noted the following species on the site: wren (*Troglodytes troglodytes*) and blackbird (*Turdus merula*)

The scattered trees and scrub and brash pile onsite have some suitability for nesting birds, such as wren (*Troglodytes troglodytes*) and robin (*Erithacus rubecula*).

No bird nests were observed on the site during the site visit.

3.6.3 Assessment of Effects

The clearance of the Site has the potential to disturb or destroy active nests and the development will see a loss in the available nesting habitat onsite unless replacement provision is provided.

3.6.4 Recommendations

Clearance of the brash pile, trees, and scattered scrub should be undertaken outside of the nesting bird season, or during nesting season following a nesting bird check undertaken by a suitably experienced ecologist. The nesting season varies yearly; however, it is considered that an ecologist should be consulted if clearance is planned between March and August (inclusive), considered a good guide for the nesting period.

A hedgerow providing habitat suitable for nesting birds should be planted around part of the Site boundary. This hedgerow should be at least 15m in length to compensate for the loss of patches of scrub, trees, and brash.

[8] Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man (2015)

3.7 Reptiles

3.7.1 Desk Study

The desk study returned no records for reptiles within 1km of the site. Aerial imagery shows the Site was cleared c.2009 to facilitate the construction of the residential units adjacent to the east of the Site.

3.7.2 Field Survey

The habitats onsite all have low value for reptiles, notably common lizard (*Zootoca vivipara*). However, overall the Site is of low value with negligible connectivity to the wider landscape suggesting there is little chance the Site has been colonised by reptiles. The Site is considered likely to be too small to support a viable population in its current or past condition.

3.7.3 Assessment of Effects

There is negligible chance of reptiles being present onsite and therefore no impacts are predicted. This finding is considered when the isolation of the site is combined with the total clearance of the Site in c.2009, and the overall low value of the Site.

3.7.4 Recommendations

No further recommendations.

3.8 Notable Species

3.8.1 Desk Study

The desk study returned no records for any notable species.

3.8.2 Field Survey

The Site has low value foraging habitat for hedgehogs, and could form a small part of a territory, but is too small to support an individual. The brash pile and scrub provide shelter and refugia. The species may be transiently present on the Site.

3.8.3 Assessment of Effects

The is a low risk that hedgehog could be injured or killed during Site clearance. The erection of impermeable fences onsite in the operational phase could reduce the connectivity for hedgehogs within the area.

3.8.4 Recommendations

Clearance of the site should be in conjunction with recommendations for nesting birds.

Any small mammal, including hedgehog, disturbed during construction should be allowed to flee of their own volition to the site boundary.

The development should seek to minimise the use of impermeable boundary fencing. This can be negated by installing 13x13cm holes in the base of fences or using hedgerows onsite. These ideas will allow a hedgehog highway to be created across the site. To further raise awareness these access points can be marked with “Hedgehog Highway” signs.

4 Additional Biodiversity Enhancements

As per the National Planning Policy Framework[9] all new developments are required to deliver a net gain in biodiversity. In order to achieve this, the mitigation measures described in the preceding sections as well as the additional biodiversity measures should be implemented.

A brief summary of the recommended biodiversity enhancements for the site is detailed in Table 3, below. For more detail on these enhancements, including recommended specifications, please refer to the species-specific sections of this report.

Table 3: Summary of Additional Biodiversity Enhancement Measures

Group or Habitat	Enhancement
Pollinators	Include three large raised planters within the development. These should be stocked with pollinator friendly planting.
Pollinators	Four insect boxes or bug hotels can be included within the development. Mounted on poles or fences, between 1 and 2m high, and in areas of full sun.
General	Wildlife friendly amenity planting onsite will benefit birds and pollinators, providing foraging resources and shelter.

[9] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf

5 References

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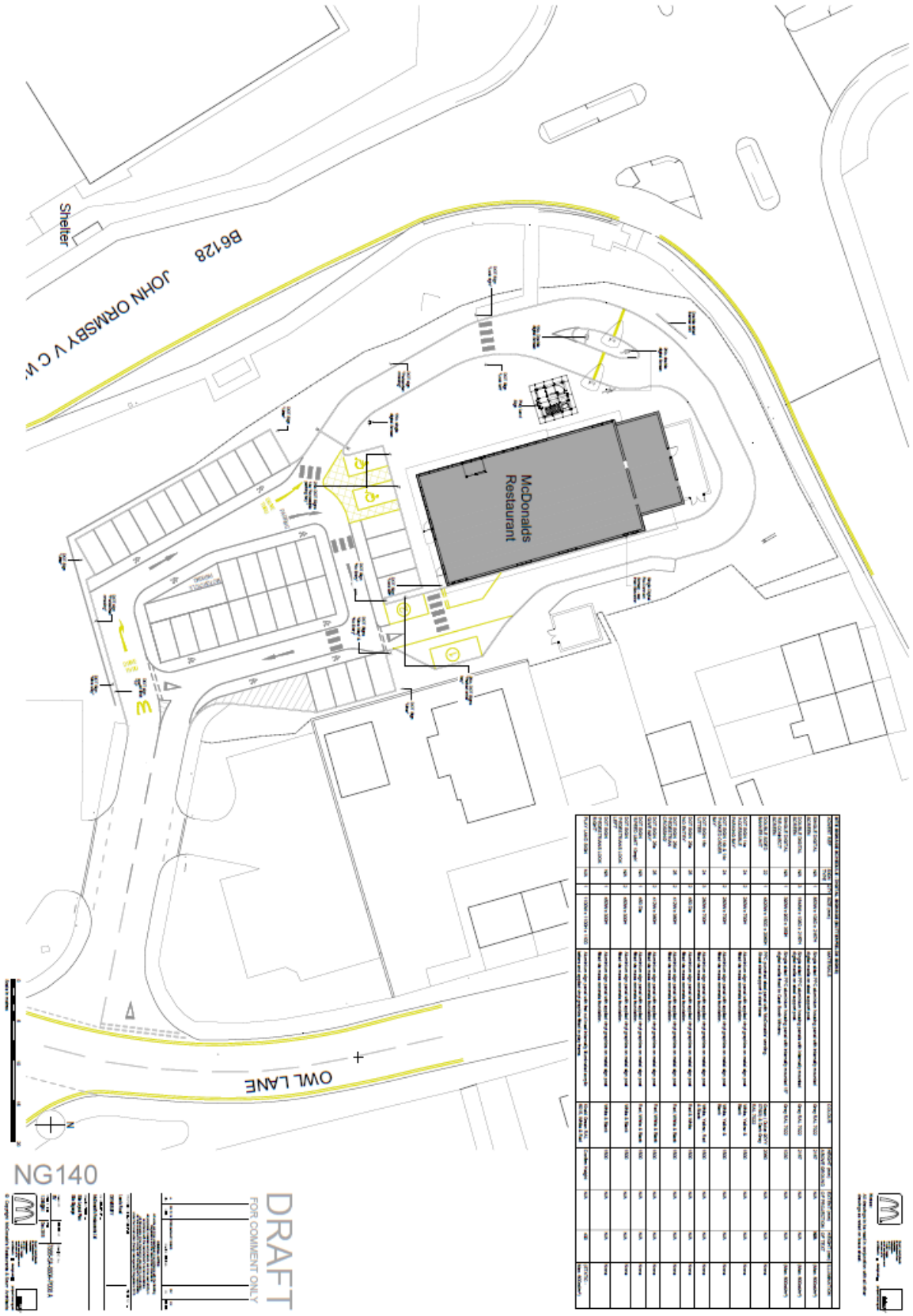
Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10 (4), 143-155.

Stone, E.L., Jones, G., Harris, S. (2012) Conserving energy at a cost to biodiversity? Impacts of LED lighting on bats. Glob. Change Biol. 18, 2458–2465

Appendix 1: Proposed Site Plan



Appendix 2: Site Photographs

Semi-improved Grassland

Tall Ruderal

Rubble and Hard Standing

Scattered Scrub and Trees

Brash Pile

Tall Ruderal on old Spoil Pile

Appendix 3: Legislation

The following sections outline the legislation protecting each species or group of species where appropriate which have been considered as part of the preceding report.

Important notes:

- Practical Ecology Ltd's reports do **not** purport legal advice.
- The outline of legislation provided is not comprehensive and the original texts of the relevant legislation must be referred to for a full list of offences.

5.1 European Protected Species

5.1.1 Overview

The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats) was adopted in 1979. To implement the agreement, the European Community adopted the EC Habitats Directive.

The EC Habitats Directive has been written into UK law in the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. In addition, the Countryside and Rights of Way Act 2000 strengthened the wildlife legislation in the UK.

In relation to development, a person commits an offence regarding a species protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 if they:

- Deliberately capture, injure or kill an EPS;
- Deliberately or recklessly disturb wild animals of any such species in such a way as to be likely to significantly affect;
    - The ability of any significant group of animals to survive, breed or rear of nurture their young;
    - The local distribution or abundance of that species.
- Damages or destroys a breeding site or resting place (even if unintentional or when the animal is not present);
- Intentionally or recklessly obstructs access to a structure or place used for protection or shelter; and
- This applies regardless of the life stage (i.e. eggs, young, adult).

The following sections outline the offences that can be committed against each species or group of species which are protected by European law and tranches of UK law which strengthen that protection.

5.1.2 Bats

All species of bat and their breeding sites or resting places (roosts) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- intentionally kill, injure or handle a bat;
- to possess a bat (whether live or dead);
- disturb a roosting bat; or
- sell or offer a bat for sale without a licence.

It is also an offence to intentionally or recklessly damage, destroy or obstruct access to any place used by bats for shelter, whether they are present or not.

A roost is defined as 'any structure or place which (a bat) uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time of the survey.

5.1.3 Great Crested Newts (*Triturus cristatus*)

Great crested newts and their breeding sites (ponds) or resting places are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- intentionally or recklessly kill, injure or handle a great crested newt;
- to possess a great crested newt (whether live or dead);
- disturb a great crested newt – this includes in particular:
    - Any disturbance or obstruction which is likely to impair their ability to survive, breed or reproduce, or to rear or nurture their young; or
    - Any disturbance or obstruction that impairs their ability to hibernate or affecting their local distribution and abundance;
- sell or offer a great crested newt for sale without a licence.

It is also an offence to intentionally or recklessly damage, destroy or obstruct access to any place used by great crested newts for shelter, whether they are present or not.

5.1.4 Otter (*Lutra lutra*)

Otters and their breeding sites (holts) or resting places are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- Deliberately or recklessly capture, kill, disturb or injure otters;
- Deliberately or recklessly damage or destroy a breeding or resting place;
- Deliberately or recklessly obstruct access to their resting or sheltering places; or
- possess, sell, control or transport live or dead otters, or parts of otters.

5.1.5 Common dormouse (*Muscardinus avellanarius*)

Common dormice and their breeding sites or resting places are protected under Regulation 41 of The Conservation of Habitats and Species Regulations 2017 and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence to:

- Deliberately or recklessly capture, kill, disturb or injure common dormice;
- Deliberately or recklessly damage or destroy a breeding or resting place;
- Deliberately or recklessly disturb a common dormouse whilst in structure or place of shelter or protection;
- Deliberately or recklessly obstruct access to their resting or sheltering places; or
- possess, sell, control or transport live or dead common dormice, or parts of common dormice.

5.2 Other Species

5.2.1 Badgers (*Meles meles*)

Badgers are fully protected in the UK by the Protection of Badgers Act, 1992 and by Schedule 6 of the Wildlife and Countryside Act 1981 as amended.

The Protection of Badgers Act 1992 was introduced in recognition of the additional threats that badgers face from illegal badger digging and baiting. Under the Act, it is an offence *inter alia* to:

- Wilfully kill, injure or take a badger, or to attempt to do so;
- Cruelly ill-treat a badger; or
- Intentionally or recklessly interfere with a badger sett by;
    - damaging a sett or any part of one;

- destroying a sett;
- obstructing access to or any entrance of a sett;
- causing a dog to enter a sett; or
- disturbing a badger when it is occupying a sett.

The purpose of this legislation is to ensure that badgers are humanely treated. There is no provision in the legislation to issue licences to kill badgers for the purpose of development and no provision to issue licences that will cruelly ill-treat badgers.

NB: Standing advice for construction sites and what constitutes disturbance has been withdrawn by Natural England, though it is still a useful point of reference. However, it is an oversimplification of the possible disturbance effects and an ecologist must undertake a ***site-specific risk assessment***.

Natural England's guidance *was* as follows:

- No tracked or heavy plant (c>15 tonne) within 30m;
- Light plant (i.e. mini diggers/dumpers etc <c15 tonne and not tracked) within 20m; and
- Hand tools only within 10m.

5.2.2 Water Vole (*Arvicola terrestris*)

Water vole and their breeding sites or resting places (burrows) are protected under Schedule 5 of the Wildlife and Countryside Act 1981.

It is an offence to:

- Deliberately or recklessly capture, kill, disturb or injure water voles;
- Deliberately or recklessly damage or destroy a breeding or resting place;
- Deliberately or recklessly disturb a water vole whilst in structure or place of shelter or protection;
- Deliberately or recklessly obstruct access to their resting or sheltering places; or
- Possess, sell, control or transport live or dead water voles, or parts of water voles.

NB: In the case of water voles, a place of shelter or breeding or resting place is only likely to constitute an 'active' burrow.

5.2.3 Reptiles

All six of the UK's reptile species are protected under the Wildlife and Countryside Act 1981 (as amended).

Of the more common reptiles, it is illegal to intentionally kill or injure common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*), an adder (*Vipera berus*) and grass snake (*Natrix natrix*).

5.2.4 White-Clawed Crayfish (*Austropotomobius pallipes*)

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- Take a white-clawed crayfish from the wild;
- Sell or offer the sale of a whole or any part of a white-clawed crayfish.

This applies to all life stages.

5.2.5 Birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built;
- intentionally take or destroy the nest or eggs of any wild bird. [Special penalties are liable for these offences involving birds listed on **Schedule 1**].

Birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) have an additional level of protection. With regards to these species, it is it is an offence to deliberately or recklessly:

- disturb them whilst they are nesting, building a nest, in or near a nest that contains their young;
- disturb their dependent young.

5.2.6 Invasive Species

Certain species of plants and animals that do not naturally occur in Great Britain have become established in the wild and represent a threat to the natural fauna and flora. Section 14 of the Wildlife & Countryside Act 1981 (as amended) prohibits the release of any animal species that are 'not ordinarily resident or is not a regular visitor to Great Britain in a wild state'.

Therefore, under Section 14 it is an offence to allow the establishment of plant species listed on Schedule 9 Part 2 in the wild.

5.2.7 Wild Mammals

Mammal species not of primary conservation concern do receive protection from unnecessary suffering through the Wild Mammals Protection Act (1996).