



**Project Number: P2970**

**Appendix 8.1**

**Preliminary Ecological Appraisal**

**Cavan Regional Sports Campus**

**Client: McAdam Design**

**Issued: May 2023**

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## SUMMARY

MCL Consulting Ltd (MCL) was appointed by McAdam Design to undertake a Preliminary Ecological Assessment on behalf of McAdam Design for Cavan County Council for the proposed development of a sports campus to be located on lands north, south and west of Royal School Cavan and west of Breffni Park GAA grounds, County Cavan. Currently there are three options are proposed for the development of these lands.

The site is not located within any sites that are nationally or internationally designated for their nature conservation importance. However, the proposed development site is located approximately 3.69km south-east of the Lough Oughter SPA and Lough Oughter and Associated Loughs SAC. There are no Proposed Natural Heritage Areas within 15km of the site with the nearest designated Proposed Natural Heritage Areas, Lough Oughter and Associated Loughs pNHA and Drumkeen House Woodland pNHA, located approximately 3.69km north-west / west and 3.02km north respectively.

However, due to the scale of the site and recent species surveys identifying key species in close proximity to the proposed development site, it is considered that there is a risk of significant impacts both direct and indirect and as such an appropriate screening assessment has been undertaken. It is also recommended that a surface water management plan is produced due to the close proximity of the proposed development site to the Cavan River to mitigate against potential pollution risks from silt, sediment and hydrocarbon spills or leaks.

Any vegetation clearance should be kept to a minimum and undertaken outside of the breeding season (1st March – 31st August). Any vegetation which is removed/chipped prior to the bird breeding season should be removed from the site completely, in order to prevent birds along with other species using stored debris a nesting/resting sites. Due to the identification of bird nests throughout the site it is recommended that a breeding bird survey is carried out on site to determine the extent of breeding bird activity, nesting species and behaviours.

A total of 48 noted trees were identified as being “at risk” from the proposed development and categorised with an appropriate bat roost potential score. As such, bat activity surveys are required in the form of an appropriate number of **emergence** and **re-entry** surveys for the identified trees as well as **transect activity surveys** to determine the impact on bat

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activity across the site. Updated bat roost potential assessment and bat activity surveys were carried out by AECOM and the results of these studies are available from AECOM report (60711314)

Due to the presence of suitable habitat, mammal activity and sightings along the Cavan River, NPWS records, the proximity of the proposed development site to a designated site with Eurasian Otter as a qualifying feature and the extensive territorial range of Eurasian Otter; further survey work was undertaken to determine/confirm the presence of otter as well as determine otter activity in or near the site and to develop suitable mitigation strategies. Full results are shown in a separate Otter Report (MCL Consulting Ltd, 2024)

Due to the identification of the badger sett on site and its location being at direct high risk of impact from the proposed development, a badger survey was undertaken in order to determine badger presence, activity and to locate other badger setts in the area. Full results are shown in a separate Badger Report (MCL Consulting Ltd, 2024)

There is suitable habitat in the area for pine marten as well as many mammal trails observed. Pine marten have also been anecdotally reported by the groundskeeper of the school. A detailed pine marten survey was carried out on the site. Full results are shown in a separate Pine Marten Report (MCL Consulting Ltd, 2024)

Evidence of both white-clawed crayfish and freshwater pearl mussel was found within the Cavan River on site. These are both highly protected species and will require further surveying to determine their abundance before recommending suitable avoidance or mitigation measures.

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## 1.0 INTRODUCTION

MCL Consulting Ltd (MCL) was appointed by McAdam to undertake a Preliminary Ecological Assessment on behalf of McAdam for Cavan County Council for the proposed development of a Regional Sports Campus to be located on lands north, south and west of Royal School Cavan and west of Breffni Park GAA grounds, County Cavan.

### 1.1 Site Description

The proposed project relates to circa 28ha situated to the Southwest of Cavan Town, located between Kingspan Breffni Park and the Royal School, Cavan. The site incorporates existing sporting facilities used by the Royal School for physical education; this including one shale gravel hockey pitch and adjoining soccer field. The remainder of the development lands are undeveloped. The site also includes lands to the southwest of Breffni Park and access through Breffni Park. A site location map is presented in Figure 1.



**Figure 1. Site location**



Figure 2. Proposed Site for Development

## 1.2 Development Proposals

The development proposal includes an athletic track and football playing field with spectators stand at the northwest area of the site. Immediately north of the main school campus is to be an open sports pitch with a path that leads to the main Dublin Road to the Northeast. West of the main campus is a covered arena with associated accommodation and sports hall with vehicle parking. South of this covered arena is another open sports pitch with the main area of parking for the sports campus located east of this, south from the main campus building. At the southern end of the site there are a further 4 open sports pitches proposed with a GAA Centre of excellence structure located at the north side of these pitches and associated hard standing/car parking. The area west of the sports hall is to be a wildlife zone with habitat and artificial sett created for badgers identified as being present on site.

The development comprises the following components:-

- Indoor sports complex to include sports halls with spectator seating, fitness studios, changing facilities, reception, café and ancillary accommodation.

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- 7 no. outdoor sports pitches.
  - Covered sports arena with playing pitch, spectator seating and other ancillary accommodation.
  - Ancillary sporting facilities include 8 lane athletics track and cricket practice nets.
  - New vehicular access / junction and closure of Park Lane/Dublin vehicular junction, relocation of existing Breffni Park turnstiles to facilitate reconfiguration of Park Lane, bridge structure, internal roads, cycle/pedestrian paths, associated car/bus/cycle parking, electric charge points and streetlighting.
  - Pedestrian access points of Kilnavara Lane and Dublin Road.
  - Hard and soft landscaping including acoustic fencing, wildlife habitat area/corridors, artificial badger-sett, walking trails and other ancillary works such as spectator stands, retaining walls, fencing and ball stop fencing, team shelters, toilet block, floodlighting, signage, drainage infrastructure including attenuation tanks, SuDs and culverting of a minor watercourse, storage space, ESB Substation, ancillary accommodation and all associated site works to accommodate the development.
  - The proposed bridge is a single span integral reinforced concrete bridge, supported on piled foundations.

### 1.3 Rationale of PEA

The aim of this report is to provide: -

- Baseline ecological conditions through a desk study of the site and the surrounding environs, involving designations local to the site and protected species that could be affected by this development.
- Carry out an extended Phase 1 Habitat survey to identify habitat types and their dominant vegetation and to identify potential habitats capable of supporting protected species.
- Identify any ecological issues that could potentially hinder this application, such as the presence of protected species and invasive weeds and recommend the need for further survey.



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## 1.4 Surveyors/Authors

MCL Consulting is a Northern Ireland based multidisciplinary environmental consultancy which provides expert advice for a wide range of ecological services in support of Environmental Impact Assessments (EIA).

### **Ryan Boyle BSc MSc – Principal Ecologist**

Reporting was carried out by Ryan Boyle a principal ecologist at MCL Consulting. Ryan has a MSc in Ecological Management and Conservation Biology from Queens University Belfast and a BSc (Hons) in Bioveterinary Sciences from Harper Adams University. He has 8 years of professional and voluntary experience in the ecological, environmental and conservation sector having worked as a herpetological keeper at Chester Zoo working on conservation breeding programmes with the aim of wild reintroductions, a zookeeper at Belfast Zoo, environmental assistant at GRAHAM, volunteered with the Belfast Hills Partnership partaking in a number of surveys such as bats, phase 1 habitat surveys, preliminary ecological appraisals, environmental farming schemes, soil carbon surveys, river fly surveys and is the chair for the Northern Ireland Amphibian and Reptile Group. He is experienced in species identification, management and mitigation, badger surveys, otter surveys bat activity surveys, preliminary ecological appraisals, biodiversity checklists, bat roost potential surveys, newt surveys, breeding bird surveys, vantage point surveys as well as in-depth research desk studies to generate informative conclusions based upon historical data with experience in applying these skills to development industries.

### **Peter McKnight BSc MSc – Consultant Ecologist**

Fieldwork and reporting was carried out by Peter McKnight, a Consultant Ecologist at MCL Consulting. He graduated from Queen's University Belfast with a bachelor's degree (BSc) in Planning, Environment and Development as well as a master's degree (MSc) in Ecological Management and Conservation Biology. He has previous employment experience with EcoSeeds where he assisted in the growing, cleaning and distribution of wildflower seeds including hydroseeding. He also worked for Ulster Wildlife as a Nature Reserve Assistant, treating invasive species and managing the bespoke needs of nature reserves across Northern Ireland including scrub removal, path/fence maintenance and botanical surveys. During this job he obtained LANTRA certification in the Safe Use of Pesticides, Brushcutters and Woodchippers as well as a Rescue Emergency Care certificate in Essential First Aid for the Outdoors including Emergency First Aid at Work. During his BSc, he went to Peru with

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Operation Wallacea to the Amazon Rainforest for 4 weeks, surveying varying tropical species including fishing bats, caiman and tropical birds. He also holds a Construction Skills Register (CSR) card.

**Emily Taylor BSc MSc – Senior Ecologist**

Fieldwork was carried out by Emily Taylor, a senior ecologist at MCL Consulting. She has an MSc in Ecological Management and Conservation Biology from Queen’s University Belfast and has a BSc (Hons) in Biological Sciences from Durham University. She has a range of experience in ecological field skills, having undertaken placements with both the RSPB and the Armagh, Banbridge and Craigavon Borough Council’s biodiversity department. She is a current regional surveyor for the Northern Ireland Amphibian and Reptile Group, a seasonal volunteer for the Bat Conservation Trust and a member of the Botanical Society of Britain and Ireland. She has regular experience in conducting biodiversity checklists, extended phase 1 habitat surveys, bat roost potential surveys, bat activity surveys and breeding bird surveys. She also has experience in surveying for otters, badgers, lizards and newts. She is a qualified tree climber, with a LANTRA qualification in tree access using a rope and harness and aerial rescue and has completed both Construction Site Register (CSR) and Personal Track Safety (PTS) training.

**Amy Skuce BSc (Hons) MCIEEM – Principal Ecologist**

Fieldwork was carried out by Amy Skuce, a Principal Ecologist at MCL Consulting. She has a BSc (Hons) in Countryside and Environmental Management from Harper Adams University and is a Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM). She has nine years of experience as a professional ecologist undertaking extensive survey work as well as designing appropriate mitigation for a range of schemes. Amy holds a Level 4 Field Identification Skills Certificate (FISC) and is an experienced botanical surveyor and is proficient in extended phase one habitat surveys, UKHABs and Biodiversity Net Gain assessments as well as National Vegetation Classification (NVC) surveys. She also has experience in undertaking bat roost potential surveys, bat activity surveys, badger surveys as well as a range of riparian mammal and herptile surveys.

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## 2.0 LEGISLATION

### 2.1 International (E.U)

<b>The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna)</b>	main legislative body for the protection and conservation of biodiversity within the European Union (EU). The Habitats Directive lists habitats and species that must be protected within Special Areas of Conservation (SAC) on Annexes I and II respectively. The Habitats Directive additionally identifies plant and animal species on Annex IV which are subject to strict protection anywhere they occur.
<b>The Birds Directive (Council Directive 2009/147/EC on the Conservation of Wild Birds)</b>	provides a network of sites in all member states. These are designated as such to protect birds at their breeding, feeding, or roosting areas. The Birds Directive identifies in Annex I species that are rare, in danger of extinction or vulnerable to changes in habitat and which require special protection (so-called 'Annex I' species). Special Protection Areas (SPA) are designated under the Birds Directive to protect a range of bird populations including those of Annex I species.

### 2.2 Legislation

#### Bats

All bats and their roosting sites are legally protected under the EU Habitats Directive as transposed by the Habitats Regulations. With the exception of Lesser Horseshoe bat (*Rhinolophus hipposideros*), which is an Annex II species, the remainder are classified as Annex IV species. They are also protected under the Wildlife Act (as amended). Across Europe, bats are further protected under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982), which, in relation to bats, exists to conserve all species and their habitats. Article 12 and 13 of the Habitats Directive relates to the establishment of a system of strict protection for certain animal and plant species, while Article 16 provides for derogations from these provisions under limited circumstances. Article 12, 13 and 16 of the Habitats Directive are transposed into Irish law by Regulation 51, 52 and 54 of the Birds and Habitats Regulations of 2011, respectively. All bats are strictly protected in Ireland and a person who deliberately captures, kills or disturbs a specimen in the wild, or who damages or destroys a breeding site or resting place of such an animal, is guilty of an offence.

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As an Annex IV species may be found throughout the country, the protection of these species is not restricted in geographical terms and is not necessarily associated with areas subject to a specific nature designation.

Under the Regulations it is an offence:

- Deliberately to capture, injure or kill a wild animal of a European protected species;
- Deliberately to disturb such an animal while it is occupying a structure or place which it uses for shelter or protection;
- Deliberately to disturb such an animal in such a way as to be likely to;
  - affect the local distribution or abundance of the species to which it belongs;
  - impair its ability to survive, breed or reproduce, or rear or care for its young;
  - or
  - impair its ability to hibernate or migrate;
- Deliberately to obstruct access to a breeding site or resting place of such an animal;
- or
- To damage or destroy a breeding site or resting place of such an animal.

There is no provision within the legislation to issue licences to kill bats for the purpose of development.

### **Badgers**

Badgers (*Meles meles*) are legally protected under the Irish Wildlife Act 1976 (as amended) and Appendix III of the Bern convention as a species in need of protection. Under the Order it is an offence to:

- intentionally or recklessly kill, injure or take a badger; or
- intentionally or recklessly damage or destroy, or obstruct access to, any structure or place (normally a sett) that badgers use for shelter or protection; or
- intentionally or recklessly damage or destroy anything which conceals or protects any such structure; or
- intentionally or recklessly disturb a badger while it is occupying a structure or place which it uses for shelter or protection.

In addition, any person who knowingly causes or permits to be done an act which is made unlawful by any of these provisions shall also be guilty of an offence. There is no provision within the legislation to issue licences to kill badgers for the purpose of development.

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### **Otters**

Otters (*Lutra lutra*) are protected under the Irish Wildlife Act 1976 (as amended) and are listed on Annex II of the EU Habitats Directive. Under the Habitats Regulations it is an offence:

- Deliberately to capture, injure or kill a wild animal of a European protected species;
- Deliberately to disturb such an animal while it is occupying a structure or place which it uses for shelter or protection;
- Deliberately to disturb such an animal in such a way as to be likely to;
  - affect the local distribution or abundance of the species to which it belongs;
  - impair its ability to survive, breed or reproduce, or rear or care for its young;
  - or
  - impair its ability to hibernate or migrate;
- Deliberately to obstruct access to a breeding site or resting place of such an animal;
- or
- To damage or destroy a breeding site or resting place of such an animal.

There is no provision within the legislation to issue licences to kill otters for the purpose of development.

### **Red Squirrel**

Red squirrels (*Sciurus vulgaris*) and their dreys are protected under the Irish Wildlife Act 1976 (as amended) and are listed under Annex III of the Bern Convention for Conservation of European Wildlife and Natural Habitats. Under this It is an offence to:

- intentionally or recklessly kill, injure or take
- intentionally or recklessly: damage or destroy, or obstruct access to, any structure or place which red squirrels use for shelter or protection;
- damage or destroy anything which conceals or protects any such structure; disturb a red squirrel while it is occupying a structure or place which it uses for shelter or protection.

### **Pine Marten**

Pine martens (*Martes martes*) are protected in Schedule V of the Irish Wildlife Act 1976 (as amended). This species is also afforded protection under Annex V of the EU Habitats Directive and Annex III of the Convention on the Conservation of European Wildlife and Natural Habitats (The Bern Convention). As such, it is an offence to capture or kill a pine marten, or to destroy or disturb its resting places.

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### **Breeding Nesting Birds**

All wild birds are protected, particularly during the bird breeding season while nesting under the Irish Wildlife Act 1976 (as amended), the EU Habitats Directive of the Bern convention via the European Communities (Birds and Natural Habitats Regulations 2011 (S. I. No. 477 of 2011)). It is an offence to intentionally or recklessly:

- kill, injure or take any wild bird; or
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- at any other time take, damage or destroy the nest of any wild bird included in Schedule A1; or
- take or destroy an egg of any wild bird; or
- disturb any wild bird while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturb dependent young of such a bird.

Additionally, any person who knowingly causes or permits to be done an act which is made unlawful by any of these provisions shall also be guilty of an offence.

### **Wild Birds**

Most bird species return to the same general nesting location each year and build a new nest. However, some species return to the same nest sites year after year, re-using old nests. For these species it is an offence to damage or destroy their nests at any time of the year, even when they are not in use.

All wild birds are also subject to conservation measures under the Birds Directive (2009/147/EC). This requires European Member States to take conservation measures to maintain populations of all naturally occurring wild birds. Additionally, some bird species, which are particularly rare or vulnerable, are listed on Annex I of the Directive. These species are subject to special conservation measures and have additional legal protection as features of designated sites, such as Special Protection Areas (SPAs).

Local and national biodiversity action plans consider priority species within the local area of conservation concern.

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### **Smooth Newt**

Smooth newts (*Lissotriton vulgaris*) are protected in Ireland under Schedule 5 of the Wildlife Act, 1976. The species is also afforded additional protection under Appendix III of the Convention on the Conservation of European Wildlife and Natural Habitats (The Bern Convention). Under the Order it is an offence to:

- intentionally or recklessly kill, injure or take a newt; or
- intentionally or recklessly damage or destroy, or obstruct access to, any structure or place that newts use for shelter or protection; or
- intentionally or recklessly damage or destroy anything which conceals or protects any such structure; or
- intentionally or recklessly disturb a newt while it is occupying a structure or place which it uses for shelter or protection.

In addition, any person who knowingly causes or permits to be done an act which is made unlawful by any of these provisions shall also be guilty of an offence. There is no provision within the legislation to issue licences to kill newts for the purpose of development.

### **Common or viviparous lizard**

Common lizards (*Zootoca vivipara*) are protected in Ireland under Schedule 5 of the Wildlife Act, 1976. The species is also afforded additional protection under Appendix III of the Convention on the Conservation of European Wildlife and Natural Habitats (The Bern Convention). Under the Order it is an offence to:

- intentionally or recklessly kill, injure or take a lizard, or
- intentionally or recklessly damage or destroy, or obstruct access to, any structure or place that lizards use for shelter or protection.

### **Lepidoptera**

The marsh fritillary butterfly (*Euphydryas aurinia*) is a protected species listed on Annex II and Annex IV of the EU Habitats Directive. Under the Habitats Regulations it is an offence. It is an offence to

- intentionally or recklessly kill, injure or take the marsh fritillary butterfly; or
- intentionally or recklessly damage or destroy, or obstruct access to, any structure or place that the marsh fritillary uses for shelter or protection

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## **Flora**

All wild plants are given some measure of protection in the Republic of Ireland. The current list of plant species protected by Section 21 of the Wildlife Act, 1976 is set out in the Flora (Protection) Order, 2015. The order has the effect that, unless you have a licence, you may not:

- intentionally pick, uproot or destroy any wild plants listed in the schedule, or even collect their flowers and seeds;
- sell these plants or their seeds if taken from the wild;
- uproot any wild plants intentionally, except on your own land or with permission.

## **White-clawed crayfish**

The white-clawed crayfish (*Austropotamobius pallipes*) is protected under the Wildlife Acts in Ireland and is listed on Annex II and Annex V of the EU Habitats Directive. The species is also afforded additional protection under Appendix III of the Convention on the Conservation of European Wildlife and Natural Habitats (The Bern Convention). Under the Order it is an offence to:

- deliberately capture, keep or kill white-clawed crayfish; or
- deliberately damage or destroy resting or breeding sites; or
- deliberately disturb, particularly during periods of breeding, rearing or hibernation; or
- possess or trade these animals, dead or alive or any derivative of these animals.

## **Freshwater pearl mussel**

The freshwater pearl mussel (*Margaritifera margaritifera*) is a protected species listed under Annex II and Annex V of the EU Habitats Directive. The species is also afforded additional protection under Appendix III of the Convention on the Conservation of European Wildlife and Natural Habitats (The Bern Convention). Under the Order it is an offence to:

- deliberately capture, keep or kill freshwater pearl mussels; or
- deliberately damage or destroy resting or breeding sites; or
- deliberately disturb, particularly during periods of breeding, rearing or hibernation; or
- possess or trade these animals, dead or alive or any derivative of these animals.



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## 3.0 METHODOLOGY

This assessment comprised of a combination of desk study and field investigations, and used the following scope of works as a basis for the assessment:

- Desk study and review of potential development proposals;
- Site visit and walk over;
- Identification of onsite habitats and key species, GIS mapping;
- Habitat classification map using standardised Phase 1 Survey techniques and in accordance with NPWS and Fossitt's recommendations;
- Recording of geo-referenced target notes and production of GIS databases;
- Review of land designation GIS datasets (to include NPWS designations, Natura 2000 network sites etc.);
- Assessment on the potential impacts that the proposed development may have on local ecological environs and designated sites; and
- Recommendations for further ecological assessments, as required.

### 3.1 Desk Study

A desk study was undertaken to determine if any statutory or non-statutory designations, ancient woodland or priority species within proximity to the site. This involved using digital GIS datasets as well as contacting local recording groups for relevant information.

The data sources for the desk study were:

- NPWS Natural Environment Map Viewer.
- Relevant NGO Websites.
- National Parks & Wildlife Service (NPWS) records requested 29<sup>th</sup> April 2023.
- NBN Atlas.

### 3.2 Field Study

Survey methods followed the Phase 1 habitat methods as carried out in accordance with CIEEM methodologies and guidelines and habitat identification was done in accordance with the Fossitt's Guide (2000). This involved a systematic walkover of the site during April and November 2023, and January 2024 mapping and broadly describing habitat types and identifying the presence of the dominant flora species and non-native invasive weeds.

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Habitats were identified and described following Fossitt's Guide (2000), Phase 1 habitat survey methodology (JNCC 1990), and reference made to the '*Guidelines for Ecological Impact Assessment*' (CIEEM, 2018) and CIEEM (2017) Guidelines for Preliminary Ecological Appraisal.

A systematic search was carried out for evidence of and the site's potential to support protected mammal species, including but not limited to the following:

**Badger *Meles meles*** - The survey area and 25m beyond the site boundary was surveyed for signs of badger activity including the presence of setts, latrines, badger paths, bedding and hair caught on barbed wire fences. In addition, a note was made of any well-worn mammal track that was observed within the survey area.

**Bats *Chiroptera sp.*** - An assessment of the suitability of habitats and features within the survey area for their roosting, foraging and commuting places.

**Otter *Lutra lutra*** - The application site was surveyed for signs of otter activity. The survey involved searching for evidence of otters including the presence of holts (otter dens), couches (laying up areas), spraints (faecal droppings), otter paths, slides and otter paw prints.

**Smooth Newt *Lissotriton vulgaris*** - An assessment of the suitability of any waterbodies within the application site was made for smooth newts with areas of suitable habitat and niches noted.

**Breeding Birds** - An assessment of the suitability of the habitats and features within the site to support breeding bird species was made and a record of incidental bird sightings was conducted during the site visit.

Other protected species included within the survey for suitable habitat and any evidence of included common lizard *Zootoca vivipara*, formerly *Lacerta vivipara*, lepidoptera species and listed plant species.

Below is a summary of the survey details, survey timing and weather details including temperature (°C), wind speed (mph), cloud cover (Oktas), and precipitation.

**Table 1: Summary of survey timing and weather**

Surveyor	Date	Survey Start	Survey Finish	°C	W/s (mph)	Oktas	Ppt %
Ryan Boyle BSc (Hons), MSc Emily Taylor BSc (Hons), MSc	20/04/2023	11:00	14:30	11	9	0/8	0%
Chloe Craig Bsc (Hons), MSc Peter McKnight BSc (Hons), MSc	27/04/2023	11:00	13:00	8	4	8/8	30%
Zachary Rose BSc (Hons), MSc	14/11/2023	11:00	14:30	12	11	6/8	10%
Amy Skuce BSc (Hons), MCIEEM	15/01/2024	11:00	12:30	3	3	2/8	10%

### 3.3 Survey Constraints

While there were no impassible constraints experienced during the on-site survey carried out on the proposed development site, it should also be noted that ecological habitats can change over time and season. This includes temporal changes in flora and fauna assemblages, and these changes can be augmented or induced by alterations of land use within any given site. This report can only provide a snapshot of the ecological activities at the time of the survey undertaken.

## 4.0 RESULTS

### 4.1 Natura 2000 & Land Designations

Following a search of the NPWS GIS databases for protected and designated areas, it was found the application site is not located within any sites that are nationally or internationally designated for their nature conservation importance. However, the proposed development site is located approximately 3.69km south-east of the Lough Oughter SPA and Lough Oughter and Associated Loughs SAC. There are no Proposed Natural Heritage Areas within 15km of the site with the nearest designated Proposed Natural Heritage Areas, Lough Oughter and Associated Loughs pNHA and Drumkeen House Woodland pNHA, located approximately 3.69km north-west / west and 3.02km north respectively.

**Table 2: International/National Designations within 15km of the site**

Designation	Site Name	Setback Distance
Special Protection Areas	Lough Oughter SPA 004049	3.69km north-west / west by land

<b>Special Area of Conservation</b>	Lough Oughter And Associated Loughs SAC 000007	3.69km north-west / west by land
<b>Proposed Natural Heritage Area</b>	Lough Oughter And Associated Loughs pNHA 000007	3.69km north-west / west by land
	Drumkeen House Woodland pNHA 000980	3.02km North by land and across the Cavan River
	Glasshouse Lake pNHA 000983	14.7km west by land
	Bruse Hill pNHA 000002	11km south-west by land
	Cordonaghy Bog pNHA 000978	13.3km south-west by land
	Lough Gowna pNHA 000992	13.4km south-west by land

#### **Lough Oughter SPA 004049**

**Distance:** 3.69km north-west / west

#### **Summary:**

Lough Oughter and its associated loughs occupy much of the lowland drumlin belt in north and central Co. Cavan between Belturbet, Killashandra and Cavan town. This area comprises a maze of waterways, islands, small lakes and peninsulas. Lough Oughter, the largest lake in the site, is relatively shallow (maximum depth of 10 m) and considered to be a naturally eutrophic system. Its main inflowing rivers are the River Erne and the Annalee River, whilst the main outflow is the River Erne, which connects the lake to Upper Lough Erne and Lower Lough Erne to the north. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Great Crested Grebe, Whooper Swan, and Wigeon. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The Lough Oughter Complex is of importance for a range of wintering waterfowl. Of particular note is an internationally important population of Whooper Swan that is based in the area and which uses the lakes as a roost. A population of Greenland White-fronted Goose of regional importance also roosts on the lakes and feeds mainly on agriculturally improved grassland nearby. The site supports nationally important wintering populations of two species, Great Crested Grebe and Wigeon. Other species which occur regularly include Mute

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Swan, Teal, Mallard, Pochard, Tufted Duck, Goldeneye, Lapwing, Curlew, Little Grebe, Cormorant and Black-headed Gull. A small colony of Common Tern also occurs at this site.

Lough Oughter is at the centre of the Irish breeding range of Great Crested Grebe and the site supports in excess of 10% of the estimated national breeding total of this species. The Lough Oughter Complex SPA is of ornithological importance for its wintering waterbird populations. Of particular note is the internationally important population of Whooper Swan that is based in the area. The site also supports nationally important populations of a further two wintering species. Two of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan and Greenland White-fronted Goose. Lough Oughter is a Ramsar Convention site and a Wildfowl Sanctuary.

### **Lough Oughter SAC 000007**

**Distance:** 3.69km north-west / west

#### **Summary:**

Lough Oughter and its associated loughs occupy much of the lowland drumlin belt in north and central Cavan between Upper Lough Erne, Killeshandra and Cavan town. The site is a maze of waterways, islands, small lakes and peninsulas including some 90 inter-drumlin lakes and 14 basins in the course of the Erne River. The area lies on Silurian and Ordovician strata with Carboniferous limestone immediately surrounding. The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive:

- [3150] Natural Eutrophic Lakes
- [91D0] Bog Woodland (priority)
- [1355] Otter (*Lutra lutra*)

As well as the habitats and species listed above, the site also contains areas of dry woodland, marsh, reedbed and wet pasture. Drainage within the area is inefficient and the water levels are prone to natural fluctuation as a result. The regularly flooded areas still accommodate a variety of specialist plant species such as Amphibious Bistort (*Polygonum amphibium*) and Marsh Foxtail (*Alopecurus geniculatus*), as well as rarer species such as Needle Spike-rush (*Eleocharis acicularis*) and Lesser Marshwort (*Apium inundatum*). The lakes and basins are shallow, and the water well mixed and nutrient rich (eutrophic). The aquatic flora is varied with several pondweed species such as Bluntleaved Pondweed (*Potamogeton obtusifolius*),

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Shining Pondweed (*Potamogeton lucens*), Broad-leaved Pondweed (*Potamogeton natans*), Reddish Pondweed (*Potamogeton alpinus*) and Various-leaved Pondweed (*Potamogeton gramineus*). Typical in the zone of aquatic plants are Yellow Water-lily (*Nuphar lutea*), Canadian Pondweed (*Elodea canadensis*), Mare's-tail (*Hippuris vulgaris*), Water Milfoil (*Myriophyllum spicatum*), Brooklime (*Veronica beccabunga*), Water-dropwort species (*Oenanthe* spp.) and Waterstarwort (*Callitriche* sp.). The aquatic community includes species of limited distribution in Ireland such as the Duckweed species *Lemna gibba* and *Spirodela polyrhiza*.

Around much of the shoreline there are well developed swamp and marsh communities, typically with a zone of Common Club-rush (*Scirpus lacustris*) in front of a zone of Common Reed (*Phragmites australis*) which is in turn backed by a more species-rich zone of sedges, grasses and herbs, particularly Bottle Sedge (*Carex rostrata*), Common Sedge (*Carex nigra*), Creeping Bent (*Agrostis stolonifera*), Meadowsweet (*Filipendula ulmaria*), Water Plantain (*Alisma plantago-aquatica*), Rough Horsetail (*Equisetum hyemale*), Water Horsetail (*Equisetum fluviatile*) and Wild Angelica (*Angelica sylvestris*). Less widespread species also occur on the wet lake margins; species such as Marsh Helleborine (*Epipactis palustris*), Water Dock (*Rumex hydrolapathum*), Greater Water-parsnip (*Sium latifolium*), Cowbane (*Cicuta virosa*), Tufted-sedge (*Carex elata*), Water Soldier (*Stratiotes aloides*), Arrowhead (*Sagittaria sagittifolia*), Flowering Rush (*Butomus umbellatus*) and Greater Spearwort (*Ranunculus lingua*) may be locally prominent.

The site supports a substantial population of water birds including internationally important numbers of Whooper Swan (average peak 231) and nationally important numbers of Tufted Duck (average peak 247) and Cormorant (average peak 130), as well as important numbers of species such as Greenland White-fronted Goose, Great Crested Grebe, Wigeon, Teal and Pochard. Lapwing, Snipe and Golden Plover also utilise the wet grassland areas. Wildfowl Sanctuaries exist at Inchin Lough, Derrygid Lough, Farnham Lough, Derrybrick Lough, Derrinishbeg Lough and Annagh Lough. Part of the site is designated a Special Protection Area (SPA) under the E.U. Birds Directive.

Otter, a species listed on Annex II of the E.U. Habitats Directive, occurs at the site. Irish Hare has also been recorded. Both of these species are listed in the Irish Red Data Book and are legally protected under the Wildlife Act, 1976.

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The main threats to the quality of the site are water polluting activities (such as run-off from fertiliser and slurry application, and sewage discharge) which have raised the nutrient status of some lakes to hypertrophic. Housing and boating developments are on the increase, both adjacent to and within the site.

The Lough Oughter area contains important examples of two habitats listed on Annex I of the E.U. Habitats Directive and supports a population of the Annex II species, Otter. The site as a whole is the best inland example of a flooded drumlin landscape in Ireland and has many rich and varied biological communities. Nowhere else in the country does such an intimate mixture of land and water occur over a comparable area, and many of the species of wetland plants, some considered quite commonplace in Lough Oughter and its associated loughs, are infrequent elsewhere.

## **4.2 NBN Atlas**

A search of the NBN Atlas returned no species within the site boundary but 6 species within 2km of the site area. The most recent record is from 2017 with one record produced within that year.

## **4.3 National Parks and Wildlife Service**

A request was put into the NPWS for protected and priority species records within 2km of the proposed site. There are no records of protected species within the proposed development site, however, there is a single record for white clawed crayfish located within the Cavan River on the south-east boundary of the site and the neighbouring Breffni Park GAA grounds from 2007. There are four other records for white clawed crayfish located around the south-east boundary and neighbouring Breffni Park GAA grounds area from 1993, 1998, 2001 and 2004. There are also records of Eurasian Otter located 322m north and 1.6km north of the proposed site, Eurasian Otter is a qualifying feature of the nearby Lough Oughter SAC which is 3.69km from the proposed site which is considered to be within the natural territorial range of the Eurasian Otter.

**Table 3: NPWS species records**

<b>Taxon Common Name</b>	<b>Taxon Latin Name</b>	<b>Event Date</b>	<b>Sample Spatial Reference</b>
Wood Club-rush	<i>Scirpus sylvaticus</i>	1937	H30
Common Frog	<i>Rana temporaria</i>	1973	H30
Common Frog	<i>Rana temporaria</i>	1979	H30
Eurasian Otter	<i>Lutra lutra</i>	1980	H418047
Eurasian Otter	<i>Lutra lutra</i>	1980	H405022
Eurasian Badger	<i>Meles meles</i>	1981	H4202
Eurasian Badger	<i>Meles meles</i>	1990	H40
Eurasian Badger	<i>Meles meles</i>	1990	H30
Irish Hare	<i>Lepus timidus subsp. hibernicus</i>	1990	H30
Irish Hare	<i>Lepus timidus subsp. hibernicus</i>	1990	H40
Eurasian Otter	<i>Lutra lutra</i>	1990	H30
White-clawed Crayfish	<i>Austropotamobius pallipes</i>	1993	H420037
Common Frog	<i>Rana temporaria</i>	1997	H420045
Common Frog	<i>Rana temporaria</i>	1997	H420045
Common Frog	<i>Rana temporaria</i>	1997	H420045
White-clawed Crayfish	<i>Austropotamobius pallipes</i>	1998	H420037
White-clawed Crayfish	<i>Austropotamobius pallipes</i>	2001	H420037
Mallard	<i>Anas platyrhynchos</i>	2003	H30
White-clawed Crayfish	<i>Austropotamobius pallipes</i>	2004	H420036
Mallard	<i>Anas platyrhynchos</i>	2005	H30
Pine Marten	<i>Martes martes</i>	2006	H30



Greenfinch	<i>Chloris chloris</i>	2006	H30
Willow Warbler	<i>Phylloscopus trochilus</i>	2006	H30
White-clawed Crayfish	<i>Austropotamobius pallipes</i>	2006	H4040602769
White-clawed Crayfish	<i>Austropotamobius pallipes</i>	2007	H4186503710
Pine Marten	<i>Martes martes</i>	2007	H30
Pine Marten	<i>Martes martes</i>	2007	H40
Pine Marten	<i>Martes martes</i>	2007	H40
Pine Marten	<i>Martes martes</i>	2007	H40
Eurasian Otter	<i>Lutra lutra</i>	2010	H40440549

#### 4.4 Phase 1 Habitat Survey

A habitat classification map (see Appendix I) was created based on information obtained during site walkovers and from the most recent aerial imagery for the site. Due to the size of the site the habitat map has been separated into several maps for clear viewing at scale in Appendix I.

##### **Wet Grassland (GS4)**

This habitat type is located at the far south-eastern corner of the proposed site on the banks of the Cavan River. This small low-lying field sits at a lower elevation to the rest of the site due to the uneven topography and exhibits features suggesting regular flooding/surface/rainwater collection. Plant species composition comprise the usual suite of grasses and herbs associated with this habitat such as Yorkshire fog (*Holcus lanatus*), creeping bent (*Agrostis stolonifera*), cuckoo flower (*Cardamine pratensis*), creeping buttercup (*Ranunculus repens*), meadowsweet (*Filipendula ulmaria*), while the dominant species present was soft rush (*Juncus effusus*). There is also an area of wet grassland at the south boundary of the site located west of the existing sports pitches off site which frequently flood and was flooded at the time of surveying. The nearby fields that weren't flooded consisted of typical grasses and herbs of similar composition to the species described above.

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This flooded area was revisited on a separate site visit on the 15<sup>th</sup> January 2024 where it was found that this field consists of similar species composition as the rest of the fields nearby with higher densities of aquatic vegetation where the drainage ditches meet the Cavan River. There were no species in these flooded fields that are symbolic of wet grassland. As such, these areas were classified as Improved Agricultural Grassland (GA1).

### **Buildings and Artificial Surfaces (BL3)**

This habitat type is located in the centre of the site near the Royal School, Cavan where the gravel sports pitch, surrounded by wooden fencing and a small concrete/brickwork pebbledash wall, falls within the site boundary, there is also some small storage structures present at the northern side of this sports pitch adjacent to the Royal School which falls outside the proposed site's red line boundary. A new school structure has recently been completed just north of the Royal School proximal to the site.

There are two other areas of this habitat type located in the east and south-east areas of the proposed site. The neighbouring Breffni Park GAA grounds public access gates and lane leading off the R212 road which goes through the centre of Cavan. This entrance and access land follow the banks of the Cavan River extending down to the lower levels of the steep embankments leading down to the Cavan River and a car parking area which falls outside the site's red line boundary. The final area of this habitat is located on the western bank of the Cavan River as part of the Breffni Park GAA grounds a small car park area has been created as part of another planning application put in by the GAA club. This consists of a small concrete bridge structure crossing the Cavan River entering the site's red line boundary where a small car park has been created on the banks of the Cavan River.

### **Riparian Woodland (WN5)**

This habitat type is located throughout in the eastern area of the site. The habitat type extends along the banks of the Cavan River which runs parallel to the eastern boundary of the proposed development site. this habitat type extends for approximately 228m along the eastern boundary of the site and on the sides of a steep embankment due to differences in topography between the site, Cavan River and Breffni Park GAA grounds. Species composition for this habitat consisted primarily of hawthorn (*Crataegus monogyna*), sycamore (*Acer pseudoplatanus*), alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*), grey willow (*Salix cinerea*), goat willow (*Salix caprea*) and some beech (*Fagus sylvatica*) specimens were also identified.

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The understory of this habitat type consisted of male fern (*Dryopteris filis-mas*), bramble (*Rubus fruticosus*), common nettle (*Urtica dioica*), common hogweed (*Eragrostis sphondylium*), common ivy (*Hedera helix*), goose grass (*Galium aparine*) and curled dock (*Rumex crispus*).

### **Depositing Lowland River (FW2)**

This habitat type is present along the entirety of the eastern boundary/ area of the site and flows north into the wider surrounding area and into the nearby designated sites of Lough Oughter SPA, and Lough Oughter And Associated Loughs SAC and pNHA. Species composition along the banks of the river is the same as that exhibited in the WN5 riparian woodland and GS4 wet grassland habitats.

### **Immature Woodland (WS2)**

This habitat type is located in the top north-east corner of the site near the entrance of the site and for the Royal School, Cavan. The habitat type is located on a steep bank leading down to the site and school access lane and bordering a neighbouring sports pitch. Species composition consisted of ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*), hawthorn (*Crataegus monogyna*) and alder (*Alnus glutinosa*),

### **Scrub (WS1)**

This habitat type is located in the top north-east corner of the site near the entrance of the site and for the Royal School, Cavan. The habitat type is located on a steep bank leading down to the site and school access lane and bordering the immature woodland habitat type also located in this area. Species composition consisted of bramble (*Rubus fruticosus*), common nettle (*Urtica dioica*), common ivy (*Hedera helix*) and curled dock (*Rumex crispus*).

### **Dry Calcareous and Neutral Grassland (GS1)**

This habitat type is located in the top north-east corner of the site near the entrance of the Royal School, Cavan. The habitat type is located on a steep bank leading down to the site and school access lane and bordering the immature woodland and scrub habitats also located in this area. Species composition consisted primarily of Yorkshire fog (*Holcus lanatus*), creeping bent (*Agrostis stolonifera*), fescues (*Festuca sp.*), meadow foxtail (*Alopecurus pratensis*) and red clover (*Trifolium pratense*).

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### **Hedgerows (WL1)**

This habitat type is present around the boundary of the site and throughout, separating fields from each other. Due to the uneven topography of the west and south areas of the site these habitats follow the steep slopes of the natural landscape offering suitable habitat for invertebrates and bird species. Species composition consisted primarily of hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), bramble (*Rubus fruticosus*), common nettle (*Urtica dioica*) and common ivy (*Hedera helix*). Some hedgerows, particularly at the southern end of the site, followed a channel which contained aquatic species such as water cress (*Nasturtium officinale*) and Starwort (*Callitriche stagnalis*). This hedgerow at the very southern boundary of the site contains some lesser seen species such as hart's-tongue fern (*Asplenium scolopendrium*) and American cranberry (*Viburnum trilobum*) growing through from the neighbouring garden south from the site boundary.

### **Treelines (WL2)**

This habitat type is present throughout the site separating individual fields from each other and the proposed site itself from the surrounding areas of Cavan town and other agricultural lands. This habitat type contains a diversity of species offering suitable habitat for invertebrates, bats and birds. Species composition consisted of hawthorn (*Crataegus monogyna*), sycamore (*Acer pseudoplatanus*), alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*) and beech (*Fagus sylvatica*). However, due to the presence of some other developments within the proposed development site, there has already been some clearance works carried out on portions of this habitat type, slightly reducing its presence on site.

### **Drainage Ditches (FW4)**

This habitat type is located travelling through the centre of the site dividing it down the middle as it flows from the northern boundary of the proposed site down past the gravel sports pitch for the royal School, Cavan and flowing into the Cavan River. The drainage ditch present travels through an extensive treeline and is situated at a low elevation compared to the surrounding topography. During the April 2023 site visit the drainage ditch was very dry with small pockets of water having pooled and collected and dense overgrown banks of species such as blackthorn (*Prunus spinosa*), bramble (*Rubus fruticosus*), common nettle (*Urtica dioica*) and common ivy (*Hedera helix*).

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The badger sett identified at TN3 was also located in the banks of this drainage ditch. During the site visit to the southern end of the site on 15<sup>th</sup> November 2023 the drainage ditches at this section were entirely flooded into the adjacent field and some drainage ditches had slow flowing water with aquatic plant species including water cress (*Nasturtium officinale*) and starwort (*Callitriche stagnalis*). This area was revisited on 15<sup>th</sup> January 2024 after the water levels had subsided. The fields in the floodplain are mainly improved grassland of similar species composition to the surrounding habitats with aquatic species encroaching on the flooded banks. Several drains merge at this section of the river.

### **Spoil and Bare ground (ED2)**

This habitat type is present in scattered areas of the site, it is primarily located within the northern area of the proposed development site due to the presence of recent works taking place in relation to the Royal School, Cavan. This consists of disturbed bare soil ground and the creation of a temporary lane located just north of the Royal School, Cavan, extending northwards to the site boundary. There is a large area of exposed bare ground and spoil located in the northern area of the site spread across a large portion of the field, this area has affected a small sheugh located along the treeline of the north-west boundary of the site. This area of bare ground also extends towards the north-east area where ground has been cleared to allow for site access and works to an area where excavations and treeline clearance has occurred.

There is another small area located just north of the Royal School, Cavan's gravel sports pitch where works have been carried out as part of the school development with some trees being removed to allow for the installation and connection of electrical cables for the new structure being built causing the ground to become disturbed and cleared.

A third small area is located in the southern area of the site where some spoil dumping has occurred along one of the hedgerows, with another small patch southeast of this resulting from the recent development of the GAA pitches east of the Cavan River.

### **Improved Agricultural Grassland (GA1)**

This is the dominant habitat type present on the proposed development site there are currently 16 fields identified as exhibiting this habitat type present along the western boundary of the site and in the north-east and south areas within the red line boundary. These fields are

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predominantly used for grazing, with some cattle and sheep having been observed and electric fencing for livestock present.

This habitat exhibits a low species diversity of grasses such as rye-grasses (*Lolium sp.*), meadow-grasses (*Poa sp.*) and Yorkshire fog (*Holcus lanatus*). Fields are separated by linear features such as the treeline and hedgerow habitats present on site, and the Cavan River. Some species observed in this habitat, primarily along the edges due to linear feature presence include bramble (*Rubus fruticosus*), common nettle (*Urtica dioica*) and common ivy (*Hedera helix*). Some instances of hawthorn (*Crataegus monogyna*), ragwort (*Jacobaea vulgaris*), clover (*Trifolium sp.*) and chickweed (*Stellaria media*) were observed in the southern fields with evidence of sheep in the form of wool caught on sticks and wire. Other species found in the fields at varying densities include elm (*Ulmus*), soft rush (*Juncus effusus*), thistle (*Cirsium sp.*), creeping buttercup (*Ranunculus repens*), cock's foot (*Dactylis glomerata*), common vetch (*Vicia sativa*), meadowsweet (*Filipendula ulmaria*), willowherb (*Epilobium sp.*) and cleavers (*Galium aparine*).

### **Amenity Grassland (GA2)**

This habitat is located in three areas, the south-central area of the site on the banks of the Cavan River and the northern area of the site above the Royal School, Cavan. The southern area for this habitat is a large playing field, it extends down to the banks of the Cavan River and has experienced some previous development works. From aerial images it was observed that some clearance has occurred on this site to accommodate this grass pitch development for the neighbouring Breffni Park GAA grounds as well as to accommodate a small bridge and car park creation.

The other areas are located to the north just above the Royal School, Cavan where it appears this habitat type is also again utilised as a form of sports pitch for the school. The habitat in this area has also experienced some loss due to recent development connected to the school due to the presence of spoil and bare soil ground from disturbance caused by the works on site and was reseeded post initial survey.

The habitat present is very species diversity poor, serving a primary function as sports grounds it has been well maintained and regularly mowed to keep sward height low. Species composition primarily consisted of rye-grasses (*Lolium sp.*) and scattered incidents of daisy (*Bellis perennis*),

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red clover (*Trifolium pratense*), cuckoo flower (*Cardamine pratensis*) and plantains (*Plantago sp.*). Other species observed in this habitat, primarily along the edges due to linear feature presence include bramble (*Rubus fruticosus*), common nettle (*Urtica dioica*) and common ivy (*Hedera helix*).

## 4.5 Fauna



### Bats

Habitats present on the site i.e. riparian woodland, wet grassland, scrub, extensive treelines and hedgerows and riverine habitat of the Cavan River. These habitats are present throughout the proposed development site as well as along the Cavan River are known to support roosting, foraging and commuting bats. Similarly, hedgerows with trees on site and wooded areas on site and in the wider area are also likely to support roosting, foraging and commuting bats.



Overall, it is considered that the proposed route would provide **high** suitable foraging, commuting and roosting potential for bats. While no trees have been specifically identified for potential felling or lopping to accommodate the proposed site development, a bat roost potential survey was carried out on specific trees identified as being “at risk” from the proposed works. Therefore, it is recommended that the necessary bat activity surveys must be carried out prior to felling and development works commencing.



#### 4.5.1 Bat Roost Potential Survey Results



**Table 4: Bat Roost Potential Survey Results**



Tree Species	Roosting Features	Roosting Potential	Image
TN1 Mature Alder	Previously coppiced in the upper crown of the tree with several broken branches and knotholes observed with dense ivy growth	<b>High</b>	
TN2 4x Semi-Mature Beech	Several knot holes and broken branches observed with dense ivy growth on the main stem of one. Of the trees. Trees are located over a drainage ditch	<b>High</b>	







<p>TN4 Mature Alder</p>	<p>Peeling bark and gaps observed on the mainstem with some broken branches from historic lopping in the upper crown</p>	<p><b>High</b></p>		
<p>TN5 4x Semi-Mature unidentified dead trees</p>	<p>Trees were unidentifiable and appear to be dead due to heavy/dense ivy growth. The extent of the dense ivy growth obscured potential roosting features that may be present</p>	<p><b>Moderate</b></p>		


<p>TN7 Mature Oak</p>	<p>Broken branches observed as well as a large knot hole</p>	<p><b>High</b></p>	
<p>TN8 Mature Oak</p>	<p>Some broken branches observed on the main stem and dense ivy growth</p>	<p><b>Moderate</b></p>	



<p>TN9 Mature Sycamore</p>	<p>No visible roosting features with dense ivy growth on the main stem</p>	<p><b>Low</b></p>	
<p>TN10 Mature Sycamore</p>	<p>No visible roosting features with dense ivy growth on the main stem</p>	<p><b>Low</b></p>	

<p>TN11 Mature Sycamore</p>	<p>No real visible features identified due to dense ivy growth on the main stem. Broken branch located extending from the main stem</p>	<p><b>Moderate</b></p>	
<p>TN12 Mature Beech</p>	<p>No visible roosting features with dense ivy growth located on the lower portion of the main stem</p>	<p><b>Low</b></p>	



<p>TN13 Mature Ash</p>	<p>A large knothole was observed halfway up the main stem with dead dense ivy growth, several other potential knotholes were also observed. A birds nest was also located in the upper crown</p>	<p><b>Moderate</b></p>	
<p>TN14 Semi-Mature Red Cedar</p>	<p>Some ivy growth located on the main stem with no visible roosting features</p>	<p><b>Low</b></p>	


<p>TN15 Mature Sycamore</p>	<p>Dense ivy growth observed throughout obscuring potential roosting features. 2x bird's nests were also identified in the mid and upper crown</p>	<p><b>Moderate</b></p>	
<p>TN17 Immature Sycamore</p>	<p>No visible roosting features but dense ivy growth is present on the main stem</p>	<p><b>Low</b></p>	



<p>TN18 2x Immature Ash</p>	<p>Ivy growth present on one. Of the tree's main stem. 6 knotholes were observed (3x on each tree)</p>	<p><b>High</b></p>		
<p>TN19 6x Immature Ash Cluster</p>	<p>No visible roosting features but dense ivy growth observed</p>	<p><b>Moderate</b></p>		



			
<p>TN20 Immature Ash</p>	<p>No visible roosting features with some ivy growth present</p>	<p><b>Low</b></p>	





<p>TN21 Semi-Mature Ash</p>	<p>Broken branch observed on the main stem and area's of peeling bark on branches of the mid and upper crown</p>	<p><b>High</b></p>	
<p>TN22 Semi-Mature Ash</p>	<p>No visible roosting features observed but dense dead ivy growth present</p>	<p><b>Low</b></p>	

<p>TN23 Semi- Mature Ash</p>	<p>Several knot holes and broken branches observed in the mid crown. A large gaping split located towards the base of the main stem</p>	<p><b>High</b></p>	
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<p>TN24 Mature Ash</p>	<p>Dense ivy growth obscuring potential roosting features on the main stem and throughout the mid and upper crown</p>	<p><b>Low</b></p>	
<p>TN25 Mature Ash</p>	<p>Dense ivy growth present on the main stem and a broken branch with an opening located also on the main stem</p>	<p><b>Moderate</b></p>	

<p>TN26 Mature Ash</p>	<p>Dense ivy growth present on the main stem and throughout the crown obscuring roosting features</p>	<p><b>Low</b></p>		
<p>TN27 Mature Ash</p>	<p>Dense dead ivy growth present and a large broken branch with holes and peeling bark extending from the main stem</p>	<p><b>High</b></p>		

				
<p>TN28 Mature Beech</p>	<p>Dense ivy growth present throughout with several knot holes located on the branches in the lower and mid crown. A large hollow branch is located off the main stem with another large hollowed branch situated further up the main stem</p>	<p><b>High</b></p>		


				
				

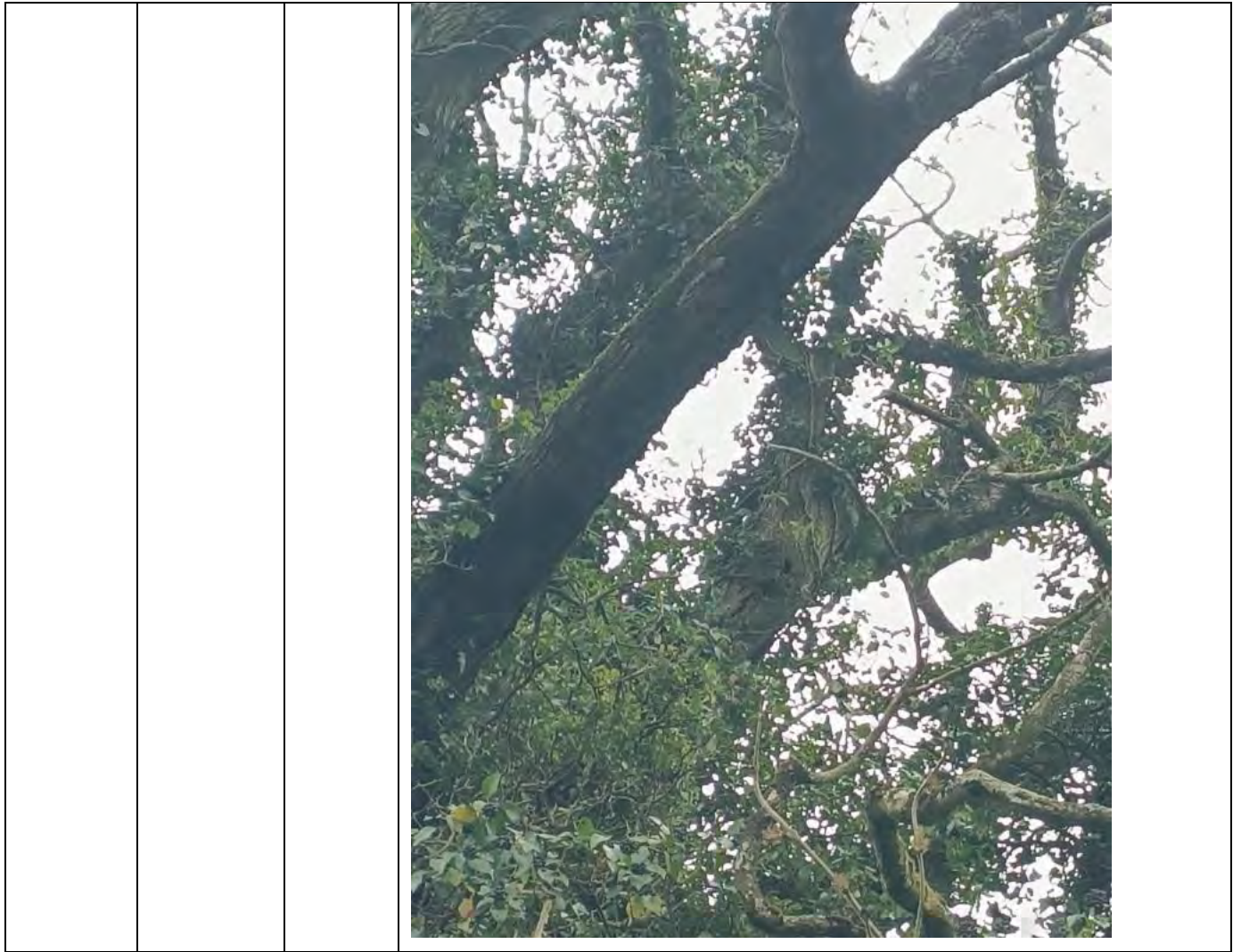
<p>TN29 Cluster of Immature Ash</p>	<p>No visible roosting features due to dense ivy growth located on the main stems</p>	<p><b>Low</b></p>	
<p>TN30 Immature Ash</p>	<p>Dense ivy growth present throughout</p>	<p><b>Low</b></p>	

<p>TN32 Immature Ash</p>	<p>Dense ivy growth throughout with no other visible roosting features</p>	<p><b>Low</b></p>	 A photograph showing a tree, likely an ash, that is almost entirely covered in dense ivy. The tree is situated in a grassy field with some other vegetation and a building visible in the background under a cloudy sky.
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<p>TN33 2x Immature Ash</p>	<p>Dense ivy growth present with no visible roosting features located in close proximity to a hawthorn with dense ivy growth present as well</p>	<p><b>Low</b></p>	
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<p>TN34 Mature Ash</p>	<p>Dense ivy growth present throughout with several knot holes observed on the main stem</p>	<p><b>Moderate</b></p>	
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<p>TN35 Row of Semi- Mature Ash</p>	<p>Dense ivy growth observed on the main stems with no other visible roosting features</p>	<p><b>Low</b></p>	
<p>TN36 Cluster of Semi- Mature Ash</p>	<p>Dense ivy growth on some of the main stems with no other visible roosting features observed on any of the trees</p>	<p><b>Low</b></p>	


<p>TN37 3x Mature Beech</p>	<p>Several knot holes observed on the main stems of the trees and broken branches</p>	<p><b>High</b></p>	
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<p>TN38 Mature Lime</p>	<p>Some broken branches observed which were identified to not be hollow and several knot holes. A large bird nest was also identified</p>	<p><b>Moderate</b></p>		
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<p>TN39 Mature and Semi-Mature Ash</p>	<p>No visible roosting features present on the immature ash. Dense dead ivy growth was observed on the mature ash with gaps present in the dead ivy growth from peeling</p>	<p><b>Moderate</b></p>	
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TN40 Semi- Mature Ash	Ivy growth located on the main stem but no other visible features	<b>Low</b>		
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TN41 Semi-Mature Ash	Low density ivy growth – no visible features present	<b>Low</b>	
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TN42 Semi-Mature Ash	Low density ivy growth – some visible broken branches	<b>Low</b>	
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<p>TN43 Semi-Mature Sycamore</p>	<p>Low density ivy growth – small and thin</p>	<p><b>Negligible</b></p>	
<p>TN44 x4 Immature Ash</p>	<p>Dense ivy growth in areas, some broken branches, trees very small/thin</p>	<p><b>Negligible</b></p>	





<p>TN45 Semi-Mature Ash</p>	<p>Broken branches and visible knotholes with broken limbs and peeling bark and low density ivy</p>	<p><b>Moderate</b></p>	
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<p>TN46 Semi-Mature Ash</p>	<p>Some knotholes and broken branches</p>	<p><b>Moderate</b></p>	
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TN47 Semi-Mature Ash	Dead ivy and some small scars low down – no visible features	<b>Low</b>	
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TN48 Semi-Mature Ash	Some features low down – Ivy and dead ivy and some broken branches. No features high enough	<b>Low</b>	
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TN49 Semi-Mature Ash	Some dead and living ivy, no other visible features	<b>Negligible</b>	
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<p>TN50 Immature Ash</p>	<p>Dead ivy, small tree, no visible features</p>	<p><b>Negligible</b></p>	
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<p>TN51 Immature Ash</p>	<p>Mostly dead ivy, knotholes low down, no other features</p>	<p><b>Low</b></p>	 A photograph of a dead, ivy-covered tree trunk in a grassy field. The tree is mostly dead with some sparse, brown, dried leaves remaining on its branches. The trunk is covered in thick ivy. The tree stands in a green field with some tall grasses in the foreground. In the background, there are other trees and a house under a cloudy sky.
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<p>TN52 Semi-Mature Ash</p>	<p>Ivy low down, no visible features</p>	<p><b>Negligible</b></p>	
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**Further bat survey results are provided in the AECOM report dated February 2024 (Project: 60711314)**

The AECOM Bat Activity survey work did not identify any bat roosts on-site, with the bat activity limited to foraging / commuting. A range of bat species were detected. The bat assemblage identified during this suite of surveys consisted of all species of bat found in Ireland except for lesser horseshoe bat which is generally restricted to the west coast. Soprano pipistrelle, and to a lesser extent common pipistrelle, were the most frequently occurring species recorded across all transect surveys and through static recording. A smaller proportion of Leisler’s bat was recorded, while numbers of all other species were significantly lower.



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## Badger

A systematic search was conducted to identify evidence of badger activity within the study area and 25 metres beyond the site boundaries. A badger sett was located along the banks of a drainage ditch running through the centre of the site just south-west of the school gravel playing pitch, TN3 (Figure 3). Badger scat was also identified, TN16, located further north along the same drainage ditch bank. The sett identified has 3 sett entrances which appear to be clear and exhibit some evidence of minor activity in the surrounding area. Due to the location of this sett it is currently at risk from the proposed development and further survey works are required to locate other setts and develop suitable mitigation strategies.

See MCL Badger Survey Report for more information.



**Figure 3. Badger sett entrances located along drainage ditch banks on site at TN3**

## Otter

The entire site and 30m beyond the site were systematically examined for otter activity; this included spraints, tracks, feeding sites, holts and couches. While no evidence was found such as tracks, spraints etc during the site walkover, suitable habitat was identified along the banks of the Cavan River with numerous mammal trails leading in and out of the river and some evidence of mammal foraging activity, TN6. Camera monitoring was undertaken and confirmed presence of otter onsite.

NPWS record request also revealed that four records of otter are present within 2km of the site with two of these records present on the Cavan River 322m north and 1.6km north of the proposed site. Eurasian Otter is a qualifying feature of the nearby Lough Oughter SAC which is 3.69km from the proposed site and is considered to be within the natural territorial range of the Eurasian Otter. As such due to the presence of suitable habitat, mammal activity along the Cavan River, NPWS records, the proximity of the proposed development site to a

designated site with Eurasian Otter as a qualifying feature and the extensive territorial range of Eurasian Otter; further survey work is required to fully determine/confirm the presence of otter as well as determine otter activity in or near the site and to develop suitable mitigation strategies.

See MCL Otter Survey for more information.

### Nesting Birds

Grassland, treelines, hedgerows, and scrub provide breeding opportunities for a range of birds. During the site walkovers, various species were observed visually, however most data was gathered through singing male behaviour. Some birds were observed exhibiting nesting/breeding behaviour being observed several bird nests were also identified on site during the April 2023 site walk over, TN13, TN15 and TN38. Table 5 lists all species encountered during site walkover. See MCL Breeding Bird Survey for more information.

**Table 5: Avian fauna observed on the proposed development site**

Date	Species	Latin	BOCCI
20/04/2023	Pied Wagtail	<i>Motacilla alba yarrelli</i>	GREEN
	Wren	<i>Troglodytes troglodytes</i>	GREEN
	Robin	<i>Erithacus rubecula</i>	GREEN
	Song Thrush	<i>Turdus philomelos</i>	GREEN
27/04/2023	Blackbird	<i>Turdus merula</i>	GREEN
	Goldfinch	<i>Carduelis carduelis</i>	GREEN
	Blue Tit	<i>Parus major</i>	GREEN
	Wood Pigeon	<i>Columba palumbus</i>	GREEN
	Hooded Crow	<i>Corvus corone</i>	GREEN



**Figure 4. Ash tree with bird nest at the top**

### **Amphibians**

A search for pools and suitable habitat was conducted to establish the potential for smooth newts occurring on site as well as in the immediate area. During the April site walk over no suitable habitats for smooth newts were within the proposed development site boundary or beyond. The extended area additional to the site after this initial survey work was assessed as floodplain and no suitable newt habitat was found. The flooded fields observed in the winter months were highly temporary, present only during storm events and in this case, the inactive newt season during which time they are terrestrial. Therefore, no further survey works are required.

### **Other mammals**

During the 2023 PEA site visit carried out by MCL Consulting, mammal trails were prevalent throughout the site, however, extensive following of these trails and locating evidence of mammal activity it was concluded that, with a few exceptions due to the presence of the badger sett (TN3) and trails observed along the banks of the Cavan River, these trails are due to the activity of rabbits, foxes and potentially local domestic cat and dog populations due to

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the site's location on the outskirts of the urban area of Cavan Town. With no evidence for other priority mammal species being identified along the proposed route during the April 2023 field visit.

Secondary surveys for otter were undertaken during the production of this report later in 2023. During the camera trapping effort in multiple locations on site, pine marten were observed to be using the site. This confirmed the anecdotal sightings and justified the requirement for a report on pine marten activity and mitigation on site. See MCL Pine Marten Survey for more information.

No other signs of mammals including Irish hare, red squirrel or hedgehogs were observed during the site visit.

#### **White-clawed crayfish**

Evidence was found within the Cavan River of white-clawed crayfish, an IUCN Red List "Endangered" species, in the form of their shells after having been presumably preyed upon. White-clawed crayfish are a known prey species for otter, supporting the potential for this species to be present along the river. This species will require further surveying under licence from NPWS to determine population density, trends and sexual diversity of any crayfish present in this stretch of the river.



**Figure 5. White-clawed crayfish remains**

#### **Freshwater pearl mussel**

Evidence was also observed of live freshwater pearl mussel, an IUCN Red List “Endangered” species, in the Cavan River on site. These are a critically endangered species globally and are highly sensitive to the water quality of their surrounding environment. Further surveying will be required to determine this species’ abundance and age categorisation along the river bordering the site.



**Figure 6. Freshwater pearl mussel**

#### **Other protected or priority species**

No other priority species of plants, invertebrates and reptiles were observed on site during the April 2023 field visit.

#### **Invasive Species**

No non-native invasive species were observed to be present on site during any site visits. Anecdotal evidence from the school grounds keeper suggests presence of mink onsite however none were identified during site surveys or camera monitoring.

A stand of Japanese knotweed was observed adjacent the entranceway to the Royal School, however this was situated beyond the red line boundary of the site.

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## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1.1 Designated sites

The site is not located within any sites that are nationally or internationally designated for their nature conservation importance. However, the proposed development site is located approximately 3.69km south-east of the Lough Oughter SPA and Lough Oughter and Associated Loughs SAC. There are no Proposed Natural Heritage Areas within 15km of the site with the nearest designated Proposed Natural Heritage Areas, Lough Oughter and Associated Loughs pNHA and Drumkeen House Woodland pNHA, located approximately 3.69km north-west / west and 3.02km north respectively.

However, due to the scale of the site, other recent development works, the assemblage of protected species identified, including qualifying species in relation to the SAC (otter) and historic species records identifying key species such as otters which are qualifying features for one of the designated sites in such close proximity to the proposed development site it is considered that there is a risk of significant impact both direct and indirect due to hydrological links with the Cavan River and as such an Appropriate Screening Assessment will be required. At this stage given the proposed works and the site's location to the designated sites, it is of the ecologist's opinion that a Natura Impact Statement may be required up to stage 2 for the proposed development site. The outcomes of these screening assessments would determine what further stages of assessment are required in full following the process outlined below:

#### **Stage 1. Screening for Appropriate Assessment**

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3) of the Habitats Directive:

- whether a plan or project is directly connected to or necessary for the management of the site, and
- whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential

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impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

### **Stage 2. Appropriate Assessment**

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a Natura 2000 site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact Statement (NIS), i.e. the report of a targeted professional scientific examination of the plan or project and the relevant Natura 2000 sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account of in combination effects. This should provide information to enable the competent authority to carry out the Appropriate Assessment (AA). If adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 4, or the plan or project should be abandoned. The AA is carried out by the competent authority and is supported by the NIS.

### **Stage 3. Alternative Solutions**

This stage examines any alternative solutions or options that could enable the plan or project to proceed without adverse effects on the integrity of a Natura 2000 site. The process must return to Stage 2 as alternatives will require Appropriate Assessment in order to proceed. Demonstrating that all reasonable alternatives have been considered and assessed, and that the least damaging option has been selected, is necessary to progress to Stage 4.

### **Stage 4. Imperative Reasons of Overriding Public Interest (IROPI)/Derogation**

Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists. The extra protection measures for Annex I priority habitats come into effect when making the IROPI case. Compensatory measures must be proposed and assessed. The Commission must be informed of the compensatory measures. Compensatory measures must be practical, implementable,



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likely to succeed, proportionate and enforceable, and they must be approved by the Minister for Housing, Local Government and Heritage.

### 5.1.2 Habitat

The site supports moderate habitat diversity and quality, with habitats present having the potential to support a range of priority and protected species. A significant area of this habitat will be lost in the creation of the proposed development, resulting in an overall decrease in biodiversity on site should no mitigation be implemented. As such, it is recommended that a habitat management plan is created to outline the compensatory habitat creation and maintenance that will be implemented on site post-construction.

### 5.1.3 Water Management

Due to the potential hydrological links and close proximity of the proposed development site from the Cavan River and nearby designated sites it is also recommended that a Construction Environmental Management Plan (CEMP) is created to help mitigate against potential pollution risks from silt, sediment and potential hydrocarbon spills and leaks from the proposed works for this development.

The development will involve a major cut-fill operation and this may result in groundwater control measures being required, which usually involves some form of groundwater discharge to a watercourse. Construction-phase control / discharge of site runoff and/or groundwater control will require mitigation for potential risk of impact to the nearby designated sites.

### 5.1.4 Bats

Woodland areas, trees, hedgerows and riverine habitats are of importance to many bat species and can provide suitable areas for foraging and roosting as well as providing safe corridors for bats to commute to other foraging and roosting habitats in the wider area. Due to the abundance of suitable habitat for bats it is considered that bat activity may be **high** within the proposed development site and within the wider surrounding area.

A total of 48 noted trees were identified as being “at risk” from the proposed development and categorised with an appropriate bat roost potential score. As such, bat activity surveys are required in the form of an appropriate number of **emergence** and **re-entry** surveys for

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the identified trees as well as **transect activity surveys** to determine the potential presence/loss of roosts as the trees identified are of **moderate** or **high** roosting potential and impact on overall bat activity across the site.

Updated bat roost potential assessment and bat activity surveys were carried out by AECOM and the results of these studies are available from AECOM report (60711314)

### 5.1.5 Birds

Trees, hedgerows, woodland and grassland are of importance to breeding and nesting birds. Removal of hedgerows, trees and the grassland vegetation during the breeding season will negatively impact upon nesting birds during the breeding season. This is in direct violation of the Irish Wildlife Act 1976 (as amended), the EU Habitats Directive of the Bern convention via the European Communities (Birds and Natural Habitats Regulations 2011 (S. I. No. 477 of 2011) under which it is an offence. Any vegetation clearance should be kept to a minimum and undertaken outside of the breeding season (1st March – 31st August). If this cant be avoided then works should be preceded by a nesting bird check by a suitably qualified ecologist. Any active nests must be cordoned off until chicks have fledged.

Any vegetation which is removed/chipped prior to the bird breeding season should be removed from the site completely, in order to prevent birds along with other species using stored debris a nesting/resting sites.

Due to the identification of bird nests throughout the site a breeding bird survey was carried out on site to determine the extent of breeding bird activity, nesting species and behaviours. Full results can be found within the separate Breeding Bird Re[port (MCL Consulting 2024)

### 5.1.6 Otter

The entire site and 30m beyond the site were systematically examined for otter activity; this included spraints, tracks, feeding sites, holts and couches. Suitable habitat was identified along the banks of the Cavan River with numerous mammal trails leading in and out of the river and some evidence of mammal foraging activity, TN6.

NPWS record request also revealed that four records of otter are present within 2km of the site with two of these records present on the Cavan River 322m north and 1.6km north of the

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proposed site, Eurasian Otter is a qualifying feature of the nearby Lough Oughter SAC which is 3.69km from the proposed site which is considered to be within the natural territorial range of the Eurasian Otter.

There are four other records for white clawed crayfish located around the south-east boundary and neighbouring Breffni Park GAA grounds area from 1993, 1998, 2001 and 2004; white clawed crayfish is considered to be a prized prey species of Eurasian Otter and is fed upon frequently by the species.

As such due to the presence of suitable habitat, mammal activity along the Cavan River, NPWS records, the proximity of the proposed development site to a designated site with Eurasian Otter as a qualifying feature and the extensive territorial range of Eurasian Otter; further survey work was undertaken to fully determine/confirm the presence of otter as well as determine otter activity in or near the site and to develop suitable mitigation strategies.

#### **5.1.7 Badger**

A systematic search was conducted to identify evidence of badger activity within the study area and 25 meters beyond the site boundaries. A badger sett was located along the banks of a drainage ditch located running through the centre of the site just south-west of the school gravel playing pitch, TN3. Badger scat was also identified, TN16, located further north along the same drainage ditch bank. Due to the identification of the badger sett on site and its location being at high direct risk of impact from the proposed development a badger survey is recommended in order to determine badger presence, activity and to locate other badgers setts in the area to determine classification of the current sett on site.

#### **5.1.8 Pine Marten**

Anecdotal evidence of pine marten was given by the groundskeeper who had reported seeing them on site. This was confirmed during camera trapping for otter as a part of the otter survey which was carried out alongside the creation of this PEA. As such, a further pine marten was undertaken to determine their presence and usage of the site and recommend further mitigative actions.

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### 5.1.9 White-clawed crayfish

Evidence of this species was discovered in the Cavan River during a site visit for the PEA. These species are highly protected and will require further surveying to determine their presence and abundance within the river to inform mitigation or avoidance measures.

### 5.1.10 Freshwater pearl mussel

Evidence of this species was discovered in the Cavan River during a site visit for the PEA. These species are highly protected and will require further surveying to determine their presence and abundance within the river to inform mitigation or avoidance measures, especially with regards to protecting water quality of the river.

### 5.1.11 Mammals

Whilst pine marten, otter and badger surveys are required, the proposed development is not considered to impact any other mammal species as no evidence of presence or activity of further species was located. However, it is recommended that the following mitigation is followed during the construction phase to prevent any potential impacts to mammals that may enter into the area.

During the construction phase noise may cause disturbance, therefore the adoption of best practice as defined by the Control of Pollution Act 1974 should be implemented. All noise caused by machines should be minimised and should operate during daytime hours only as agreed with the council. With regards to dust, it should be ensured that an adequate supply of water is available on site for effective dust suppression. Similarly, no significant light should be directed onto woodland features during the construction or operational phase.

During the construction phase management and protection measures should be implemented prior to works commencing on site, these include:

- No excavations are to be left uncovered or without a means of egress (a sloped plank for example) overnight, as mammals may fall in or enter in search of food and become trapped.
- No buildings or storage units are to be left open overnight, as mammals may enter and become trapped.
- No poisonous or potentially harmful substances or materials are to be left unsecured overnight.

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### 5.1.12 Construction Phasing

Mitigation has been designed and will be implemented in accordance with the proposed construction phasing plans<sup>1</sup>, to ensure maximum habitat cover throughout the construction phase. An Ecological Clerk of Works will be present across all phases of the construction where required to safeguard protected species onsite and ensure implementation of appropriate mitigation and precautions.

Phase One is expected to be undertaken between Q2 of 2025 and Q3 2026 and will incorporate construction of wildlife habitat creation area, riparian planting adjacent River Cavan, Dublin Road access and River Cavan bridge construction as well as the main arena, hockey pitch, plus 2 sand mattress GAA Fields and two car parks. Construction of the artificial badger sett will also be undertaken in Phase 1, or in advance, pending planning conditions. This sett should be in use for 6 months prior to the exclusion and destruction of the existing badger sett, anticipated within Phase 1.

Phase 2 is expected to be undertaken between Q4 2027 and Q4 2029 and include construction of a further sports building, athletics track and two further sand mattress GAA Fields.

Inclusion of the habitat compensation planting areas within Phase 1 ensures a maximum chance of more mature established vegetation being present prior to full operational phase of the development and provides suitable screening habitat for disturbance sensitive species to acclimatise.

Existing habitats within the Phase 2 areas of the site will be retained and protected, with appropriate fencing, throughout Phase 1 of construction, ensuring ongoing provision of commuting and foraging habitat for local fauna throughout this period, whilst compensatory habitats are establishing.

## 5.2 Conclusion

Further surveys and reports were undertaken for this site based on the preliminary findings of this report. These include:

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<sup>1</sup>A2156-100-20-PHASE 1, A2156-100-30-PHASE 2

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- Appropriate Assessment and Natura Impact Statement
  - A Construction Environmental Management Plan (CEMP)
  - Bat activity surveys and bat transect surveys (as carried out by AECOM)
  - Breeding bird survey
  - Otter survey
  - Badger survey
  - Pine marten survey
  - White clawed crayfish survey
  - Freshwater pearl mussel survey
  - General good practice mammal mitigation

Detailed mitigation for these aspects can be found within the relevant reports.

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**FIGURES**



**Figure 7. Overview of southern area of the proposed site**



**Figure 8. Overview of southern area of the proposed site**



**Figure 9. Royal School, Cavan**



**Figure 10. Drainage ditch flowing through centre of site**



**Figure 11. Bank leading down into drainage ditch**



**Figure 12. Cavan River**



**Figure 13. Cavan River**



**Figure 14. Overview of disturbed bare ground in north area of site near school**



**Figure 15. Overview of disturbed bare ground in north area of site near school**



**Figure 16. Overview of disturbed bare ground in north area of site with new access lane**



**Figure 17. Overview of disturbed bare ground and spoil in north area of site**



**Figure 18. Overview of disturbed bare ground in north area of site with new access lane**



**Figure 19. Overview of disturbed bare ground in north area of site where treeline has been cleared**



**Figure 20. Felled trees from cleared treeline**



**Figure 21. Felled trees from cleared treeline, bare ground and new school building**



**Figure 22. GAA carpark in south area of site**





**Figure 23. Small spoil pile in western area of site**



**Figure 24. Overview of site**



**Figure 25. Overview of site**



**Figure 26. Overview of GAA grass pitch recently finished**



**Figure 27. Overview of site**



**Figure 28. Current on-going works on site**



**Figure 29. Southern area extension of site**



**Figure 30. Species-poor hedgerow at southern end of site**



**Figure 31. Drainage ditch at southern boundary**



**Figure 32. Flooding at southern fields**



**Figure 33. Hedgerow with gaps and trees at southern end of site**



**Figure 34. Sheep using southern fields**



**Figure 35. Previously flooded field after drying**



**Figure 36. Confluence of Cavan River and drainage ditches/streams**



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## Appendices

### Appendix I: Habitat Classification Map



Legend

- Red Line Boundary
- FW4
- FW2
- GA2
- GA1
- GS4
- GS1
- WN5
- WS2
- WS1
- WL2
- WL1
- BL3
- ED2

Appendix I: Habitat Classification Map

Created by: Peter McKnight

Reviewed by: Emily Taylor

Client: McAdam Design Ltd.

Scale: 1:4000 @ A3

Date: 17/01/2024



Unit 5, Forty Eight North,  
 Duncrue Street, Belfast  
 BT3 9BJ  
 Tel: 02890747766



**Legend**

- Red Line Boundary
- ▨ FW4
- FW2
- GA2
- GA1
- ▨ GS4
- GS1
- ⊖ WN5
- WS2
- ▨ WS1
- ⋈ WL2
- ⋈ WL1
- BL3
- ED2

**Appendix IA: Habitat Classification Map (North side)**

Created by: Peter McKnight

Reviewed by: Emily Taylor

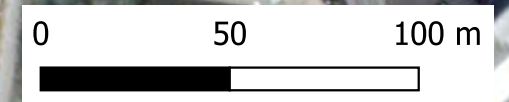
Client: McAdam Design Ltd.

Scale: 1:2000 @ A3

Date: 24/01/2024



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Duncrue Street, Belfast  
BT3 9BJ  
Tel: 02890747766





**Legend**

- Red Line Boundary
- ▨ FW4
- FW2
- GA2
- GA1
- ▨ GS4
- GS1
- ⊙ WN5
- WS2
- ⊗ WS1
- ⊥ WL2
- ⊥ WL1
- BL3
- ED2

**Appendix IB: Habitat  
Classification Map (South side)**

Created by: Peter McKnight

Reviewed by: Emily Taylor

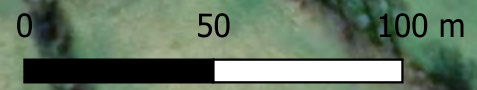
Client: McAdam Design Ltd.

Scale: 1:2000 @ A3

Date: 24/01/2024



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Duncrue Street, Belfast  
BT3 9BJ  
Tel: 02890747766



---

## Appendix II: Target Note Locations



Legend

- Red Line Boundary
- Target Notes Updated

Appendix II: Target Note Locations

Created by: Peter McKnight  
Reviewed by: Emily Taylor

Client: McAdam Design Ltd.

Scale: 1:4000 @ A3  
Date: 24/01/2024



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Duncrue Street, Belfast  
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Tel: 02890747766

0 50 100 m



- Legend**
- Target Notes Updated
  - Red Line Boundary Extended

Appendix IIA: Target Note Locations (North)

Created by: Peter McKnight

Reviewed by: Emily Taylor

Client: McAdam Design Ltd.

Scale: 1:2000 @ A3

Date: 24/01/2024





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Tel: 02890747766





### Legend

-  Target Notes Updated
-  Red Line Boundary Extended

Appendix IIB: Target Note Locations (South)  
Created by: Peter McKnight  
Reviewed by: Emily Taylor

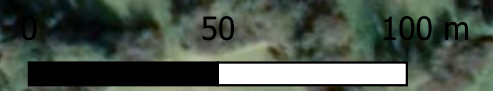
Client: McAdam Design Ltd.

Scale: 1:2000 @ A3

Date: 24/01/2024



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Tel: 02890747766





### Appendix III: Target Notes

Target Note	Description
TN1	Mature Alder
TN2	4x Semi-Mature Beech
TN3	Badger Sett
TN4	Mature Alder
TN5	4x Semi-Mature
TN6	Mammal Activity (Digging)
TN7	Mature Oak
TN8	Mature Oak
TN9	Mature Sycamore
TN10	Mature Sycamore
TN11	Mature Sycamore
TN12	Mature Beech
TN13	Mature Ash (bird nest)
TN14	Semi-Mature Red Cedar
TN15	Mature Sycamore (2x bird nest)
TN16	Badger Scat
TN17	Immature Sycamore
TN18	Mature Oak
TN19	Mature Oak
TN20	Mature Sycamore
TN21	Mature Sycamore
TN22	Mature Sycamore
TN23	Mature Beech
TN24	Mature Ash
TN25	Semi-Mature Red Cedar
TN26	Mature Sycamore
TN27	Mature Oak
TN28	Mature Oak
TN29	Mature Sycamore
TN30	Mature Sycamore
TN31	Mammal hair stuck in sheep fencing

<b>TN32</b>	Immature Ash
<b>TN33</b>	2x Mature Ash
<b>TN34</b>	Mature ash
<b>TN35</b>	Row of Semi-Mature Ash
<b>TN36</b>	Cluster of Semi-Mature ash
<b>TN37</b>	3x Mature Beech
<b>TN38</b>	Mature Lime (bird nest)
<b>TN39</b>	Mature and Semi-Mature Ash
<b>TN40</b>	Semi-Mature Ash
<b>TN41</b>	Semi-Mature Ash
<b>TN42</b>	Semi-Mature Ash
<b>TN43</b>	Semi-Mature Sycamore
<b>TN44</b>	Immature Ash
<b>TN45</b>	Semi-Mature Ash
<b>TN46</b>	Semi-Mature Ash
<b>TN47</b>	Semi-Mature Ash
<b>TN48</b>	Semi-Mature Ash
<b>TN49</b>	Semi-Mature Ash
<b>TN50</b>	Immature Ash
<b>TN51</b>	Immature Ash
<b>TN52</b>	Semi-Mature Ash

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## Appendix IV: Proposed Site Layout

**LEGEND**

- 1** Sports Building
  - 2** Sports Arena
  - 3** Synthetic Hockey Pitch (non-water based)
  - 4** Athletics Track (400m)
  - 5** External Synthetic Multi-Sport Pitch
  - 6** Sand Mattress GAA Fields
  - 7** Covered Stands (3No.)
  - 8** Toilet Block
  - 9** Cricket Practice Nets
- SITE BOUNDARY
  - NATURAL TURF PITCH SURFACE
  - SYNTHETIC GRASS PITCH SURFACE
  - ATHLETICS TRACK - EPDM POLYMER RUBBER SURFACE
  - GRASS SURFACE / SOFT LANDSCAPED AREAS (Refer to Landscape Architects Drawings ref: XXXX)
  - EXISTING NATURAL LANDSCAPE AND HABITAT MAINTAINED
  - WILDLIFE HABITAT CREATION ZONE (Refer to Landscape Architects Drawings ref: XXXX)
  - PEDESTRIAN PAVEMENT - ASPHALT / BITMAC
  - PEDESTRIAN PAVEMENT - NATURAL GRANITE AGGREGATE CONCRETE PAVING SLABS
  - VEHICULAR PAVEMENT - ACCESS ROAD / PARKING
  - EXISTING DENSE HEDGEROW VEGETATION
  - EXISTING TREE
  - PROPRIETARY CONCRETE BLOCK GEOSYNTHETIC REINFORCED SEGMENTAL RETAINING WALL SYSTEM (Refer Detail X on Dwg XXXXX)
  - TIMBER CRIBB RETAINING WALL STRUCTURE (Refer Detail X on Dwg XXXXX)
  - 12M HIGH BALL CATCH NET (Refer Detail X on Dwg XXXXX)
  - 1.2M HIGH OPEN MESH FENCING (Refer Detail X on Dwg XXXXX)
  - 3.0M HIGH OPEN MESH FENCING (Refer Detail X on Dwg XXXXX)
  - 4.2M HIGH OPEN MESH FENCING (Refer Detail X on Dwg XXXXX)
  - 1.3M HIGH GALVANISED STEEL SAFETY RAILINGS (Refer Detail X on Dwg XXXXX)
  - 1.2M HIGH TIMBER POST & RAIL FENCE (Refer Detail X on Dwg XXXXX)
  - 2M HIGH TIMBER ACOUSTIC FENCE (Refer Detail X on Dwg XXXXX)
  - 600MM HIGH TIMBER KNEE RAIL FENCE (Refer Detail X on Dwg XXXXX)
  - PROPOSED ACCESSIBLE SHARED PEDESTRIAN AND CYCLE ROUTE LINKING DUBLIN ROAD AND KILNAVARRAGH LANE - Max Gradient < 1:21
  - PROPOSED LOCATION OF FLOODLIGHT COLUMN (Refer Detail X on Dwg XXXXX)
  - PROPOSED BOLLARD PATHWAY LIGHT
  - PROPOSED LIGHTING COLUMN - SINGLE LUMINAIRE
  - PROPOSED LIGHTING COLUMN - DOUBLE LUMINAIRE
  - ELECTRIC VEHICLE (EV) CHARGE POINT
  - PROPOSED DUCTING PROVIDED FOR FUTURE EV CHARGING POINT
  - PROPOSED FIXED BOLLARD - STAINLESS STEEL WITH VISIBILITY BAND. REFER TO LANDSCAPE MATERIALITY SHEET CSC-MLA-XX-00-DR-L-3001
  - PROPOSED REMOVABLE BOLLARD - STAINLESS STEEL WITH VISIBILITY BAND. REFER TO LANDSCAPE MATERIALITY SHEET CSC-MLA-XX-00-DR-L-3001
  - PROPOSED LITTER BIN. REFER TO LANDSCAPE MATERIALITY SHEET CSC-MLA-XX-00-DR-L-3001
  - PROPOSED EV CHARGING PARKING SPACE
  - PROPOSED ACCESSIBLE PARKING SPACE
  - PROPOSED LEVELS



**NOTES**

1. All measurements shown are in metres, and all levels are to Ordnance Datum unless otherwise indicated
2. All Coordinates are to Irish Grid, unless otherwise noted.

**KEY PLAN**

Rev	Issue Date	Description	By

Status: **PLANNING**

Client: **Cavan County Council**

Project: **Cavan Regional Sports Campus**

Drawing: **Proposed Site Plan Overall**

Scale: **1:1250 @ A0**

**McAdam**  
ENVIRONMENTAL LOCAL COMPANIES

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Drawn: mac	Checked: ga	Approved: mac
Date: 04/03/24	Date: 04/03/24	Date: 04/03/24
Project Number: A2156	Drawing Number: 100-10	Revision: -

All dimensions are in metres. Figure dimensions to be taken in preference to scale dimensions. Dimensions to be checked on site. © 2024 McAdam Design Ltd.

---

**Appendix V: NPWS Records**



## Legend

- NPWS Records
- Red Line Boundary

Appendix V: NPWS Records

Created by: Ryan Boyle

Reviewed by: Emily Taylor

Client: McAdam Design

Scale: 1:4200 @ A3

Date: 19/05/2023



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