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Comhairle Contae Dhún na nGall
Donegal County Council

Stranorlar Multi-Use Sports Facility Improvement Project
Ecological Impact Assessment Report

LCDC
Coiste um Fhorbairt Poball Áitiúil Dhún na nGall
Donegal Local Community Development Committee

Peace
Northern Ireland - Ireland
European Regional Development Fund

Stranorlar Multi-Use Sports Facility Improvement Project

Ecological Impact Assessment Report

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A02	Final Version	ÁS	09/03/2022	LK	09/03/22	BH	09/03/2022

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1.0 INTRODUCTION

This Ecological Impact Assessment (EcIA) has been prepared by TOBIN Consulting Engineers (TOBIN) on behalf of Donegal County Council for the proposed Synthetic Multi-Use Sports All Weather Pitch located at Millbrae, Stranorlar, in County Donegal (see Figure 1-1 and Figure 1-2). Further details on the proposed development are provided in Section 1.1 of this report.

This EcIA has been prepared with regard to the Charted Institute of Ecology and Environmental Management (CIEEM) (2018) guidelines; '*Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine'.* The main objectives of this EcIA are:

- To obtain baseline ecological data at the proposed development site;
- To determine the ecological value of the identified ecological receptors;
- To assess the potential impacts, including direct, indirect and secondary impacts which may result from the proposed works during construction, operation and decommissioning;
- To recommend mitigation measures as appropriate to avoid and / or reduce impacts to the identified ecological features; and
- To identify any residual impacts post mitigation and recommend appropriate enhancement / restoration measures where feasible.

The potential impacts of the proposed development on European sites (sites designated as Special Areas of Conservation [SACs] or Special Protection Areas [SPAs] that form part of the Natura 2000 network) in the Zone of Influence (ZoI) of the proposed development have been evaluated. This appraisal is presented separately in the form of a Screening for Appropriate Assessment and Natura Impact Statement (NIS) (which accompanies the Planning Application documentation).

1.1 Description of the Proposed Development

Donegal County Council are proposing the upgrading of and extension to an existing conventional grass pitch to develop a Synthetic Multi-Use Sport All Weather Pitch and associated works within an existing sports ground of the Finn Valley Centre at Millbrae, Stranorlar, in County Donegal (refer to Figures 1-1 to 1-3). The proposed development will be located immediately south of the existing all-weather running track.

The proposed development will include the upgrading of an existing conventional grass rugby pitch and soccer pitch to a synthetic multi-sport all-weather pitch. The proposed synthetic all-weather pitch surface will be approximately 150m X 106m in area and will be surrounded by a raised embankment with a grassed walking/running track on top, raised embankment, vehicular access with a demountable flood barrier, associated pitch perimeter fencing and ballstop netting, site boundary fencing to the south and west and flood-lighting. Further details on the proposed development are provided hereunder. A snapshot of the proposed Site Layout is shown in Figure 1-3 below and contained in Appendix 1.

1.1.1 Synthetic Multi Use All-Weather Pitch

The design and construction of the synthetic all-weather pitch will involve the structured layering of specified substrates with adequate support and drainage properties. The existing topsoil will be stripped from the site. Geotextile sheeting (Tencate TS2000 or similar) will then be installed within the area. Approximately 250mm of 75mm clean crushed stone will then be

placed over the geotextile sheeting, followed by 150mm thick layer of 75-3mm clean crushed stone. A 20mm thick closed cell shock pad formed of interconnecting tiles will then be installed above the crushed stone. Lastly, a 60mm synthetic grass carpet will be installed above the shock pad layer.

The existing topsoil will be removed by excavation prior to the laying of the new substrates and drainage. Approximately 4,000m^3 of soil will be removed and temporarily stored on site and subsequently reused onsite in the construction of the embankments.

It is planned to raise the synthetic pitch to match the level of the existing running track. This will involve raising the existing levels by between 0.1m to 2.5m across the site. It is also proposed to form a raised flood protection berm around the pitch area in order to maintain dry conditions for the synthetic surface year-round in light of flood risk from the River Finn. The level of the berm is to be a minimum of 18.3m OD (Malin) in all areas surrounding the pitch. Approximately 20,500m^3 of filling material will be required to for the proposed finished surface levels.

The proposed synthetic pitch will include a 5m wide clear runoff surrounding the GAA and rugby pitches and a 3m wide clear runoff area surrounding the soccer pitches. These areas will be kept free from any physical obstructions during games for player safety.

1.1.2 Perimeter Track and Fencing

The grassed perimeter walking/running track will be constructed on top of the flood protection embankment around the outer boundary of the synthetic all-weather pitch using the excavated material and additional material, from an approved supplier, where required. The track will be 7m wide along the northern and eastern boundaries and 3m wide along the southern and western boundaries following consultation with the Finn Valley Athletics Club.

A 1.2m high mesh panel fencing will be installed around the perimeter of the all-weather pitch area. The fencing will be galvanised and polyester powder coated green. Six 1.2m wide pedestrian gates will be installed in the perimeter fencing to allow access/egress to the playing surface. One 4m wide vehicular gate will also be installed for emergency or maintenance vehicles to enter the playing surface. proposed location of the vehicular gate is adjacent to the existing car park. A demountable flood barrier is proposed where the vehicular access path crosses the path of the flood protection berm.

1.1.3 Floodlighting and Ball Stop Net

Six flood light columns, approximately 20m in height at 500 Lux will be installed around the pitch. The location of the proposed flood lighting is shown in Figure 1-3 below.

Permanent ball stop netting is proposed to be installed behind each set of GAA and soccer goal posts. The GAA ball stop netting is proposed to be 16m tall and the soccer ball stop netting will be 10m tall. Due to the nature of the games that will be played on the pitch and the proximity of the eastern GAA goals to Millbrae road, it is proposed to extend the GAA ball stop netting for 80m along the eastern pitch boundary.

The existing discus and hammer throw cage will be removed and a new cage installed approximately 30m north-west of the new pitch location. The cage will include a concrete slab base and mesh metal fencing.

1.1.4 Parking and Pedestrian Access

The proposed development will not include any changes to the existing Finn Valley Centre car park or car park entrance. It is proposed that users of the proposed development will make use of the existing Finn Valley Centre car park. It is also proposed that the car and bus parking area located within the adjacent Scoil Mhuire National School will also be available to be used if needed during busier periods. A signalised pedestrian crossing (Pelican) extending from the Scoil Mhuire National School development to the Finn Valley Centre site granted under PL 1160175 is currently under construction in agreement with the school and local authority. It is proposed that users of the parking facilities at the adjacent school will access the proposed development using the new pedestrian crossing.

1.1.5 Proposed Pitch Drainage

The proposed synthetic pitch surface carpet and shock pads will be laid upon a clean crushed stone base on a permeable geotextile. This pitch construction allows for stormwater to permeate vertically through the pitch where it will be collected by a series of 150mm diameter French drains installed beneath the crushed stone base at 10m intervals. The French drains will be wrapped in geotextile to prevent the ingress of debris such as soil and rubber crumb entering the surface water drainage system. It is proposed that these French drains will be connected to a 225mm diameter collector drawing which will convey the surface water to a stone soakaway/attenuation unit beneath the pitch. The proposed soakaway will be constructed of clean crushed stone lined with in a permeable geotextile and sized to cater for the 1:30 year storm accounting for a 20% climate change contribution.

To cater for extreme events with return periods greater than 1 in 30-years, a high level overflow connecting to the existing storm water sewer network is proposed. Flow through the proposed overflow will be restricted to 2l/s/Ha.

Prior to outfall to the stone soakaway it is proposed that surface water will be directed through a catchpit manhole and bypass interceptor to prevent hydrocarbons from maintenance vehicles or debris entering the soakaway.

The pitch is proposed to be laid with a central ridge with a 1:150 gradient towards the perimeter of the playing surface. This gradient will direct any surface water runoff away from the playing surface preventing potential damage due to ponding.

1.1.6 Existing Drainage to be Decommissioned

Existing drainage conduits and manholes occur within the proposed development site. All known existing drainage infrastructure currently located within the proposed development site are listed hereunder:

- An existing 225mm diameter HDPE pipe and two manholes running west to east across the proposed playing surface adjacent to the existing rugby pitches.
- A 225mm diameter PVC slotted drain running southeast across the proposed playing surface.
- A 600mm diameter culvert conveying an existing watercourse from west to east across the Finn Valley Centre site.
- A rectangular manhole where the above-mentioned drainage infrastructure combines.
- A 1,200mm diameter surface water sewer which discharges the combined flows of the above-mentioned drainage infrastructure to the main surface water drainage network

within Millbrae Rd. The flows are ultimately discharged to the River Finn at an outfall on the eastern side of Dreenan Bridge.

With the exception of the 1,200mm diameter surface water sewer, the drainage infrastructure listed above will be decommissioned and relocated away from the proposed development h as part of the proposed works. The slotted pipe drain beneath the existing pitches will be removed and replaced with the proposed subsurface drainage, as outlined above.

The existing drainage ditch located to the west of the site will be re-routed around the proposed pitch via a new 1,200mm diameter culvert. The diverted drainage ditch will then discharge back to its original course, the existing 1,200mm diameter culvert, via a new manhole before exiting the site. As a result, the existing culvert will be made redundant and will be removed as part of the contract works. Part of the existing 1,200mm diameter surface water sewer running beneath the proposed pitch surface will be removed.

1.1.7 Reinstatement and Landscaping

With the exception of the all-weather pitch and the perimeter track, all disturbed lands will be fully reinstated following completion of the construction works. Approximately 220m of new hedgerow comprising native species will be planted along the southern boundary of the proposed development site as shown in Figure 1-3.

Lands located immediately west of the proposed synthetic pitch, within the proposed development site boundary, will be graded and reseeded to create an amenity grassland.

Lands located to the south of the proposed synthetic pitch will be left as is and will be used as a conventional grassed sports pitch.

1.1.8 Construction Phase

It is anticipated that the proposed construction works (if consented) will commence in Q1 of 2023 for a duration of 8 months.

Normal working hours during the construction phase are expected to be Monday to Friday 08:00 to 18:00 hours. During certain stages of the construction phase there is potential that some works will have to be carried out outside of normal working hours, however, this will be kept to a minimum.

Construction personnel will access the proposed development from Millbrae via an existing gated pitch access location to the south of the existing Finn Valley Centre visitor car park exit/entrances. The construction compound and welfare facilities will be located within the existing visitor car park, at Finn Valley Centre, located north-east of the proposed development site.

The proposed construction works will largely follow the following programme:

- The construction works will commence with the demarcation of the construction works area, site clearance and the removal of existing vegetation.
- Stripping of topsoil and excavation activities – all excavated material will be stockpiled within the demarcated site boundary.
- The installation of subsoil infrastructure such as subsoil drainage and the soakaway.
- The layering of the specified substrates and artificial surfaces.
- The installation of external structures/features including; dugouts, netting, floodlights and fencing.

- The reinstatement of disturbed lands and the forming of the flood protection berm.
- Landscaping and replanting.

1.1.9 Operational Phase

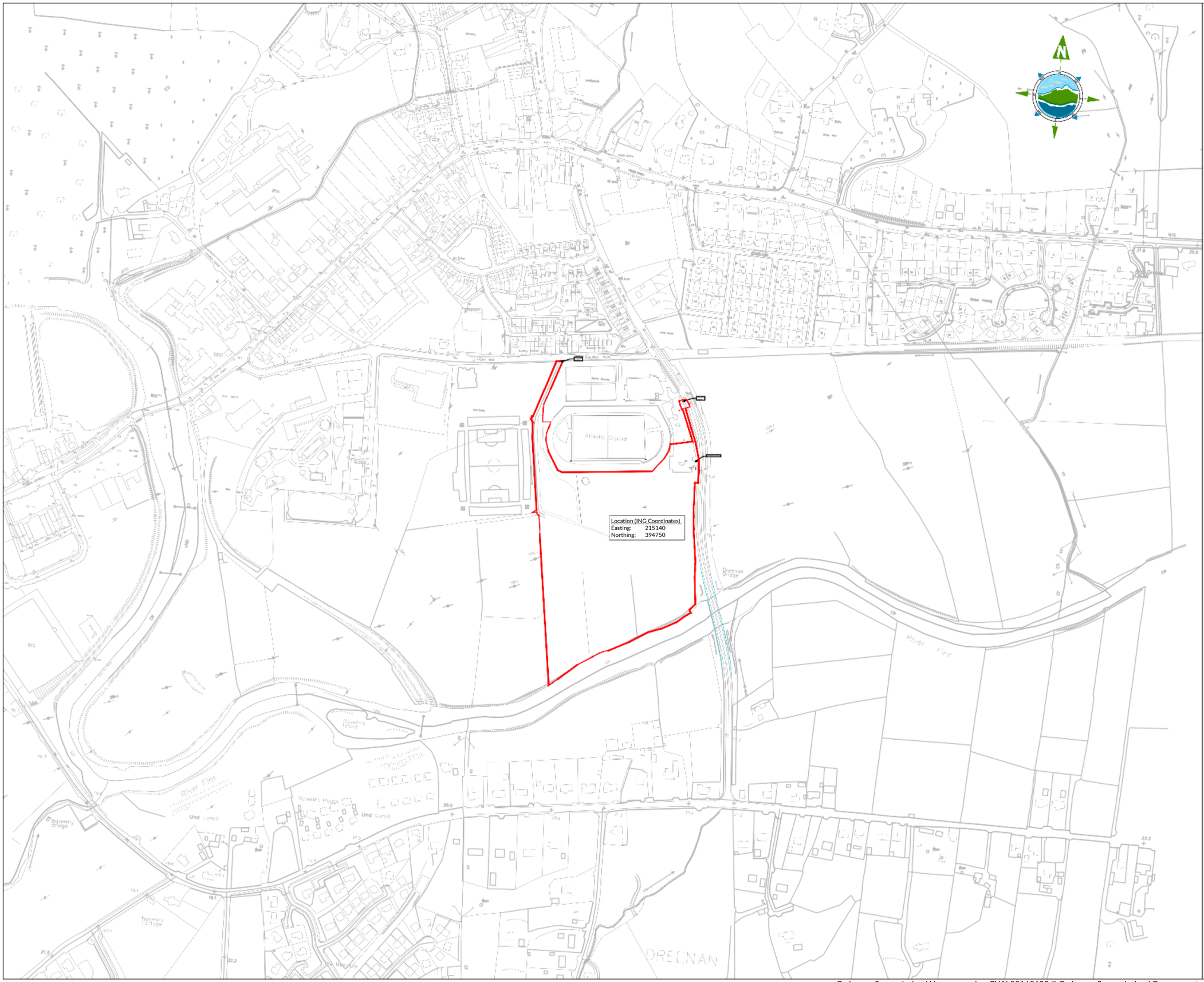
Once constructed, the proposed development will function as a Synthetic Multi-Use Sport All Weather Pitch for a variety of sports. The new pitch will be utilised in line with the Finn Valleys Centres existing opening hours (9am-9pm).

Any stormwater collected on the pitch will attenuate/soakaway through the stone build-up under the pitch. Excess stormwater will overflow to the existing manhole network and finally discharge to the River Finn.

New flood lighting will be installed around the pitch which will allow the illumination of the pitch during low-light conditions. The lighting will only be switched on when the pitch is in use.

Maintenance activities which will be undertaken during the operational phase of the development will include weekly brushing of the pitch surface, removal of any debris such as leaves or litter, weed spraying and yarn checks. Quarterly services which will include the adding of rubber crumb will be undertaken as required. Additional rubber crumb will be transported to the pitch and spread-out using brushes.

The life span of a Synthetic Multi-Use Sport All Weather Pitch is typically 20-25 years. After this stage there may be a requirement to replace the synthetic carpet and rubber crumb infill.



LEGEND

Proposed Site Boundary

Rev	Date	Description	By	Chkd.
P02	25/02/22	Revised Redline Boundary	SF	BH
P01	07.07.2021	Revised Redline Boundary	EC	BH
P0	01.06.2021	For Review	SH	BH

Client: Comhairle Contae Dhún na nGall Donegal County Council

Project: Stranorlar Multi-Use Sports Facility Improvement Project

Title: Site Location Plan Figure 1-1

Scale: 1:2500 @A1/ 1:5000 @A3

Prepared by:	Checked:	Date:
SH	BH	June 2021

Project Director: Michael McDonnell

Drawing Status: Planning

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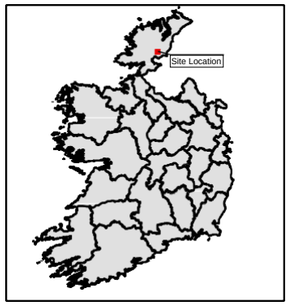
Drawing No.: 11062-2000

Revision: P02

Legend

Site Boundary



0 50 100
Metres

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THISDRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Issue	Date	Description	By	Chkd.
D01	02/03/2022	Draft issue	S.P	A.S

Client: Comhairle Contae Dhún na nGall
Donegal County Council

Project:

Stranalor Multi-Use Sports Facility Improvement Project

Title:

Proposed Site Location

Scale @ A3: 1:2,000

Prepared by: S.Pezzetta
Checked: A.Sands
Date: March 2022

Project Director: D.Grehan

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Figure 1-2

Draft: D01

NOTES:

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
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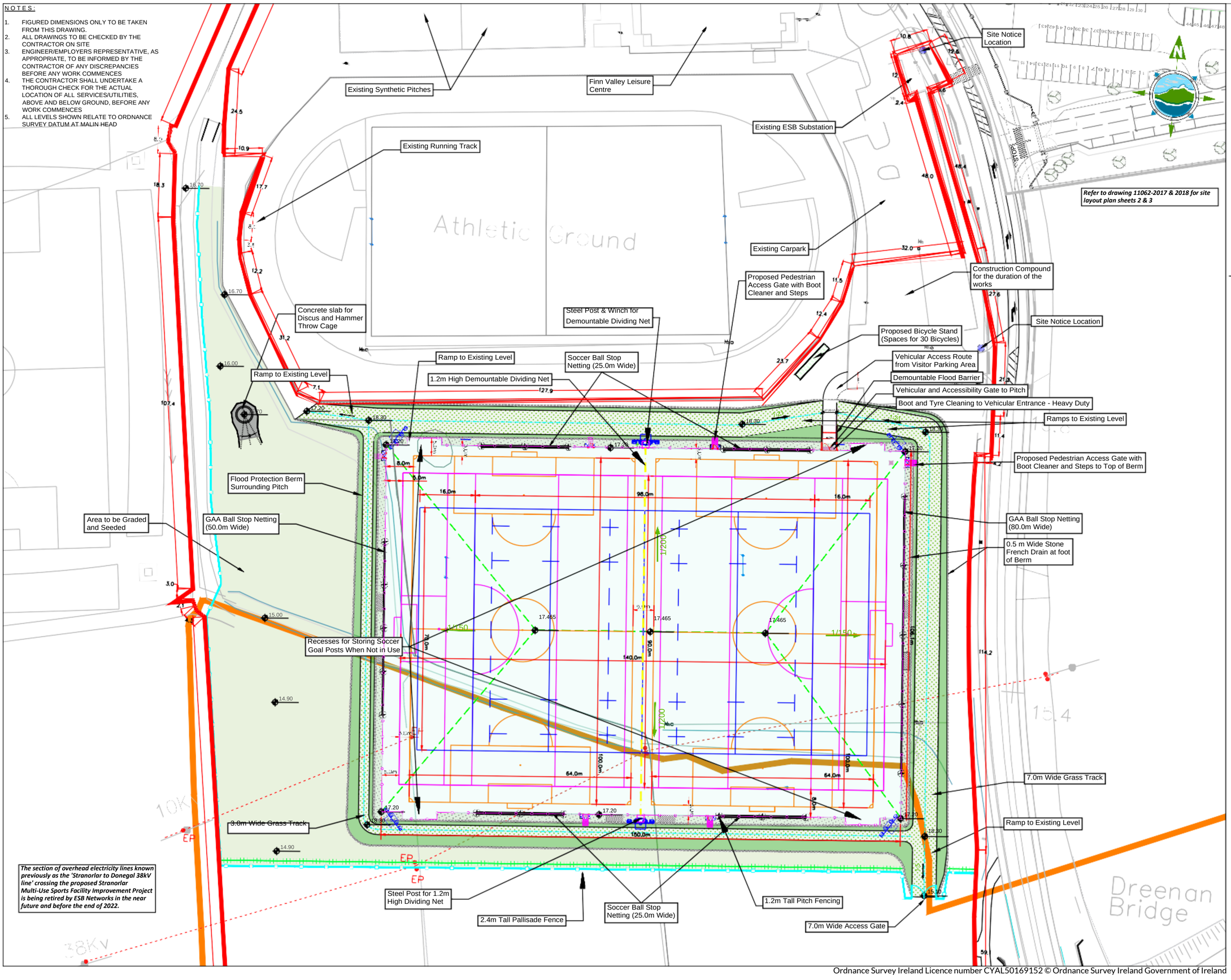
3. ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD



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LEGEND

- Proposed Site Boundary
- All-Weather Surface
- Dugouts
- Ballstop Netting
- Floodlights 18m high
- GAA Line Markings
- Soccer Line Markings
- 1.2m High Dividing Net
- 3.0m and 7.0m Wide Perimeter Grass Track
- Grassed Area at foot of Berm
- Pitch Fencing
- 1/150 Pitch Gradient
- Drainage Slope
- 18.30 Proposed Finished Surface Level
- Berm Slope/Embankment
- 0.5m Wide Land Drain (stone)
- Graded and Seeded Area
- Proposed Native Hedging
- Proposed Pallisade Fencing
- Pedestrian Gate & Boot Cleaning
- River Finn SAC (002301)
- Discus/hammer Throwing Area

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Rev	Date	Description	By	Chkd.
P04	09/03/2022	Revised Notes	SF	BH
P03	02/03/22	Notes Added	SF	DM
P02	25/02/22	Revised Redline Boundary	SF	BH
P01	07.07.2021	Revised Redline Boundary	EC	BH
P0	01.06.2021	For Review	SH	BH

Client: Comhairle Contae Dhún na nGall Donegal County Council

Project: Stranorlar Multi-Use Sports Facility Improvement Project

Title: Site Layout Plan (Sheet 1 of 3) Figure 1-3

Scale: 1:500 @A1/1:100 @A3

Prepared by:	Checked:	Date:
SH	BH	June 2021

Project Director: Michael McDonnell

Drawing Status: Planning

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Drawing No.: 11062-2001 Revision: P04

2.0 METHODOLOGY

2.1 Statement of Authority

Áine Sands

This EcIA was prepared by Áine Sands B.Sc. (Hons), Senior Ecologist with Tobin and peer reviewed by Laura Kennedy. Áine has six years post-graduate experience in ecology and environmental consultancy. Áine has predominantly been involved in large public and private infrastructure projects where she has carried out numerous Screenings for Appropriate Assessments, Natura Impact Statements and Ecological Impact Assessments for the proposed developments. Áine has a strong understanding of National and European legislation associated with biodiversity and is cognisant of relevant rulings by the Court of Justice of the European Union (CJEU). Áine also has experience with undertaking ecological surveys for protected habitats and species.

Laura Kennedy

A peer review of this report was undertaken by Laura Kennedy, Senior Ecologist and Project Manager with TOBIN Consulting Engineers. She holds an honours degree in Zoology from University College Cork and a Masters in Science in Environmental Science from Trinity College Dublin. She is a qualified and experienced environmental consultant with twelve years' post-graduate experience in environmental sciences and environmental consultancy in Canada and Ireland. Laura has prepared and delivered Planning and Environmental Consideration Reports, Technical Data Reports, Environmental Impact Assessments, Permit Applications, and Environmental Effects Monitoring Reports for renewable energy projects, pipeline projects, and mining projects in Canada and Ireland. Laura has a strong technical background as an aquatic ecologist and has extensive field experience in biological and chemical water quality assessment. Laura has also undertaken Screening Reports and Natura Impact Statements for a number of solar farms, wind energy developments, waste water treatment plants, and residential development and has defended Appropriate Assessments at Oral Hearings for a waste development and a mining project.

2.2 Legislation, Polices and Guidance

This EcIA was prepared in accordance with the following legislation, plans and policies:

- European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011), as amended. With particular reference to the Third Schedule of the European Communities Regulations 2011 (S.I. No. 477 of 2011) which deals with invasive species;
- The EIA Directive 2011/92/EU, as amended by Directive 2014/52/EU;
- European Union (EU) (Environmental Impact Assessment and Habitats) (No. 2) Regulations 2015 (S.I. No. 320/2015);
- Environmental Liabilities Directive (2004/35/EC);
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, herein referred to as the Habitats Directive;
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds, herein referred to as the Birds Directive;
- The EU Water Framework Directive (2000/60/EC);
- The Wildlife Acts 1976 to 2020 (as amended), herein referred to as the Wildlife Acts;

- The Flora (Protection) Order 2015 (S.I. No. 356 of 2015);
- Relevant fisheries legislation up to and including the Inland Fisheries Acts 1959-2017, as amended;
- Relevant policies in Ireland 3rd National Biodiversity Action Plan, 2017 – 2021 produced by the Department of Culture, Heritage and the Gaeltacht;
- Objectives relevant to ecology and biodiversity in Donegal County Development Plan 2018-2024.

The potential for effects on nature conservation interests was assessed, taking into consideration the habitats and species that are likely to be affected by the proposed development. This approach included consideration (as appropriate) of the following guidance documents:

- CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester;
- EPA (2017). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports. Draft, August 2017;
- NRA (2009). Guidelines for Assessment of Ecological Impacts of National Road Schemes. (Revision 2, National Roads Authority);
- National Roads Authority (NRA) (2005a). Guidelines for the Crossing of Watercourses During the Construction of National Road Schemes;
- NRA (2005b). Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes;
- NRA (2008a). Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes;
- NRA (2008b). Guidelines for the Treatment of Otters prior to the Construction of National Roads Schemes. National Roads Authority, Dublin;
- Smith, G. F., O'Donoghue, P., O'Hora, K., & Delaney, E. (2011). Best Practice Guidance for Habitat Survey and Mapping. Ireland's Heritage Council: Kilkenny, Ireland;
- Fossitt (2000). A Guide to Habitats in Ireland. The Heritage Council;
- Murray A. (2003). Draft Methodology for a National Hedgerow Survey. Unpublished document for Network for Nature;
- Gilbert, G., Stanbury, A., Lewis, L., (2021) Birds of Conservation Concern in Ireland 2020-2026. Irish Birds 9:523-544; and
- SNH (2016). Assessing Connectivity with Special Protection Areas (SPAs).

2.3 Study Area

The study area for this ecological assessment comprised the proposed development site and the wider surrounding hinterland. The wider surrounding environment comprises wet grasslands to the south and east and residential and commercial developments to the north and west of the proposed development. The River Finn (EPA Code: 01F01) is located, at the closest point, approximately 65m south of the proposed development site. The River Finn flows in an easterly direction and forms part of the River Finn SAC (Site Code: 002301) at this location.

The study area comprises all lands located within the ZoI of the proposed development. The ZoI is described hereunder.

2.3.1 Zone of Influence

The current guidance on ecological assessments (CIEEM, 2018) states that:

"*The 'zone of influence' for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries*" and that "*The zone of influence will vary for different ecological features depending on their sensitivity to an environmental change.*"

The ZoI was therefore defined through a desk-based assessment with regard to the sensitivity of habitats and species likely to be present / previously recorded in the locality of the proposed development site, areas with connectivity (physical, hydrological or ecological) and potential impacts which may arise from the proposed development. How the ZoI was established is summarised hereunder:

- On the basis of the desk-based assessment, the main habitats located within the proposed development site and surrounding lands were found to likely comprise agricultural grassland, hedgerows, treelines, residential and commercial developments and a lowland depositing watercourse. Given the location of the proposed development site, and having regard to the habitats likely to be present (determined through the desktop assessment) the following protected species were considered likely to be present within the environs of the proposed development site; badger *(Meles meles),* otter *(Lutra lutra),* bat *(Chiroptera spp.)* and common farmland bird species.
- The outer extent of the survey area for protected mammal species was therefore defined with regard to the NRA Guidelines; '*Guidelines for the Treatment of Badgers during the Construction of National Road Schemes'* (NRA, 2005b) and *'Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes'* (NRA, 2006) which both state that noise impacts from construction works can impact breeding badger setts / otter holts within 150m of the construction works. Other protected mammal species likely to be present in the locality will have a smaller ZoI, as impacts are predominantly associated with habitat damage and will therefore be captured within the 150m survey buffer. The survey area for bats relates to their commuting / foraging routes and location of roost sites. The potential for which is determined through field assessment. An assessment of potential roost sites within the footprint of the proposed development was undertaken (Section 4.2.2).
- The extent of the survey area for protected bird species was established through potential impacts to birds from the proposed development. The main impacts to birds include habitat loss, fragmentation of habitat and disturbance. The survey area for birds was therefore defined as the proposed development site boundary to account for habitat loss and several hundred meters from the site boundary to account for displacement and/or disturbance. Cutts *et al.* (2013) notes that different types of disturbance stimuli are characterised by different avifaunal reactions, however as a general rule of thumb, a distance of 300m can be used to represent the maximum likely disturbance distance for waterfowl. This is supported by the findings of Wright *et al.* (2010) which found that noise levels above 60dB resulted in behavioural responses, with birds abandoning the site in response to noise levels above 70dB. Thus, 300m was considered to be a precautionary buffer in defining the ZoI of disturbance effects of birds associated with general construction activities.
- The ZoI of potential impacts on surface water quality in the receiving freshwater environment will be confined to the River Finn and the downstream environment. The distance downstream is associated with the current biological condition of the accepting waterbody and its capacity to accept and assimilate sediment and other pollutants.

2.4 Consultations

A pre-planning consultation letter was sent to the Development Application Unit (DAU) on the 12th March 2021 to inform the Department of the proposed development and to discuss potential environmental sensitivities associated with the proposed works. The DAU acknowledged receipt of consultation and noted a response would be received within approximately six weeks. However, at the time of writing this report, no response had been received.

Written consultation was sent to Loughs Agency requesting available fisheries data on the River Finn located in proximity to the proposed development site. Loughs Agency provided data to TOBIN which included fisheries data and confirmed locations of Atlantic salmon redds along the River Finn. The information provided to TOBIN was used to inform the design of the development and this ecological impact assessment. Loughs Agency also advised that any instream works should follow guidance outlined within the '*Guidelines for Fisheries Protection during Development Works (Foyle and Carlingford Areas)*'.

2.5 Desktop Study

An ecological desktop study of the proposed development site was undertaken to inform the assessment. Principal sources of information utilised for the desktop assessment included:

- Existing relevant mapping and databases e.g. species and habitat distribution. (sourced from the EPA), the National Biodiversity Data Centre [NBDC] and the NPWS;
- Published and unpublished NPWS reports on protected habitats and species including Irish Wildlife Manual reports, Species Action Plans and Conservation Management Plans;
- A review of all NPWS site synopsises for designated sites within the ZoI of the proposed development;
- Conservation Status Assessment Reports (CSARs), Backing Documents and Maps prepared in accordance with Article 17 of the Habitats Directive;
- A review of published data and documents from Bat Conservation Ireland, BirdWatch Ireland, Botanical Society of Britain and Ireland (BSBI) and Inland Fisheries Ireland; and
- A review of relevant ecological reports/assessments previously completed within proximity to the study area.

2.6 Field Surveys

Ecological field surveys were carried out on 7th and 8th of April and on 22nd of June 2021 by suitably qualified TOBIN ecologists. The data collected was robust and allowed TOBIN to draw accurate, definitive and coherent conclusions on the possible impacts of the proposed development on ecological receptors.

The aim of the survey was to determine the presence or absence of habitats and species of ecological value/significance, including Annex I habitats and Annex II and IV species, bird species protected under the EU Birds Directive, Wildlife Act species and Flora Protection Order (FPO) plant species. The survey was also undertaken to assess the suitability of the habitats within the proposed development site to support protected species.

Further details of the survey methodologies undertaken are presented hereunder:

2.6.1 Habitat and Botanical Surveys

Habitat and botanical surveys were undertaken within the proposed development site following the methodology outlined by *'Best Practice Guidance for Habitat Survey and Mapping'* (Smith *et al.*, 2011) and '*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*' (NRA, 2008a). The data was recorded, and the habitats encountered during the site visit were classified in accordance with Fossitt (2000) with reference made to the '*Interpretation Manual of EU Habitats*' (EC, 2013) as appropriate.

The proposed development site was also searched for evidence of invasive plant species listed in Part 1 of the Third Schedule of S.I No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011. Species protected under Flora (Protection) Order, 2015 (S.I. No. 356/2015) or listed under the Irish Red Data List of Irish Plants were also searched for.

A habitat assessment of the small drainage ditch/stream within the proposed development was also undertaken. Watercourse characteristics including bankside vegetation, substrate, and flow rate were recorded. An evaluation was made on the suitability of the habitat to support aquatic species of conservation concern.

Following the completion of desktop analysis and field surveys, a habitat map of the proposed development site was prepared according to the methodology outlined in Smith *et al.* (2011). The habitat maps detail habitats and habitat complexes recorded within this area (Figure 4-4 in Section 4.2.1).

2.6.2 Fauna Surveys

A terrestrial mammal survey was carried out within the study area. Following the desktop study it was established that the key target mammals potentially occurring within habitats, which may be potentially affected by the proposed development, are otter *(Lutra lutra)*, badger *(Meles meles)*, and bat species *(Chiroptera spp.)*. Other protected mammal species such as pine marten (*Martes martes),* Irish hare *(Lepus timidus)*, hedgehog *(Erinaceus europaeus)*, Irish stoat *(Mustela erminea)* and pygmy shrew *(Sorex minutus)*, which are all protected under the Wildlife Acts, may also occur within the proposed development site. The potential for the proposed development to support the above mentioned protected mammal species was assessed during the field survey and any evidence of same was recorded.

Survey methodologies adopted during the target species surveys, for otters, badgers, bats and birds are outlined as follows:

2.6.2.1 Otter

Otter surveys were undertaken along the River Finn following methodologies outlined in the NRA (2006) guidelines and '*Monitoring the Otter Lutra Lutra*' (Chanin, 2003). The survey included the section of the river located within 150m of the proposed development site and along all drainage ditches. Any evidence/signs of otter such as; tracks, spraints, couches, slides, feeding remains or holts, were recorded.

2.6.2.2 Badger

Badger surveys were undertaken within the proposed development site plus a 150m buffer of the site. The badger survey followed methodologies outlined in '*Surveying Badgers'* (Harris *et*

al., 1989) and guidance outlined in the NRA guidance (NRA, 2005b). Any evidence of badger activity such as setts, trails, latrines and feeding signs were recorded.

2.6.2.3 Bats

Bat surveys comprised a daytime visual assessment of suitable roosting and foraging habitat within the ZoI of the proposed development site in accordance with '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*'(Collins, 2016).

A daytime ground-level visual assessment of the tees within the proposed development site which are proposed to be felled was undertaken. The suitability of habitat features for bats, within the survey area, were assessed in accordance with Collins (2016) as described in Table 2-1.

Table 2-1: Guidelines for Assessing Potential Bat Roosts (Collins, 2016)

Suitability	Description/Roosting Habitats	Commuting and Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions, and/or suitable surrounding habitat likely to be used on a regular basis by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or with features seen only with very limited roost potential.	Habitats, that could be used by small numbers of commuting bats such as gappy hedgerows or unvegetated streams, but are isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland, or water.
High	A structure with one or more potential roost sites that could be used that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat.	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edges. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland,

Suitability	Description/Roosting Habitats	Commuting and Foraging Habitat
		tree-lined watercourses, and grazed parkland. Site is close to and connected to known roosts.

Where a potential roost feature was identified, the feature was further investigated using an inspection bat endoscope (Model 8003AL) (Under License: 21/2021).

In addition to the visual roost assessment survey, a manual activity survey was undertaken at dusk on the 7th of April 2021, along hedgerows and treelines which are proposed to be removed to facilitate the proposed development. The dusk activity survey commenced 15 minutes before sunset until 2 hours after sunset in accordance with '*Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)' (Collins, 2016).* Collins (2016) indicates that a dusk only survey is likely to be the most effective method in spring and autumn as conditions are likely to deteriorate in the night and may cause bats to go back to their roots and not emerge for a second time before dawn. Bat activity was recorded using a bat detector (Magenta Bat5) along the transects.

2.6.2.4 Birds

Observations of ornithological activity within the proposed development site were made during the ecological surveys with regard to the Countryside Bird Survey guidelines; *'CBS Manual, Guidelines for Countryside Bird Survey Participants'* (CBS, 2012). Given the timing of the surveys targeted breeding and wintering bird surveys could not be undertaken. It is noted, however, that a robust desktop assessment of available scientific data and previous bird surveys undertaken within surrounding lands was conducted to inform the assessment.

2.6.2.5 Fisheries and Aquatic Ecology

An aquatic habitat assessment was carried out along the River Finn and the drainage ditch on site, using the methodology provided in the Scottish Environment Protection Agency's *'River Habitat Survey in Britain and Ireland Field Survey Guidance Manual: 2003 Version'* (Environment Agency, 2003). A visual assessment of the watercourses to support protected aquatic species was also undertaken.

3.0 BASELINE EVALUATION CRITERIA

Ecological resources/receptors are evaluated following the NRA (2009) guidelines (refer to Table 3-1) which set out the importance of the ecological resource/receptor in a geographic context. These guidelines are consistent with the approach recommended in the '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal* (CIEEM, 2018).

The information gathered from desk studies and field surveys was used to carry out an EcIA of the proposed development upon the identified ecological receptors on an importance scale ranging from international - national - county importance - local importance, (higher value) - local importance, (lower value). Those features identified as being of high local importance or greater, are then given particular mention in the ecological evaluation as key ecological receptors (KERs) when considering the potential for significant impacts and subsequent requirement for appropriate mitigation.

In addition, all potential impacts were assessed and characterised in accordance with the guidance produced by the EPA, '*Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports*' (EPA, 2017) (refer to Table 3-2). Via this approach, a scientific and repeatable method was applied whereby all aspects of a potential impact were considered.

Table 3-1: Site Evaluation Criteria

Importance	Ecological Valuation

International Importance	• European sites including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA), proposed Special Area of Conservation (pSAC), proposed Special Protection Area (pSPA), and/or Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended).
	• Features essential to maintaining the coherence of the Natura 2000 Network.
	• Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive.
	• Resident or regularly occurring populations (assessed to be important at the national level) of the following:
	  ○ Species of bird listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or
	  ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive.
	• Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971).
	• World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972).
	• Biosphere Reserve (UNESCO Man & The Biosphere Programme).
	• Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979).
	• Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979).
	• Biogenetic Reserve under the Council of Europe.
	• European Diploma Site under the Council of Europe.
	• Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).

National Importance	• Site designated or proposed as a Natural Heritage Area (NHA).
	• Statutory Nature Reserve.
	• Refuge for Fauna and Flora protected under the Wildlife Acts.
	• National Park.
	• Undesignated site fulfilling the criteria for designation as an NHA, Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Acts; and/or a National Park.
	• Resident or regularly occurring populations (assessed to be important at the national level) of the following:
	  ○ Species protected under the Wildlife Acts; and/or
	  ○ Species listed on the relevant Red Data list.
	• Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive.

County Importance	• Area of Special Amenity. • Area subject to a Tree Preservation Order. • Area of High Amenity, or equivalent, designated under the County Development Plan. • Resident or regularly occurring populations (assessed to be important at the County level) of the following:

Importance	Ecological Valuation
	○ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; ○ Species protected under the Wildlife Acts; and/or ○ Species listed on the relevant Red Data list. • Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance. • County important populations of species or viable areas of semi-natural habitats or natural heritage features identified in the National or Local Biodiversity Action Plan (BAP), if these have been prepared. • Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county. • Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.
Local Importance (Higher Value)	• Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared. • Resident or regularly occurring populations (assessed to be important at the Local level) of the following: ○ Species of bird listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; ○ Species protected under the Wildlife Acts; and/or ○ Species listed on the relevant Red Data list. • Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality; • Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.
Local Importance (Lower Value)	• Sites containing small areas of semi-natural habitat that are of some local importance for wildlife. • Sites or features containing non-native species that are of some importance in maintaining habitat links.

Table 3-2: Description of Effects

Description of Effect	Definition
Quality of Effects	Positive Effects A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
	Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative/adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).

Description of Effect	Definition
Significance of Effects	Imperceptible An effect capable of measurement but without significant consequences.
	Not significant An effect which causes noticeable changes in the character of the environment but without significant consequences.
	Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	Very Significant An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
	Profound Effects An effect which obliterates sensitive characteristics
Duration and Frequency of Effects	Momentary Effects Effects lasting from seconds to minutes
	Brief Effects Effects lasting less than a day
	Temporary Effects Effects lasting less than a year
	Short-term Effects Effects lasting one to seven years
	Medium-term Effects Effects lasting seven to fifteen years.
	Long-term Effects Effects lasting fifteen to sixty years.
	Permanent Effects Effects lasting over sixty years
	Reversible Effects Effects that can be undone, for example through remediation or restoration
	Frequency of Effects Once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually

4.0 EXISTING ENVIRONMENT

4.1 Output of Desktop Assessment

4.1.1 Designated Conservation Sites

<u>Sites of International Importance</u>

The Birds Directive (2009/147/EC) and the Habitats Directive (92/42/EEC) put an obligation on EU Member States to establish the Natura 2000 network. The Natura 2000 network comprises sites of the highest biodiversity importance for rare and threatened habitats and species across the EU. In Ireland, the Natura 2000 network of European sites comprises SACs and SPAs. SACs are selected for the conservation of Annex I habitats (including priority types which are in danger of disappearance) and Annex II species (other than birds). SPAs are selected for the conservation of Annex I birds and other regularly occurring migratory birds and their habitats.

There are six European sites (four SACs and two SPAs) located within 15km of the proposed development site or where hydrological connectivity exists. The sites and their qualifying interests are listed in Table 4-1 and illustrated on Figure 4-1.

Sites of National Importance

Natural Heritage Areas (NHA) are the basic wildlife designation in Ireland. These areas are considered nationally important for the habitats present or which holds species of plants and animals whose habitats needs protection. Under the Wildlife Acts, NHAs are legally protected from damage from the date they are formally proposed for designation[1]. Proposed Natural Heritage Areas (pNHA) were published on a non-statutory basis in 1995 and have not since been statutorily proposed or designated.

Four NHAs occur within 15km of the proposed development site. In addition, four pNHA's occur within 15km of the proposed development site. The four NHAs and four pNHA's are listed in Table 4-1 and illustrated on Figure 4-1.

Table 4-1: Designated Conservation Sites within 15km of the Proposed Development or with Hydrological Connectivity

Name	Qualifying Interests / Special Conservation of Interest / Feature of Interest	Approximate Distance from the Proposed Development Site (km)
International Sites (European Sites)		
River Finn SAC (002301)	• Oligotrophic waters containing very few minerals of sandy plains *(Littorelletalia uniflorae)*[3110] • Northern Atlantic wet heaths with *Erica tetralix* [4010] • Blanket bogs (* if active bog) [7130] • Transition mires and quaking bogs [7140] • *Salmo salar* (Salmon) [1106] • *Lutra lutra* (Otter) [1355]	Proposed development site overlaps with the SAC.
Croaghonagh Bog SAC (000129)	• Blanket bogs (* if active bog) [7130]	Ca. 10km south-west of the proposed development site.
Lough Foyle SPA (004087)	• Red-throated Diver *(Gavia stellata)* [A001] • Great Crested Grebe (Podiceps cristatus) [A005] • Bewick's Swan *(Cygnus columbianus bewickii)* [A037] • Whooper Swan *(Cygnus cygnus)* [A038] • Greylag Goose *(Anser anser)*[A043] • Light-bellied Brent Goose (Branta bernicla hrota) [A046] • Shelduck *(Tadorna tadorna)*[A048] • Wigeon *(Anas penelope)*[A050] • Teal *(Anas crecca)*[A052] • Mallard *(Anas platyrhynchos)*[A053]	Ca. 45km north-west of the proposed development. This SPA is located approximately 60km downstream.

[1] https://www.npws.ie/protected-sites/nha

Name	Qualifying Interests / Special Conservation of Interest / Feature of Interest	Approximate Distance from the Proposed Development Site (km)
	• Eider *(Somateria mollissima)*[A063] • Red-breasted Merganser *(Mergus serrator)*[A069] • Oystercatcher *(Haematopus ostralegus)*[A130] • Golden Plover *(Pluvialis apricaria)* [A140] • Lapwing *(Vanellus vanellus)*[A142] • Knot *(Calidris canutus)* [A143] • Dunlin *(Calidris alpina)*[A149] • Bar-tailed Godwit *(Limosa lapponica)* [A157] • Curlew *(Numenius arquata)*[A160] • Redshank *(Tringa totanus)*[A162] • Black-headed Gull *(Chroicocephalus ridibundus)*[A179] • Common Gull *(Larus canus)*[A182] • Herring Gull *(Larus argentatus)*[A184] • Wetland and Waterbirds [A999]	
River Foyle and Tributaries SAC (UK0030320)[2]	• Otter *(Lutra lutra)* • Atlantic salmon *(Salmo salmo)* • Watercourses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Bactrachion* vegetation	Ca. 10km south of the proposed development. In addition, this SAC is located approximately 18km downstream of the proposed development.
Moneygal Bog SAC (UK0030211)[2]	• Active raised bogs	Ca. 10.5km south-east of the proposed development.
Lough Foyle SPA (UK9020031)[2]	• Light-bellied Brent geese *(Branta bernicla hrota)*[A674] • Whooper swan *(Cygnus cygnus)* • Bar tailed godwit *(Limosa lapponica)* • Waterbird assemblage [WATR]	Ca. 45km north-west of the proposed development. This SPA is located approximately 60km downstream.
National Sites		
Meenagarranroe Bog NHA (002437)	• Peatlands [4]	Ca. 6.6km south-west of the proposed development site.
Lough Hill Bog NHA (002452)	• Peatlands [4]	Ca. 8km south-west of the proposed development site.
Cashelnavean Bog NHA (000122)	• Peatlands [4]	Ca. 9.7km south-west of the proposed development site.
Barmesmore Bog NHA (002375)	• Peatlands [4]	Ca. 13km south-west of the proposed development site.
Croaghonagh Bog pNHA (000129)	No site synopsis currently available	Ca. 10.5km south-west of the proposed development site.
Owendoo And Cloghervaddy Bogs pNHA (002046)	No site synopsis currently available	Ca. 12km west of the proposed development site.
Tullytresna Bog pNHA (001870)	No site synopsis currently available	Ca. 11.6km north-west of the proposed development site.
River Swilly Valley	• Woodland	Ca. 15km north of the

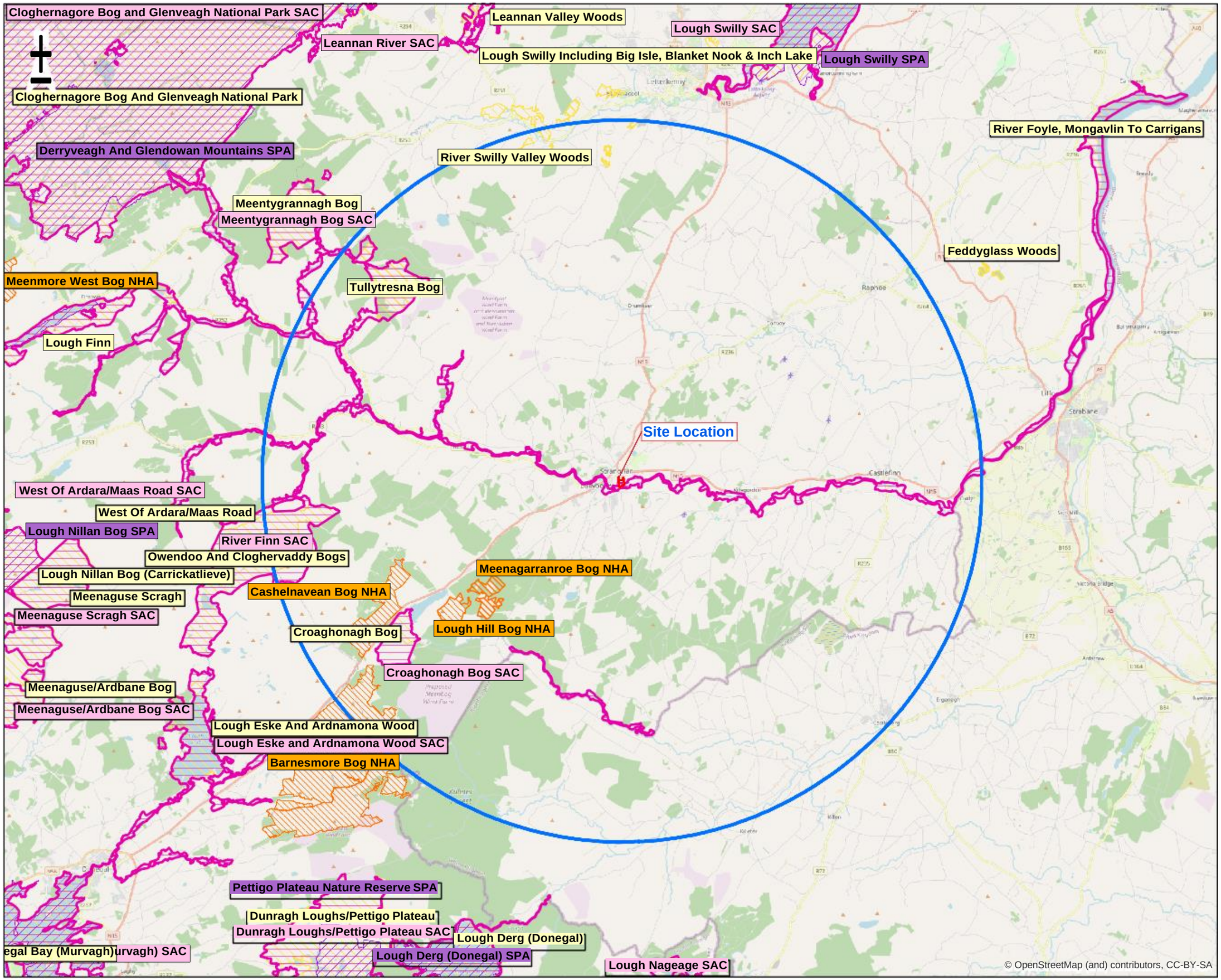
[2] UK Designated Site

Name	Qualifying Interests / Special Conservation of Interest / Feature of Interest	Approximate Distance from the Proposed Development Site (km)
Woods pNHA (002011)		proposed development.

Other National Sites

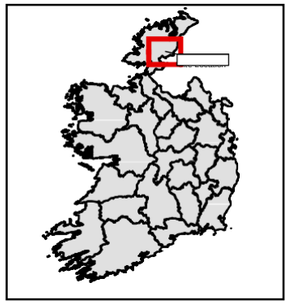
Other sites of nature conservation within the ZoI or within 15km of the proposed development site are discussed hereunder:

- There are no National Parks located within 15km of the proposed development site.
- No Nature Reserves occur within 15km of the proposed development site.
- There are no RAMSAR sites or Wildfowl Sanctuary located within 15km of the proposed development site.



Legend

- Site Boundary
- 15km buffer
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- National Heritage Areas (NHA)
- proposed Natural Heritage Area(pNHA)



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NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Issue	Date	Description	By	Chkd.
D01	28/02/2022	Draft issue	S.P	A.S

Client: Comhairle Contae Dhún na nGall Donegal County Council

Project:

Stranalor Multi-Use
Sports Facility
Improvement Projects

Title:

Designated Sites map

Scale @ A3: 1:144,081

Prepared by: S.Pezzetta
Checked: A.Sands
Date: February 2022

Project Director: D.Grehan

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Figure 4-1

Draft: D01

4.1.2 Records of Protected Species and Habitats

A review of previously recorded protected fauna and flora and invasive species within the study area was undertaken and is summarised hereunder.

4.1.2.1 National Biodiversity Data Centre Data

A search of the NBDC[3] database was carried out for protected flora and fauna and species listed under the Third Schedule of the Birds and Natural Habitats Regulations (2011) within the 2km grid square (H19M) which encompass the proposed development site, and are listed in Table 4-2. A total of 47 bird species have previously been recorded within the 2km grid square. Due to the large number of species recorded only species protected by the EU Birds Directive or species listed as either Red or Amber under the Birds of Conservation Concern[4] have been listed in Table 4-2 as they are of higher ecological concern.

Table 4-2: Previous Records of Protected Fauna and Flora Species recorded within the 2km Grid Square H19M

Species	Designation	Location in Relation to the Proposed Development Site
Common frog *(Rana Temporaria)*	Annex V, WA	Closest previous record located ca. 500m north-west of the proposed development site.
Barn Swallow *(Hirundo rustica)*	WA, Amber List	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Black-headed Gull *(Larus ridibundus)*	WA, Red List	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Common coot *(Fulica atra)*	Annex II, III, WA, Amber List	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Common Goldeneye *(Bucephala clangula)*	Annex II, WA, Amber List	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Common Starling *(Sturnus vulgaris)*	WA, Amber List	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Common Swift *(Apus apus)*	WA, Amber List	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Common Wood Pigeon *(Columba palumbus)*	Annex II, III, WA,	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Eurasian Teal *(Anas crecca)*	Annex II, Annex III, WA, Amber List	A number of previous recordings within the 2km grid square which encompasses the proposed development.
House Martin *(Delichon urbicum)*	WA, Amber List	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Little Grebe *(Tachybaptus ruficollis)*	WA, Amber List	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Mallard *(Anas platyrhynchos)*	WA, Annex II, III,	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Sand Martin *(Riparia riparia)*	WA, Amber List	A number of previous recordings within the 2km grid square which encompasses the proposed development.

[3] Accessed online via: https://maps.biodiversityireland.ie/Map
[4] Gilbert G, Stanbury A, Lewis, L (2021), "Birds of Conservation Concern in Ireland 2020-2026. Irish Birds 9: 523-544.

Species	Designation	Location in Relation to the Proposed Development Site
Whooper Swan *(Cygnus cygnus)*	Annex I, Amber List	A number of previous recordings within the 2km grid square which encompasses the proposed development.
Canadian Waterweed *(Elodea canadensis)*	Invasive Species >> Regulation S.I. 477 (Ireland)	Closest previous record located on the bank of the River Finn ca. 180m south of the proposed development.
Indian Balsam *(Impatiens glandulifera)*	Invasive Species >> Regulation S.I. 477 (Ireland)	Closest previous record located on the bank of the River Finn ca. 180m south of the proposed development.
Japanese Knotweed *(Fallopia japonica)*	Invasive Species >> Regulation S.I. 477 (Ireland)	Closest previous record located ca. 580m north-west of the proposed development.
Common Seal *(Phoca vitulina)*	Annex II, V, WA	Species previously recorded in the River Finn in 1997 approximately 700m west of the proposed development site.
Eurasian Red Squirrel *(Sciurus vulgaris)*	WA	Species previously recorded in 1996 within woodland located approximately 950m north west of the proposed development site. Records of the species also recorded in 2012 in a patch of woodland located 1km south-east of the site.
European Otter *(Lutra lutra)*	Annex II, IV, WA	A number of previous recordings within the 2km grid square which encompasses the proposed development.

Note: WA = Wildlife Acts

4.1.2.2 NBDC Bat Landscapes Tool

A review of the Bat Landscapes tool was utilised to determine the habitat suitability of the study area to support protected bat species. The bat 'habitat suitability' index is the research outcome of a study by Lundy *et al.* (2011) examining the relative importance of landscape and habitat associations across Ireland for bats. The 'habitat suitability' index ranges from 0 to 100 with 0 being least favourable and 100 being most favourable for various bat species. The results of the Bat Landscape Tool are also shown in Table 4-3 below. The habitat suitability score for all bat species was 26.22 (moderate suitability).

Table 4-3: Results of the Bat Landscape Tool

Species	Landscape Suitability Index
All Bat species	26.22
Soprano pipistrelle *(Pipistrellus pygmaeus)*	42
Brown long-eared bat *(Plecotus auratus)*	30
Common pipistrelle *(Pipistrellus pipistrellus)*	39
Lesser horseshoe bat *(Rhinolophus hipposideros)*	1
Lesser noctule *(Nyctalus leisleri)*	39
Whiskered bat *(Myotis mystacinus)*	12
Daubenton's bat *(Myotis daubentoniid)*	29
Nathusius's pipistrelle *(Pipistrellus nathusli)*	0
Natter's bat *(Myotis nattereri)*	44

4.1.3 Fisheries

The River Finn is located, at the closest point, approximately 65m south of the proposed development site. The river has a channel length of approximately 101km and has a catchment area of 494km^2 (Niven *et al.,* 2007). The primary fish species within the upper Finn catchment

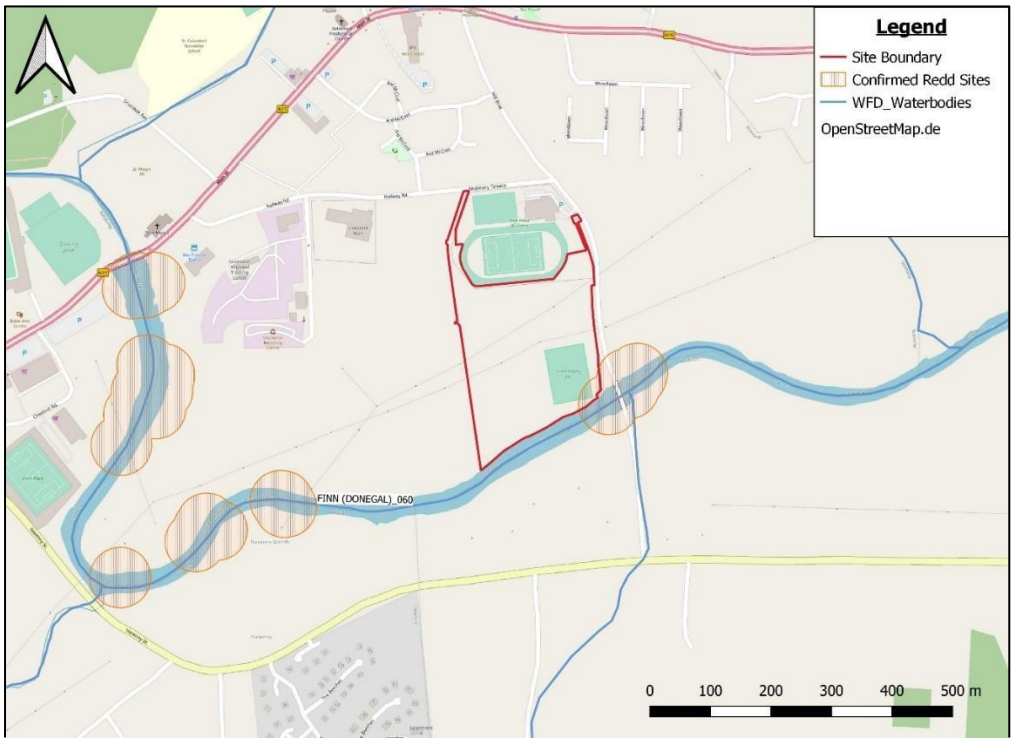
include Atlantic Salmon *(Salmo salar)* , trout (Sea trout and resident brown trout) *(Salmo trutta L.),* Arctic charr *(Salvelinus alpinus),* sea lamprey *(Petromyzon marinus),* river lamprey *(Lampetra fluviatilis),* and Brook lamprey *(Lampetra planeria)*, while European eel *(Anguila anguila* L.). flounder *(Platichthys flesus L.)*, twaite shad *(Alosa fallax Lacépède)* and European smelt *(Osmerus eperlanus L.)* may be present within the lower tidal reaches of the River Finn (Loughs Agency, 2010).

The River Finn is designated as a Salmonid Water under the European Commission's (Quality of Salmonid waters) Regulations, 1988. Atlantic salmon are a qualifying interest of the River Finn SAC, therefore the population is considered to be of International Importance. The Loughs Agency undertake annual freshwater fisheries monitoring in the Finn and Foyle catchments. There were no net fisheries pursued for Atlantic salmon in the Foyle area in 2018 which is due to the continued failure of the River Finn to meet its conservation limits as outlined under the Foyle Area (Control of Fishing) Regulations 2010 (Loughs Agency, 2019).

Following consultation, Loughs Agency provided confirmed locations of Atlantic salmon redds[5] along the River Finn in proximity to the proposed development site. A confirmed redd site occurs immediately upstream and downstream of the Dreenan Bridge (refer to Figure 4-2).

In addition, Loughs Agency in 2007 carried out habitats surveys of the River Finn and the habitat was classified into one of three life cycle units; holding, spawning or nursery habitat (Loughs Agency, 2007). Each category was also graded on a scale of 1-4 with 1 representing the best quality attainable, and 4 the worst. The stretch of river located to the south of the proposed development site and immediately downstream of Dreenan Bridge, was classified as nursery habitat at a grading of 2 (refer to Figure 4-3).

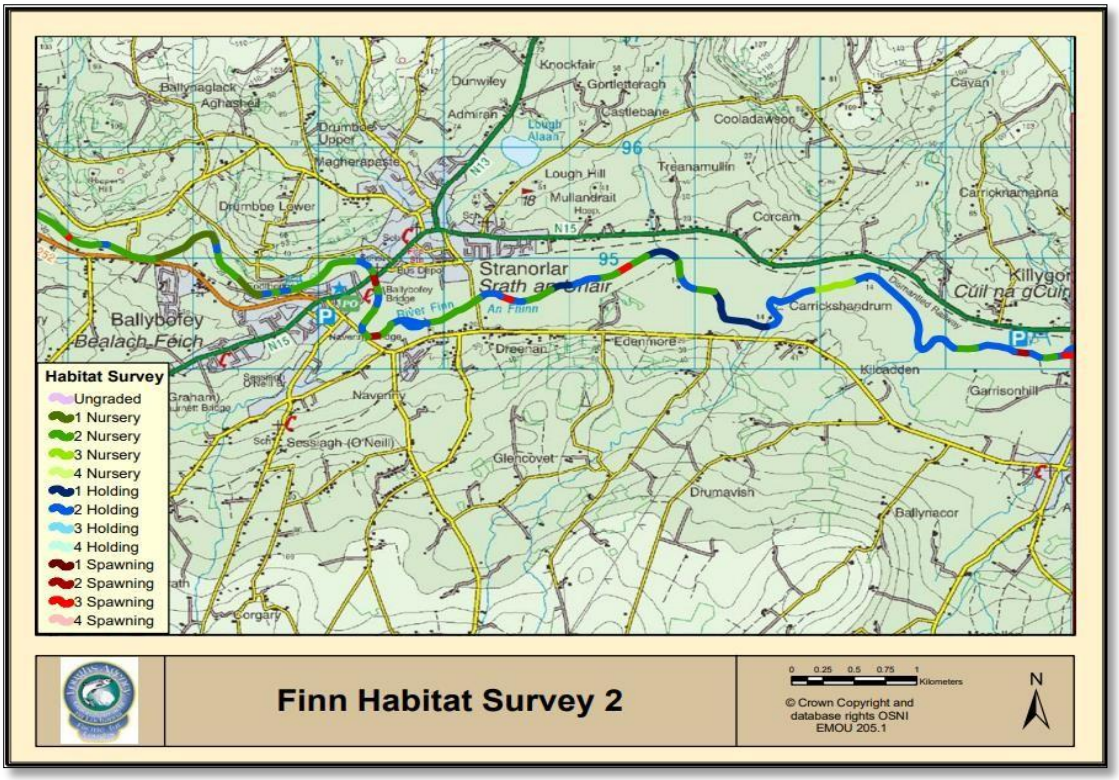
Figure 4-2: Location of Confirmed Redd Sites



Source: Redd sites supplied by Loughs Agency in May 2021

[5] Redds are depressions created by the upstroke of female salmon's body and tail are used for depositing their eggs.

Figure 4-3: River Finn Habitat Survey



Source: Loughs Agency 2010

All three species of lamprey; river lamprey, Brook lamprey and sea lamprey are known to be present within the Foyle catchment (Loughs Agency, 2010). All three species of lamprey are designated under Annex II of the EU Habitat Directive.

Baseline surveys to record the abundance and distribution of juvenile lamprey within the River Finn was undertaken by Loughs Agency in summer and autumn of 2010 (Loughs Agency, 2010). The surveys found that the Finn catchment was deemed to be meeting favourable conservation status for river and brook lamprey and unfavourable conditions for sea lamprey.

The River Finn catchment is identified as a Margaritifera sensitive area[6]. An extant population of freshwater pearl mussel *(Margaritifera margaritifera)* occurs within the Owenea catchment located approximately 40km upstream of the proposed development site (Moorkens, 2009). A small population of freshwater pearl mussel are also present in the Mourne River, a tributary of the Finn River (DAERA, 2017). As the Moyne River is a tributary of the River Finn, there is no downstream hydrological connectivity between the proposed development and this watercourse.

Asian clam *(Corbicula fluminea)* has previously been recorded within the River Foyle in 2016, at a site downstream of Lifford, approximately 20km downstream of the proposed development site. In 2018, Woodrow Sustainable Solutions Ltd. undertook Asian clam surveys at a number of sites along the River Finn in proximity to the proposed development (Woodrow, 2019). Two sampling sites were undertaken in proximity to Dreenan Bridge (one located approximately 140m upstream of the bridge with the second site located approximately 25m

[6] https://www.npws.ie/maps-and-data/habitat-and-species-data

downstream of the bridge. Additional sampling sites were undertaken in proximity to Ballybofey/Stranorlar Bridge. It is noted that no Asian clams were recorded during the surveys.

4.1.4 Review of Previous Ecological Assessments

A review of past ecological surveys which were carried out in proximity to the proposed development was also undertaken and are summarised hereunder.

Irish Water – St. Joseph's Pumping Station, Outfall and Rising Main (Planning Ref: 2051635)

Irish Water are proposing sewerage network upgrade works to the existing St. Joseph's Pumping Station and Rising main and the construction of a new Pumping Station Outfall at Stranorlar. The proposed new pumping station and rising main are located approximately 200m east of the proposed new all-weather pitch development. The proposed new stormwater outfall will be located on the bank of the River Finn approximately 180m south-east of the proposed development site. Irish Water undertook a number of ecological surveys and the main findings of the surveys, relevant to the proposed development, are summarised hereunder (Irish Water, 2020):

- Extensive strands of Himalayan balsam were recorded at the proposed stormwater overflow location.
- Several potential otter resting sites (couches) on the southern bank of the River Finn were recorded. Otter spraints and prints were recorded in 2019 in proximity to the proposed outfall location.
- No evidence of any other protected mammal species were recorded during surveys.
- No suitable breeding habitat for kingfisher *(Alcedo atthis)* was recorded along the River Finn, in proximity to the proposed new outfall, during the survey.

Gaelscoil Development (Planning Refs: 1160175, 1750443, 1950516)

The Department of Education & Skills have proposed the development of a Gaelscoil located in Stranorlar Town approximately 90m north-east of the proposed all-weather pitch development. Ecological surveys were undertaken on the site by McCarthy Keville O'Sullivan ecologists in 2011 (McCarthy Keville O'Sullivan, 2011). The findings of the surveys are summarised hereunder:

- No protected flora species or Annex I habitats were recorded during the surveys.
- No mammals or mammals signs were recorded during the survey. The report also noted that no birds of conservation interest were recorded within the site.

4.2 Output of Field Surveys

4.2.1 Habitats

All habitats were classified according to Fossitt (2000) during the ecological walkover of the proposed development site. The habitats within the proposed development footprint are described herein and illustrated in Figure 4-4. An assessment of the habitats was undertaken in accordance with the NRA (2009) guidelines.

4.2.1.1 Buildings and Artificial Surfaces (BL3)

The Finn Valley Centre existing sports pitches and a carpark are located to the north and north-east of the proposed development site. All buildings were assessed as having 'Negligible' bat roost potential. A number of floodlights occur around the existing pitches.

The buildings and artificial surfaces are assessed as being of Local Importance (Low Value) due to the low ecological value they provide.

4.2.1.2 Amenity Grassland (GA2)

Lands within the proposed development site currently comprise well-maintained amenity grassland (GA2). The area is currently being used as a conventional sports pitch. The amenity grassland is dominated with perennial ryegrass *(Lolium perenne).* A small flock (approx. 10 birds) of jackdaws *(Corvus monedula)* and a single herring gull *(Larus argentatus)* were sighted foraging on the grassland during the survey.

The habitat was assessed as being of Local Importance (Low Value) due to the low species diversity and low ecological value the habitat provides.

4.2.1.3 Wet Grassland (GS4)

The fields located to the west and south-west of the proposed development site were identified as wet grasslands (GS4). The fields were lightly grazed by cattle. Species present within the grassland included; soft rush *(Juncus effusus),* water dock *(Rumex hydrolapathum)*, creeping buttercup *(Ranunculas repens),* with occasional cuckooflower *(Cardamine pratensis),* water forget-me-not *(Myosotis scorpioides),* ragwort *(Jacobaea vulgaris)* and daisy *(Bellis perennis).* A small stagnant pond was present in the northern field. The pond is likely to provide suitable habitat for frogs. Sections of the wet grassland occur within the boundary of the River Finn SAC, however the habitat does not support any Annex I habitats.

The habitat was assessed as being of Local Importance (higher value).

Photo 4-1: Amenity Grassland (Left) and Wet Grassland (Right)

4.2.1.4 Drainage Ditch (FW4)

A drainage ditch (FW4) occurs along the southern sections of the proposed development site. The drain extends linearly across the site before its culverted for approximately 150m and

then discharges into the River Finn, immediately upstream of Dreenan Bridge via an existing outfall (refer to Photo 4-2 [Left]). The drainage ditch is approximately 2m wide, shallow, with a slow, sluggish flow. The drainage ditch has a high level of sedimentation and evidence of eutrophication is present. The drain is also heavily vegetated with brooklime *(Veronica beccabunga)*, soft rush and perennial rye grass. During the ecology survey undertaken on the 22nd of June, the drainage ditch was noted as being completely dry with no water present.

The drainage ditch was assessed as having no suitability to support salmonid species, white-clawed crayfish or lamprey species due to the lack of suitable habitat present. Although none recorded, it is likely that the drainage ditch provides suitable habitat for frogs and tadpoles. Due to the low fishery value and large culverted section, the drain is likely to provide only suboptimal habitat for otter.

The drainage ditch is assigned a value of Local Importance (Higher Value) as the drain provides an important ecological corridor to the Finn River.

4.2.1.5 Hedgerows (WL1) and Treelines (WL2)

The amenity and wet grasslands are bordered by a mixture of hedgerows (WL1) and treelines (WL2).

A treeline occurs immediately south of the existing all-weather pitch (refer to Photo 4-2). Tree species present include; ash *(Fraxinus excelsior)* and hawthorn *(Crataegus monogyna),* with occasional elder *(Sambucus nigra).* All trees were identified as having 'Negligible' bat roost potential as per Collins (2016). The understory of the treeline comprises; bramble *(Rubus fructicosus),* gorse *(Ulex Europaeus),* cow parsley *(Anthriscus sylvestris),* and holly *(Ilex aquifolium).* A section of the treeline (ca. 70m in length) is proposed to be removed to facilitate the works.

A second treeline occurs along the far western boundary of the site. The treeline comprises mature ash and hawthorn trees. One ash tree, located in the centre of the treeline was assessed as having 'Low' bat roost potential as per Collins (2016) due to the presence of thick ivy which occurs around the tree trunk which may provide a roost site for bats. All other trees were assessed as having 'Negligible' bat roost potential. The understory of the treeline comprises dog violet *(Viola riviniana),* bramble, gorse, broad-leaved willowherb *(Epilobium montanum),* lesser celandine *(Ficaria verna)* and primrose *(Primula vulgaris).*

A small gappy hedgerow occurs to the south of the treeline, extends to the east along the conventional grass pitch and extends south towards the River Finn. The hedgerow comprises of hawthorn, bramble, elder, nettle *(Urtica dioica)*, meadow sweet *(Filipendula ulmaria)* and holly. A small bird nest was noted in the hedgerow during the survey. A wire fence occurs along the boundary of the hedge. Approximately 190m of the hedgerow will be removed to facilitate the proposed works.

Both the treeline and hedgerow habitats were assessed as being of Local Importance (Higher Value) due to the diversity in species present and the potential for the habitats to support protected species such as birds and bats.

Photo 4-2: Drainage Ditch (Left) and Treeline Proposed to be Felled (Right)

4.2.1.6 Depositing/Lowland River (FW2)

The River Finn, within the study area, is a depositing/lowland river (FW2) and is designated as the River Fin SAC. The watercourse is a salmonid system and also supports other protected species such as otter, lamprey, twaite shad and other fish species. The River Finn was assigned a 'Poor' Water Framework Directive (WFD) Status (2013-2018) at the section of river located to the south of proposed development. The section of the River Finn located immediately downstream of the Dreenan Bridge is classified as 'At Risk' of not reaching good ecological status as part of the WFD.

Within the study area, the river is approximately 35-40m wide with the bank height ranging between 5-10m in areas. The watercourse has a moderate flow with pools and glides present. Immediately downstream of Dreenan Bridge the watercourse is slightly shallower with riffles and rapids present. No instream or floating river vegetation could be seen within the watercourse from the bank of the river. A strip of riparian woodland (WN5) is present on both banks of the river. Evidence of otter (prints and potential resting sites) were noted along the river during the surveys. A kingfisher was also sighted flying along the river during the survey. No suitable nest habitat for kingfisher was identified along the stretch of river located in proximity to the proposed development site, however a number of dead and overhanging trees are likely to provide good perch sites for the species.

The River Finn was assessed as being of International Importance due to its European designation and the occurrence of Annex II species of the EU Habitat Directive within the habitat.

4.2.1.7 Riparian Woodland (WN5)

A narrow strip of riparian woodland occurs along both banks of the River Finn. Tree species present include; mature sycamore *(Acer pseudoplatanus),* ash, willow *(Salix spp.)* and alder *(Alnus glutinosa).* The understory includes bramble, ivy, bluebell *(Hyacinthoides non-scripta),* and wood anemone *(Anemone nemorosa).* New growth of the non-native invasive plant species; Himalayan balsam *(Impatiens glandulifera)* and Japanese knotweed *(Retnoutria japonica)* was recorded in areas along the understory of the riparian woodland (further details on the invasive species is provided in Section 4.2.1.8). The riparian woodland occurs within the boundary of the River Finn SAC but does not support any Annex I habitats. A number of trees along the bank of river were identified as having 'Low' to 'Moderate' bat roost potential as per Collins (2016) due to the presence of suitable roost features.

The riparian woodland habitat was assessed as being of Local Importance (higher value).

Photo 4-3: River Finn (Left) and Riparian Woodland on the Bank of the River (Right)

4.2.1.8 Protected/Rare and Invasive Plant Species

No plant species listed under the FPO or plant species listed as rare or vulnerable were recorded within the study area during the surveys. In addition, no habitats protected under the Habitat Directive were recorded within the footprint of the proposed development site.

An invasive plant species survey was undertaken within the study area. Himalayan balsam was recorded scattered along the entire bank of the River Finn located immediately south of the proposed development site boundary (refer to Photo 4-4 [left]). Japanese knotweed was also recorded at one location on the bank of the River Finn during the survey (54°47'55.9"N, 7°45'53.3"W) (refer to Photo 4-4 [right]).

Both Himalayan balsam and Japanese knotweed are invasive plant species listed under the Third Schedule of the European Communities Regulations 2011 (S.I. No. 477 of 2011).

Photo 4-4: New growth of Himalayan Balsam (left) and new growth of Japanese knotweed (Right) located on the bank of the River Finn

Legend

Site Boundary

Habitats

- FW4 - Drainage - ditches
- WL1 - Hedgerows
- WL2 - Treelines
- BL3 - Buildings and artificial surfaces
- FW2 - Depositing/lowland rivers
- GA2 - Amenity grassland (improved)
- GS4 - Wet grassland
- WN5 - Riparian woodland

Invasive Species

- Japanese Knotweed
- Himalayan Balsam

Mammals

- Otter Tracks

0 — 100
Metres

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THISDRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Issue	Date	Description	By	Chkd.
D01	28/02/2022	Draft issue	S.P	A.S

Client: Comhairle Contae Dhún na nGall — Donegal County Council

Project:

Stranalor Multi-Use Sports Facility Improvement Project

Title:

Habitat Map

Scale @ A3: 1:2,000

Prepared by:	Checked:	Date:
S.Pezzetta	A.Sands	February 2022

Project Director: D.Grehan

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Figure 4-4

Draft: D01

4.2.2 Fauna

Results of protected species recorded during the ecological surveys are provided hereunder.

4.2.2.1 Otter

Otters and their breeding and resting sites are protected under the Wildlife Acts and under the EU Habitat Directive.

An otter survey was undertaken along the section of the River Finn located within 150m of the proposed development site. Otter tracks were recorded in a number of locations along the river bank (refer to Photo 4-5). The evidence of tracks and records of previous recordings of otter suggest that otter regularly forage and commute along the river. No otter holts were recorded during the surveys.

The local otter population are of International Importance as they are designated within the River Finn SAC.

Photo 4-5: Otter Print

4.2.2.2 Badger

Badgers and their setts are protected under the Wildlife Acts.

No evidence of badger, including setts, were recorded within the study area during the surveys. A review of previous ecological assessments and NBDC data similarly indicated that badger hasn't been recorded within the immediate area. The grasslands which border the River Finn are predominantly waterlogged due to flooding from the River Finn. The habitat is likely to provide sub-optimal breeding habitat for badger due to the potential for setts to be

flooded. Although no setts were recorded there is potential that badger may occasionally forage or commute in the area.

The local badger population are assessed as being of Local Importance (Higher Value).

4.2.2.3 Other Mammal Species

No evidence of any other protected mammal species was recorded during the field survey. There is potential however that the proposed development site may support other small protected mammal species such as hedgehogs *(Erinaceus europaeus),* pygmy shrew *(Sorex minutus),* Irish stoat *(Mustela erminea hibernica)* and Irish hare *(Lepus timidus).*

The local small mammal population are assessed as being of Local Importance (Higher Value).

4.2.2.4 Bats

All bat species and their roost sites are protected under the Wildlife Acts. There is additional protection for lesser horseshoe bat *(Rhinolophus ferrumequinum)* which is listed as an Annex II species under the EU Habitat Directive.

A visual roost assessment survey and a manual activity survey (dusk) was undertaken along the treelines and hedgerows proposed to be removed or within the ZoI of the proposed development. The surveys were undertaken in accordance with the Bat Conservation Trust Guidelines (Collins, 2016). The findings of the surveys are outlined hereunder.

4.2.2.4.1 Roost Assessment Survey

A daytime, ground-level, visual assessment of the trees required to be felled to facilitate the proposed development was undertaken. Where a potential roost feature (PRF) was identified, the PRF was further investigated using an inspection endoscope (Model 8003AL) (under Licence: 21/2021).

No active bat roosts were recorded during the survey. All trees within the treeline proposed to be removed were assessed as having 'Negligible' bat roost potential as per Collins (2016) due to the lack of any roost features present within the trees.

A mature ash tree, located on the far western boundary of the site, was identified as having 'Low' bat roost potential due to the presence of thick ivy around the trunk of the tree which may provide an opportunistic roost for bats. The tree is not proposed to be felled as part of the proposed works.

4.2.2.4.2 Dusk Activity Survey

The dusk activity survey commenced at 20:05 (15 minutes prior to sunset) and ended at 10:20 (2 hours post sunset) as per the guidelines. Weather conditions included light rain at the start of the survey; however, the rain ceased for the remainder of the survey. The temperature ranged between 6 and 7 degrees Celsius during the survey, which is slightly below optimal surveying conditions; however, given the relatively low habitat suitability for bats in the area, the survey was considered to be adequate to determine general bat activity and assess potential impacts .

Transects routes were walked along the sections of hedgerows and treelines which are proposed to be removed to facilitate the works. A transect was also walked along the riparian woodland located along the bank of the river. No bat activity was recorded along the

hedgerow and treeline proposed to be removed during the survey. Three recordings of Daubenton's bat *(Myotis daubentonii)* (at 20:54, 21:10 and 21:35) were recorded on the bank of the River Finn approximately 95m upstream of Dreenan Bridge. The Daubenton's bats were recorded commuting and foraging along the river. Two further recordings of Daubenton's bat were recording on the bank of the River Finn approximately 25m upstream of Dreenan Bridge. The bats were recorded foraging in this area. No other recordings of bats were recorded during the survey.

Records of bat activity within the survey area were noted as low. Only five bat activity events of one species was recorded during the survey. Activity was only noted along the riparian woodland and along the River Finn. No activity was recorded along the treeline and hedgerow which are proposed to be removed to facilitate the proposed works. This is likely due to the gappy nature of the treeline and hedgerow, lack of connectivity to more valuable habitat, and existing flood lights within the area which illuminates the linear features slightly. There is also an extensive area of higher value habitat (linear features with no light exposure) located within the wider environment which bats are likely to use instead.

It is also noted that the bat activity survey was undertaken in early April, during an unexpected cold snap, which may have contributed to the low level of activity; however, considering the availability of areas of higher value habitat (linear features with no light exposure) within the wider environment, it is unlikely that either the treeline or hedgerow provide an important habitat for the local bat population within the area.

The local bat population were assessed as being of Local Importance (Higher Value).

4.2.2.5 Birds

All wild birds and their nests and eggs are protected under the Wildlife Acts. A number of bird species are also protected under Annex I of the EU Birds Directive.

All bird species sighted or heard during the walkover survey were recorded. A list of the species recorded is provided in Table 4-4 below.

Table 4-4: Bird Species Recorded During Walkover Survey

Bird Species	Conservation Status[7]	Location Recorded and Activity
Kingfisher	Amber	Sighted flying low along the River Finn.
Grey heron *(Ardea cinerea)*	Green	Sighted standing in the wet grassland habitat in proximity to the drainage ditch.
Wood pigeon	Green	Number of wood pigeons were sighted flying over the wet grasslands.
Jackdaw	Green	A small flock of jackdaws were recorded foraging on the grass sports pitch.
Robin *(Erithacus rubecula)*	Green	Recorded within the hedgerow located adjacent to the existing grass sports pitch.
Black birds *(Tardus*	Green	Two black birds were sighted in the treeline located on the

[7] Gilbert, G., Stanbury, A., Lewis, L., (2021) Birds of Conservation Concern in Ireland 2020-2026. Irish Birds 9:523-544.

Bird Species	Conservation Status[7]	Location Recorded and Activity
merula)		western boundary of the proposed development site.
Wren *(Troglodytes troglodytes)*	Green	Recorded within the hedgerow located adjacent to the existing grass sports pitch.
Common buzzard *(Buteo buteo)*	Green	Single common buzzard sited soaring over adjacent fields to the west of the proposed development site.
Magpie *(Pica pica)*	Green	Sighted in a number areas around the Finn Valley Centre.
Song thrush *(Turdus philomelos)*	Green	Recorded within the hedgerow located adjacent to the existing grass sports pitch.

The bird species recorded are common species typically found within agricultural grassland habitats. All bird species recorded, with the exception of kingfisher, are listed as having Green Conservation Status[7] (Low Conservation Concern). Kingfisher are an Annex I species under the EU Birds Directive and are currently Amber listed in Ireland[8]. Kingfisher are very sedentary species and will rarely move from their territories[9]. The kingfisher spotted flying along the River Finn, south of the proposed development site, is likely to have a territory within the area. The local population of kingfisher was assessed as being of County Importance.

Following a review of I-WeBS data[10], it is noted that there are no important wetland sites (I-WEB sites), RAMSAR sites or Wildfowl Sanctuary to support wintering bird species located in proximity to the proposed development site. The closest I-WeBS site is the River Foyle site (Subsite: 0A398) which is located approximately 20km north-east of the proposed development. In addition, there are no SPA's located within 15km of the proposed development site. The closest SPA is Lough Swilly SPA (004075) which is located approximately 18km north-east of the proposed development site. The proposed development site does not occur within the foraging range of the special conservation interest species.

A review of NBDC data and data supplied by the NPWS Scientific Unit indicates that only low numbers of wintering bird species have previously been recorded within or in proximity to the proposed development. There is potential however that some wintering bird species may use the habitat, such as the amenity grasslands and river corridor located within the ZoI of the proposed development site; however, considering the location of the proposed development site, adjacent to an existing sports centre, and the availability of alternative habitat present within the wider environment, the habitats within the footprint of the works are unlikely to support significant numbers of wintering bird species associated with national and international populations.

4.2.2.6 Herpetofauna and Reptile Species

The Wildlife Acts provides protection to Ireland's only reptile, common lizard *(Zootoca vivipara)* and two amphibian species, common frog *(Rana temporaria)* and smooth newt *(Lissotriton vulgaris).*

No suitable habitat to support common lizard and smooth newt were recorded within the proposed development site. The small ponds of standing water were deemed too shallow to

[8] https://birdwatchireland.ie/birds-of-conservation-concern-in-ireland/
[9] https://birdwatchireland.ie/birds/kingfisher/
[10] https://birdwatchireland.ie/our-work/surveys-research/research-surveys/irish-wetland-bird-survey/

support smooth newts, as the species generally utilises ponds with a depth of 0.5-1m (O'Neil *et al.*, 2004).

Although none were recorded during the surveys, the drainage ditch and small pools of standing water located within the wet grassland habitat are likely to provide suitable habitat for frogs and their spawn. The local frog population are assessed as being of Local Importance (Higher Value).

4.2.2.7 Aquatic Species

As noted, the small drainage ditch located immediately west of the proposed development site was assessed as having no fishery value to due to the highly modified nature of the drain (large culverted sections) and the high level of sedimentation present.

Targeted aquatic surveys were not undertaken within the River Finn as there will be no instream works undertaken as part of the proposed development. A robust desktop assessment was instead undertaken which is outlined in Section 4.1.3 of this report. As noted the river supports a number of protected aquatic species which includes Atlantic salmon, lamprey species and white-clawed crayfish. All three species are protected under the EU Habitat Directive.

The population of protected aquatic species within the River Finn were assessed as being of Local to International Importance.

4.3 Summary of Ecological Evaluation and Identification of Key Ecological Receptors

Following a review of the existing environment presented above, KERs within the ZoI of the proposed development site were evaluated in accordance with the evaluation criteria set out in Tables 3-1 and Table 3-2 above. Consideration of the existing baseline condition / population stability, conservation status, rarity and legal protection of the KERs was undertaken. A summary of the ecological valuation and identification of KERs is provided in Table 4-5.

Table 4-5: Key Ecological Receptors

Site / Habitat / Species	NRA Ecological Evaluation	KER	Rationale for Inclusion
Designated Sites			
River Finn SAC	International	Yes	Viable source-pathway-receptor links for effect identified between the proposed development and the SAC.
River Foyle and Tributaries SAC	International	Yes	Viable source-pathway-receptor links for effect identified between the proposed development and the SAC.
All other European sites	International	No	No viable source-pathway-receptor links for effect identified between the proposed development and other European sites.
All nationally designated sites	National	No	No viable source-pathway-receptor links for effect identified between the proposed development and nationally designated sites.
Habitats and Flora			
Building and Artificial Surfaces	Local Importance (lower value)	No	There is no potential for impact to the artificial habitat which is of low ecological value.

Site / Habitat / Species	NRA Ecological Evaluation	KER	Rationale for Inclusion
(BL3)			
Amenity grassland (GA2)	Local Importance (lower value)	No	Approximately 21,295m^2 of amenity grassland will be lost to facilitate the proposed development. The habitat is of low ecological value and common within the surrounding habitat.
Agricultural grassland (GA1)	Local Importance (lower value)	No	The habitat is of low ecological value and common within the surrounding habitat.
Wet grassland (GS4)	Local Importance (higher value	Yes	Approximately 12,840m^2 of wet grassland will be lost to facilitate the proposed development. The habitat was assessed as having higher local importance.
Drainage ditch (FW4)	Local Importance (higher value)	Yes	The construction works have the potential to result in direct and indirect impacts on the drainage ditch.
Hedgerow (WL1)	Local Importance (higher value)	Yes	Approximately 190m of hedgerow will be removed to facilitate the proposed works. The habitat was assessed as having higher local importance.
Treeline (WL2)	Local Importance (higher value)	Yes	Approximately 70m of treeline will be removed to facilitate the proposed works. The habitat was assessed as having higher local importance.
Depositing/ lowland rivers (FW2)	International	Yes	The construction works have the potential to result in indirect impacts on the watercourse. The watercourse supports protected species and is of international importance.
Riparian woodland (WN5)	Local Importance (higher value)	Yes	The construction works have the potential to result in indirect impacts on the habitat.
Fauna			
Otter	County	Yes	Potential for the construction works to result direct and indirect impacts to otter.
Badger	Local Importance (higher value)	Yes	Potential for the construction works to result in the disturbance of foraging badger.
Other small protected mammal species	Local Importance (Higher Value)	Yes	Potential for the construction works to result in the disturbance of small protected mammal species.
Bat species	Local Importance (Higher value)	Yes	Potential for the construction works to result in the disturbance of bat species.
Kingfisher	County Importance	Yes	Potential for the construction works to result in the disturbance of kingfisher.
Other Breeding bird species	Local Importance (Higher value)	Yes	Potential for the construction works to result in the disturbance of breeding bird species.
Wintering bird species	Local Importance (Higher value)	Yes	Potential for the construction works to result in the disturbance of winter bird species.
Frog	Local Importance (Higher value)	Yes	Potential for the construction works to result direct and indirect impacts to frogs.
Aquatic Species	Local to International	Yes	Potential for indirect impacts via a degradation of water quality.

5.0 IMPACT ASSESSMENT

The following sections present the assessment of impacts on biodiversity within the ZoI of the proposed development. Impacts are presented in relation to both the construction and operational phase of the proposed development.

5.1.1 Designated Sites

TOBIN prepared a Screening for AA (which accompanies this EcIA in the Planning Application) which investigated the potential for the proposed development to have likely significant effects on European site(s) either alone or in-combination with other plans or projects. The screening assessment identified viable source-pathway-receptor links for likely significant effects on the River Finn SAC and River Foyle SAC. The screening assessment concluded, in light of best available scientific data, there is potential for likely significant effects on the qualifying interests of the two SACs in view of their conservation objectives.

A NIS was therefore prepared to assess the potential for the proposed development to result in adverse effects on the integrity of the River Finn SAC and River Foyle SAC. The NIS concluded that following the implementation of mitigation measures, the proposed development either alone or in-combination with other plans and projects, would have no adverse effects on the site's integrity, in view of the site's conservation objectives. The Appropriate Assessment of the proposed development is, of course, a matter for An Bord Pleanála as Competent Authority.

No national sites (NHAs and pNHAs) or other sites of nature conservation were identified as occurring within the ZoI of the proposed development.

5.1.2 Construction Phase Impacts

Impacts associated with the Construction Phase on the receiving environment are discussed hereunder.

5.1.2.1 Habitat and Flora

5.1.2.1.1 Habitat Loss

The proposed development will be approximately 35,454m^2 (3.55ha.) in area and will therefore result in the permanent loss of habitat of a similar footprint. Habitats within the footprint of the proposed development which will be removed to facilitate the proposed works includes approximately 21,295m^2 of amenity grassland, 12,840m^2 of wet grassland, and approximately 190m of hedgerow and 70m of treeline.

The majority of the above mentioned habitats will be permanently lost and replaced with artificial surfaces. Approximately 7,880m^2 of the cleared wet grassland habitat will be replanted as amenity grassland. Approximately 220m of new hedgerow will be replanted along the southern boundary of the proposed development site.

The majority of habitats within the proposed development site are of local importance (lower value). Considering the small area of habitat that will be lost, and considering the replanting of new hedgerow and amenity grassland, the impacts associated with the loss of habitat would be at a local scale only and would not constitute a significant negative effect on biodiversity.

5.1.2.1.2 Habitat Degradation

The construction works have the potential to result in the runoff of sediment and/or construction pollution and the generation of dust during the works.

Sediment and Construction Pollution

Site clearance, excavation activities and the stockpiling of material have the potential to result in the runoff of sediment, if not appropriately managed. The runoff of sediment could result in an increase of suspended solids flowing into nearby watercourses. As noted, the River Finn is located, at the closest point, approximately 65m south of the proposed development site. Works will also be undertaken within the drainage ditch located to the south-western boundary of the site. In the event of heavy rainfall or flooding there is a risk that sediment may deposit within the watercourses. Increased silt loading in watercourses can stunt aquatic plant growth, limit dissolved oxygen capacity and overall reduce the ecological quality of watercourses, with the most critical period associated with low flow conditions.

During the construction phase, there is also the potential for spills and leaks of oils, fuels and chemicals from storage areas or plant and equipment to impact on the surrounding habitats. Accidental spills of fuels, oils and construction materials (e.g. concrete), if not appropriately managed, can affect habitat quality through deposition of materials in the environment.

A Flood Risk Assessment of the proposed development was undertaken by TOBIN (refer to Planning Application documentation) which identified that the majority of the site occurs within the floodplain of the River Finn and is therefore liable to fluvial flooding from the River Finn. In addition, recurring flooding has previously been documented at the Dreenan Bridge, immediately downstream of the proposed development site. There is therefore a risk (albeit it low) that a flooding event may occur during the construction phase. The potential for fluvial flooding within the proposed development site increases the risk of runoff of sediment and construction pollution into the River Finn, if not appropriately managed.

Aquatic habitat degradation as a consequence of effects on surface water quality have the potential to affect the conservation status of aquatic habitat present within the River Finn SAC and therefore has the potential to result in significant negative effects at an International scale.

Dust

Excavation activities may also result in the temporary generation of dust in the locality of the works area. The Institute of Air Quality Management provide guidelines; *'Guidance on the Assessment of Dust from Demolition and Construction'* (Holman *et al.*, 2014), which prescribes potential dust emission risk classes to ecological receptors. Following the guidelines and considering the size of the proposed development, the scale of the earthworks were considered Large (total site area >10,000m^2). The guidelines specify that receptor sensitivity is 'High' up to 20m from the source and reduces to 'Medium' at 50m. Dust may also be generated from trackout due to heavy duty vehicle (HDV) movements from the site entrance. It is anticipated that HDV movement will range between 5 to 10 outward movements a day which equates to 'Small' trackout movement. The guidelines indicate that Small trackout equates to dust occurring up to 50m from the site. Dust deposition on vegetation can inhibit growth.

Invasive Plant Species

Two non-native invasive plant species; Japanese knotweed and Himalayan balsam, were recorded on the bank of the River Finn along the southern boundary of the Planning Application site boundary (refer to Figure 4-4). Both invasive species are listed under the Third Schedule of the European Communities Regulations 2011 (S.I. No. 477 of 2011). It is an offence to disperse plant species listed on the Third Schedule of the Regulations without a licence.

Both invasive species are located an excess of 65m from the proposed construction works area. Considering the distance of the invasive species from the proposed works area, the risk of direct disturbance is considered low. However, due to the presence of invasive species within the Planning Application site boundary an Invasive Species Management Plan (ISMP) has been prepared and is included in Appendix 2 of this report. The ISMP outlines biosecurity measures which will be implemented during the construction works to ensure there is no disturbance or spread of the invasive species.

5.1.2.2 Fauna

5.1.2.2.1 Otter

Loss of Habitat

No otter holts were recorded during the ecological surveys. The proposed development site comprises amenity and wet grassland and does not provide suitable breeding habitat for otter. In addition, no instream works will occur within the River Finn. The drainage ditch located to south-west of the proposed development site was assessed as have negligible value for otter.

The River Finn SAC Conservation Objective document (NPWS, 2017) indicates that the extent of terrestrial habitat for otter is mapped as a 10m buffer along river banks and around water bodies identified as critical for otter. The proposed works area is located approximately 65m from the bank of the river. No construction works however will occurs within 65m of the river bank. Lands located to the south of the proposed all-weather pitch will be left in situ as amenity grassland and will not be disturbed during the construction works. There will be no loss of terrestrial habitat within 10m of the river bank.

Disturbance

Construction works can result in disturbance impacts to otter to a distance of up to 150m for developments of this nature, as per the NRA guidelines (NRA, 2006). As noted, no otter holts or couches were identified within the ZoI of the proposed development site. There is potential however that otter may establish new otter holts/resting areas within the ZoI of the proposed development in the interim of the surveys being undertaken and construction taking place, particularly if the construction phase is delayed. Disturbance to otter holts during the construction phase could result in a short term, significant negative effect, at an International scale.

There is potential that otter may forage and commute along the River Finn and may be disturbed by the construction works. Otter however, are crepuscular species, mainly active at dawn and dusk, and are likely to avoid the main construction activity periods. Some works may be undertaken at night and construction lighting may be required. The noise and lighting associated with the works may result in the disturbance of foraging and commuting otter. The disturbance of otter could result in a short-term, slight negative effect on otter, at an International geographical scale.

In the absence of mitigation, the release of construction pollution into the River Finn or into the hydrologically connected drainage ditch has the potential to result in indirect impacts on otter due to a degradation of water quality resulting in impacts on their feeding resources. Chanin (2003) notes that '*Otters are not directly affected by water quality and will forage in conditions that seem extremely unpleasant to humans, however, where deterioration in water quality leads to a deterioration in food supply there will clearly be an indirect effect*'. A

degradation of otter's feeding resources would constitute a short-term, moderate negative effect on otter, at an International geographical scale.

5.1.2.2.2 Badger

Loss of Habitat

No badger setts or evidence of badger activity was recorded within 150m of the proposed development site. Due to the flooding risk within the area and waterlogged grassland, the site is unlikely to provide suitable breeding sites for badger.

There is potential however that badgers may forage occasionally within the site. The proposed development will result in a loss of a small area of potential foraging habitat for badger. Considering the small area of habitat which will be lost, the lack of recordings of evidence of badger within the proposed development site and the availability of alternative foraging sites within the surrounding lands, the loss of the habitat is likely to have only a slight, negative effect on the local badger population at a local geographical scale.

Disturbance

Construction works can result in the disturbance of badgers breeding sites located within 150m of a construction works site (NRA, 2005). As noted no setts were record within 150m of the proposed development site. Considering the waterlogged nature of the habitat present within the site the potential for new badger setts to establish within the proposed development site is considered unlikely. The disturbance of foraging badgers during the construction works could result in a short-term, slight, negative effect on the local badger population, at a local geographic scale.

5.1.2.2.3 Bats

Loss of Habitats

No active bat roosts were confirmed within the proposed development site. All trees within the treeline proposed to be removed were assessed as having 'Negligible' bat roost potential as per Collins (2016). No important roost sites will be lost as part of the proposed development.

Approximately 70m of treeline and 190m of hedgerow will be lost to facilitate the proposed works. During the activity surveys, only low numbers of bats were recorded within the survey area. No bats were recorded foraging/ commuting along the treeline and hedgerow to be removed. The treeline and hedgerow are gappy and exposed to artificial lighting from the existing sport pitches. It is also noted that approximately 220m of new hedgerow will be replanted along the southern boundary of the proposed development site. The temporary loss of hedgerow and treeline is not considered to result in significant effects on the local bat population at any geographical scale.

Disturbance

It is likely that temporary construction lighting will be required during the construction works. The construction lighting has the potential to result in the illumination of the surrounding linear features which may displace commuting/foraging bats from the habitat. Lighting can disturb bats feeding behaviours (Bat Conservation Ireland, 2010). The disturbance of bats within the area, from temporary construction lighting, could result in a slight, negative effect at a local geographical scale.

5.1.2.2.4 Other Mammal Species

There is potential that the proposed development site may support other small, protected mammal species such as hedgehog, pygmy shrew, Irish stoat or Irish hare. However, similarly considering the availability of higher valuable habitat within the surrounding environment and the lack of evidence of such species within the site, it is considered that the proposed development site is unlikely to support significant numbers of the protected mammals species.

The proposed construction works have the potential to result in the loss of habitat and disturbance of such species. However, given the low number of species likely to be using the site and the mobile nature of the species, the clearance of vegetation and disturbance is unlikely to result in significant negative effects on small mammal species, at a local geographical scale.

5.1.2.2.5 Aquatic Species

Loss of Habitat

The drainage ditch located to the west of the proposed development site was identified as being suitable habitat for common frog. The proposed works will include the redirecting and culverting of the drainage ditch which may result in a short-term degradation of water quality and aquatic vegetation at the site. A degradation of water quality and aquatic vegetation has the potential to result in short-term negative impacts on the local common frog population. There is potential that common frogs may use the drainage ditches as spawning sites. If construction works within the drainage ditches occur during the frog's spawning season (March–June inclusive) there is potential that spawn will be impacted. Impacts to frog spawn are likely to result in short-term, significant negative effects on local populations.

The proposed construction works have the potential to result in a degradation of aquatic habitat within the River Finn which could result in indirect impacts of protected aquatic species present with the watercourse. The release of construction pollution and/or sediment into the watercourse has the potential to result in a degradation of water quality and habitat quality. Sedimentation can degrade suitable spawning habitats by infiltrating clean gravel beds. A reduction of suitable spawning beds within the watercourse has the potential to reduce carrying capacity of the aquatic species, such as Atlantic salmon, lamprey species and other fish species within the watercourse. In addition, the prolonged sediment loading of a watercourse has the potential to inhibit fish passage. The obstruction of upstream migration may restrict salmon and lamprey from reaching important spawning sites. The release of concrete into a watercourse has the potential to alter pH levels of the waterbody and is highly toxic to aquatic life. The degradation of water quality during the construction works has the potential to result in long-term significant negative effects on the aquatic species from local to International scale.

5.1.2.2.6 Breeding Birds

Loss of Habitat

The hedgerow and treeline habitat which is proposed to be removed is likely to provide suitable nesting habitat for breeding bird species. If the removal of the vegetation occurs within the breeding bird nesting season (1st March – 31st August inclusive), there is potential that nests and eggs will be lost. The loss of vegetation within the bird breeding season could result in a short-term, slight, negative effect on breeding birds, at a local geographical scale. However, considering the small area of habitat to be removed and the availability of suitable,

alternative nesting habitat within the wider environment, the loss of the habitat is unlikely to affect the abundance or distribution of the local population.

There will be no loss of riparian woodland along the bank of the River Finn. Thus there will be no loss of suitable perch sites for kingfisher.

Disturbance

Construction related noise and the physical presence of machinery and construction personnel is likely to result in the disturbance of birds from habitats located in close proximity to the proposed development site. Given the short-term nature of the construction works (approximately 12 months) disturbance to breeding birds species will be short term. In addition, there is suitable, alternative habitat within the surrounding lands. Therefore, the short-term disturbance / displacement of breeding bird species during the construction phase will not result in a significant negative effect on the local breeding bird population.

Kingfisher are likely to have a territory along the River Finn located south of the proposed development site. Kingfisher can be sensitive to noise and disturbance at breeding sites (Cummins *et al*, 2010). No nest sites were identified along the bank of the river located to the south of the proposed development site. There is an existing strip of riparian woodland located on the bank of the river. The strip of woodland will provide screening to kingfisher which may forage or commute along the section of the river located directly south of the proposed development site. Considering the distance and the existing vegetative screening present, disturbance to the species is unlikely.

Overall, the clearance of vegetation within the proposed development site and disturbance associated with the construction works will not result in long-term negative effects on local breeding bird population and will not constitute a significant negative effect at a local to county geographical scale.

5.1.2.2.7 Wintering Birds

Loss of Habitat

Some habitats (i.e. the wet grassland and amenity grassland) within the proposed development site have the potential to support low number of wintering bird species (non SCI[11] species). Considering the small area of habitat which will be lost and the availability of suitable, alternative habitat within the surrounding area, the loss of the habitat will not result in significant effects on the local wintering bird species population at any geographic scale.

Disturbance

The construction works have the potential to result in the short-term disturbance of wintering bird species. Considering the temporary nature of the disturbance, coupled with the wide availability of alternative suitable habitat within the surrounding habitat, even if wintering birds did occur in the area, the short-term impacts to wintering bird species do not have the potential to result in a significant negative effect on wintering birds species at a local or international geographic scale.

[11] Special Conservation Interests

5.1.3 Operational Phase Impacts

5.1.3.1 Disturbance

Human Activity

During the operational phase, the proposed development will function as an all-weather pitch for a variety of sports which will result in a slight increase in noise levels and disturbance within the immediate vicinity. It is noted however that existing background levels are likely to be already elevated within the area due to the adjacent leisure centre and pitches. The slight increase in human activity within the area is likely to have imperceptible impacts on the surrounding environment.

Lighting

New flood lighting will be installed as part of the proposed development. The location of the new proposed lighting is shown in Figure 1-3. The new lighting will result in an increase in artificial lighting within the immediate vicinity of the site.

Artificial lighting can impact nocturnal foraging and commuting species such as bats, badger and otter. The direct illumination of foraging/commuting routes can alter feeding patterns and/or deter protected species from commuting along affected corridors. The River Finn was identified as an important corridor for bat species and otter. Similarly, surrounding treelines within the wider environment may also be used as foraging and commuting routes by bats. The direct illumination of foraging and commuting routes could result in a long term negative effects on nocturnal protected species at a local scale.

Pollution

The proposed all-weather pitch will be infilled with a rubber crumb material. During the operational phase there is potential for the rubber crumb to be carried off site by players. If not appropriately managed there is potential for the rubber crumb to be carried via surface water and deposit within the nearby drain or into the River Finn. The release of rubber crumb into receiving watercourses could result in a long-term moderate negative effect, ranging from a local to international scale.

Drainage of the pitch will be via French drains and a soakaway/attenuation unit beneath the pitch. As part of the design, the French drains will be wrapped in geotextile which will prevent any of the rubber crumb entering the drainage system. No chemicals/hydrocarbons will be used during the maintenance of the pitch. There is no potential for water quality impacts on the River Finn during the operation of the pitch.

The proposed development will include an embankment around the pitch which will seek to prevent flooding within the pitch from the River Finn.

Collision Risk

The proposed development will include the installation of six ballstop nets around the perimeter of the pitch which will be approximately 16m in height. Ball netting, in some cases, could result in the entanglement of birds if located along important flight line routes. As noted, there are no important habitats or sites designated for protected bird species located within proximity to the proposed development site. In addition, the proposed development site does not occur along any important flight lines or migratory routes of protected bird species. The

proposed development site does not occur within the foraging range of special conservation interests for designated SPA's located within the wider environment. It is also noted that the Finn Valley Centre, which exceeds 16m in height, occurs immediately north of the proposed development site. Considering the above, there is no potential for the proposed ballstop nets to result in collision risks with protected bird species.

5.2 Mitigation Measures

Mitigation measures which will be employed to ensure no significant adverse effects on biodiversity occurs as a result of the development are described hereunder.

Mitigation is prescribed with regard to the 'Mitigation Hierarchy' set out in the EPA '*Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*' (EPA 2017) which requires mitigation by avoidance as a first approach. Where this is not achievable, measures to prevent impacts from giving rise to adverse effects will be adopted (e.g. design of bunded storage for chemicals). Where impacts cannot be avoided e.g. generation of noise) mitigation by reduction of impact is prescribed to limit the exposure of the ecological receptor to an acceptable level (often achieved by interrupting the pathway between the source and receptor). When adverse effects cannot be prevented, mitigation to counteract the effects are required i.e. offsetting measures.

5.2.1 Construction Phase

5.2.1.1 Appointment of Environmental / Ecological Clerk of Works

A suitably qualified Environmental / Ecological Clerk of Works (EnCoW or ECoW) will be appointed by the Contractor. The EnCow / ECoW will ensure that all mitigation measures outlined within this report are implemented during the proposed construction works.

5.2.1.2 Vegetation Clearance

The construction work areas will be demarcated prior to the construction works commencing. No clearance of vegetation will be undertaken outside of the demarcated areas within the proposed development site. All disturbed ground, with the exception of the all-weather pitch and perimeter track, will be full reinstated following the completion of the works.

In accordance with Section 40 of the Wildlife Acts, all vegetation proposed to be removed to facilitate the works will be cleared outside of the birds nesting season (1st March to 31st August inclusive). This will ensure there is no loss of nests as a result of the proposed construction works. In the event that clearance of vegetation is required within the bird nesting season, vegetation will first be surveyed by an experienced ecologist to identify the presence of active nests. Only vegetation confirmed to be nest free may be cleared. In the event that a nest is confirmed as present, the nest will either removed under license obtained from NPWS or the nest will be cordoned off until the chicks have fledged or until nesting has failed.

Suitable habitat to support frogs was identified within the drainage ditch. It is recommended that a pre-construction frog spawn survey is undertaken within drainage ditch habitat which maybe be disturbed during the common frog's spawning season (1st March – 31st June inclusive). In the event that frog spawn is identified within the footprint of the works, a derogation license under Sections 9, 23 and 43 of the Wildlife Acts will be sought from NPWS.

5.2.1.3 Re-Planting of Vegetation

Approximately 220m of new hedgerow will be planted along the southern boundary of the proposed development site. The new hedgerow will include a mixture of native species to increase species diversity within the area. The proposed new planting scheme is illustrated in the Landscape Plan which is included within the Planning Application.

5.2.1.4 Disturbance

All temporary lighting associated with the construction works will be strategically placed by the Contractor following consultation with a suitably qualified ecologist. This will ensure that illumination beyond the works area is controlled. Lighting will be cowled and directional to reduce significant light splay. No lighting will be directed towards the surrounding hedgerows and treelines or towards the River Finn. Only low-pressure sodium, high pressure sodium or LED luminaires will be used on site to ensure that there are no significant negative impacts on bats. In addition, the column height of the temporary lights will be carefully considered to minimise light spill.

In the event that the construction phase of the development is delayed more than 12 months after the initial baseline surveys, it is recommended that a pre-construction otter survey is undertaken along the stretch of the River Finn located within 150m of the proposed development site to establish the presence of any new otter holts. The pre-construction survey should be conducted no more than 10—12 months in advance of the construction works as per the NRA (2008b) guidelines. In the event that a new holt is identified within the ZoI of the proposed works, a derogation license will be sought from NPWS.

5.2.1.5 Sediment and Construction Pollution Control

All construction works (particularly instream works) will be carried out as per the Loughs Agency guidelines; '*Guidelines for Fisheries Protection during Development Works (Foyle and Carlingford Areas)'* and per the Inland Fisheries Ireland (IFI) guidelines; '*Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (2016)'* to ensure the protection of the River Finn and its tributaries.

The following mitigation measures are prescribed to ensure the prevention of the runoff of silt or sedimentation during the construction works:

- Silt fences will be installed along the southern boundary of the proposed works area, south of the proposed embankment location. Silt fences will also be installed around large stock piles of material.
- Silt fences will be constructed using a permeable filter fabric (Hy-Tex Terrastop Premium silt fence or similar) and not a mesh. Silt fencing will be installed as per the manufacturer's guidelines prior to any ground disturbance works and shall be maintained until vegetation on the disturbed ground has been re-established. Once installed, the silt fence shall be inspected daily during construction and hourly during heavy rainfall by the appointed EnCow / ECoW.
- Excavation activities will not be carried out during or following heavy rainfall, i.e. if there is a yellow weather warning in place or 5mm in a 1-hour period.
- Excavations will be covered during heavy rainfall to avoid the creation of surface water with high concentrations of suspended solids that would require dewatering.
- During lighter rain periods, the time period over which excavations are left open will be reduced insofar as is reasonably practicable.

- All stockpiled material will be stored within the site construction compound or within the proposed development site boundary which are located an excess of 65m from the bank of the River Finn.
- No material or vehicles will be stored within 20m of the drainage ditch.
- The material required for the flood embankment and for raising the land will not be stockpiled within the proposed development site but will be brought onto site as necessary. Such material will be from a source confirmed to be free of invasive plant material.

The following mitigation measures are prescribed to ensure the prevention of water quality degradation due to the runoff of construction pollution during the construction works:

- All works must comply with the guidance set out in the guidance document entitled: '*Control of Water Pollution from Construction Sites. Guidance for Consultants and Contractors (C532)*' (CIRIA, 2001)[12].
- The construction compound and welfare facilities will be located within the existing Finn Valley Centre only.
- Spill-kits and hydrocarbon absorbent packs will be stored in the cabin of all construction vehicles. All machine operators and site staff will be fully trained in the use of this equipment.
- All machinery will be regularly maintained and checked for leaks. Services will only be undertaken within the construction compound or offsite.
- Re-fuelling of construction equipment and the addition of hydraulic oil or lubricants to vehicles / equipment will take place in designated hard surface, bunded areas within this construction compound or off site only. If it is not possible to bring machinery to the refuelling point, fuel will be delivered in a double-skinned mobile fuel bowser. A drip tray will be used beneath the fill point during refuelling operations in order to contain any spillages that may occur. Refuelling will only occur within the construction compound or off site.
- All concrete will be mixed off site and will be brought in as required and poured in place at site.
- All concrete browsers will be washed down at a dedicated concrete washout areas onsite located within the construction compound or off site. Concrete washings will not be disposed of onsite to any surface or ground water feature. All washings will be removed offsite and treated at a licensed facility. No chemicals that are deleterious to aquatic organisms will be used in cleaning works. All raw, uncured waste concrete will be cured at a designated location within the construction compound or off site.
- All concrete works will be scheduled during dry weather conditions to reduce the elevated risk of runoff.
- All waste will be removed from the site and disposed of by an approved waste contractor in accordance with prevailing waste management regulations.
- On completion of the works, all apparatus, plant, tools, offices, sheds, surplus materials, rubbish and temporary erections or works of any kind will be removed from the site.

The following mitigation measures are prescribed for the protection of watercourses:

- All construction works (particularly instream works) will be carried out as per the Loughs Agency guidelines; '*Guidelines for Fisheries Protection during Development Works (Foyle and Carlingford Areas)*' and per the Inland Fisheries Ireland (IFI) guidelines; '*Guidelines on Protection of Fisheries During Construction Works in and*

[12] https://www.ciria.org/ProductExcerpts/C532.aspx

Adjacent to Waters (2016)' to ensure the protection of the River Finn and its tributaries.

- No instream works will be undertaken within the River Finn. In addition, there will be no abstraction of water from the River Finn or from the drainage ditch.
- Instream works will be carried out within the drainage ditch located to the south-west of the proposed development. The appointed Contractor will submit an Application for a Section 46/47 Permit along with a Method Statement outlining the proposed instream works to Loughs Agency prior to the works commencing.
- The drainage ditch will be blocked using a coffer dam to create a dry works area and water will be over-pumped to the existing manhole located to the north-east of the drain. All measures outlined on Page 9 and 10 of the Loughs Agency guidelines; '*Guidelines for Fisheries Protection during Development Works (Foyle and Carlingford Areas)'* will be implemented during the instream works.
- The drainage ditch was assessed as having no fisheries value due to the large underground culverted sections of the drain.
- No machinery/vehicles or material will be located/stored within 50m of the drainage ditch.

The following mitigation measures are prescribed to prevent the risk of flood events occurring during the proposed construction works:

- The appointed Contractor will prioritise construction works during the summer months or drier weather where feasible when the risk of flooding is significantly reduced.
- The proposed flood embankment will be constructed first prior to works associated with the pitch.
- The appointed Contractor will monitor the weather forecast and water levels within the River Finn daily.
- The appointed Contractor will have an Evacuation Plan to demobilise and remove loose fill in advance of a potential flood.

5.2.1.6 Management of Invasive Species and Pathogens

In order to comply with Regulations 49 and 50 of the European Communities (Birds and Natural Habitat) Regulations (2011), the appointed Contractor will ensure biosecurity measures are implemented throughout the construction phase to ensure the introduction and translocation of invasive species is prevented. An ISMP has been prepared and is included in Appendix 2 of this report.

The following mitigation measures, along with all measures outlined in the ISMP, are prescribed to control the translocation or spread of invasive species and / or pathogens:

- Biosecurity measures will be employed during the construction works associated with the drainage ditch instream works. The biosecurity measures will have regard to IFI Biosecurity Protocols including: *'IFI Biosecurity Protocol for Field Survey Work (December 2010)'.*
- All machinery and equipment used during the culverting and redirecting of the drainage ditch will be inspected and will be completely dry prior to works commencing to prevent the risk of pathogen translocation. A 'Check, Clean, Dry' protocol will be undertaken with all equipment, machinery and vehicles entering and leaving the proposed development site. All equipment/machinery used within the drainage ditch will checked for living plants and animals. Equipment and machinery used will be washed thoroughly and then allowed to dry for at least 48 hours.

5.2.2 Operational Phase

5.2.2.1 External Lighting

All new lighting proposed within the development site will be designed in consultation with a suitably qualified ecologists and in accordance with the Bat Conservation Ireland guidelines; '*Bats and Lighting Guidance Notes: Planners, Engineers, Architects and Developers*.' (BCI, 2010). Lighting will only be switched on when manned. Light shields and directional lighting will be used to minimise light spill. All lighting will be directed away from the surrounding hedgerows and treelines and away from the River Finn.

5.2.2.2 Management of Rubber Crumb

Boot cleaners will be installed at all pedestrian access points around the pitch. This will ensure no rubber crumb is carried outside of the pitch as shown in Figure 1-3.

Maintenance activities which will be undertaken during the operational phase of the development will include weekly brushing of the pitch surface, removal of any debris such as leaves or litter, weed spraying and yarn checks.

The life span of an all-weather pitch is typically 20-25 years. After this stage there may be a requirement to replace the synthetic carpet and rubber crumb infill. A specialist machine will be brought to the pitch to remove the crumb. The crumb will be retained in 1/2 tonnes sacks, removed from site and disposed of / recycled appropriately. The old crumb will not be stored onsite. The removal and addition of new crumb will be contained within the site. The surrounding berms will ensure there is no potential the runoff of the crumb into the nearby the River Finn.

5.3 Cumulative Effects

The CIEEM (2018) guidelines state *'Cumulative effects can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location'.* Reference was therefore made to proposed developments proposed within the wider environment and were considered in terms of cumulative effects on biodiversity.

<u>St. Joseph's Pumping Station, Outfall and Rising Main (Planning Ref: 2051635)</u>

Irish Water are proposing sewerage network upgrade works to the existing St. Joseph's Pumping Station and Rising main and the construction of a new Pumping Station and storm water outfall (SWO) at Stranorlar. The proposed new pumping station and rising main is located approximately 200m east of the proposed All Weather pitch development. The proposed new stormwater outfall will be located on the bank of the River Finn approximately 180m south-east of the proposed development site.

The EcIA undertaken for the project indicated that the main impacts associated with the development included temporary disturbance, water quality impacts and spread of invasive plant species. The report indicates however that with the implementation of the mitigation measures there is no potential for significant effects on protected fauna and flora and the aquatic environment. There is therefore no potential for cumulative effects with the proposed development under appraisal in this report.

<u>Gaelscoil Development (Planning Refs: 1160175, 1750443, 1950516)</u>

The Department of Education & Skills have proposed the development of a Gaelscoil located in Stranorlar town approximately 90m north-east of the proposed all-weather pitch. The proposed Gaelscoil development will include the development of a school, playground, sports courts, car park and bus set down area. A Natura Impact Statement (NIS) of the proposed Gaelscoil development was undertaken by McCarthy Keville O'Sullivan Ltd. in 2011[13]. The NIS identified potential impacts on the River Finn SAC which included habitat degradation due a impacts on water quality and dust and disturbance to qualifying interests. The NIS however prescribe appropriate mitigation measures which will ensure the avoidance of impacts. The NIS concluded that following the implementation of the mitigation measures prescribed, there is no potential for the proposed development to result in adverse effect on the River Finn SAC. There is therefore no potential for the development of the Gaelsoil development to result in cumulative effects with the proposed development.

Donegal County Development Plan 2018-2024

The proposed development is located within Donegal county administrative area. The Donegal County Development Plan 2018-2024 incudes objectives and policies which are associated within the protection of the natural environment, designated sites and watercourses (Objectives: WES-O-5, WES-O-6, WES-P-4, EX-P-2 and EX-P-4). All new plans and projects proposed within the county must adhere to the above-mentioned policies and objectives. Adherence to the Council's policies and objectives will therefore ensure that all plans and projects proposed will not result in significant effects on biodiversity and international and national sites. There is therefore no potential for cumulative effects on biodiversity with the propose development under consideration in this appraisal.

Seven Strategic Towns Local Area Plans 2018 - 2024

Ballybofey-Stranorlar is one of the seven towns included within the Seven Strategic Towns Local Area Plan (LAP) which sets out strategies for the proper planning and sustainable development for the seven town. Six opportunity sites have been identified in the Ballybofey-Stranorlar LAP predominantly located within or adjoining the town centres. The LAP includes policies and objectives (Objectives: GEN-EH-2, GEN-EH-3, GEN-EH-4 and Policies: GEN-EH-2, GEN-EH-3) which are associated within the protection of the natural environment, European Sites and watercourses.

An Environmental Report of the LAP was undertaken in 2017 (DCC, 2017) which examines the potential for significant environmental pressures to impact the baseline environment. The assessment concludes that the implementation of the plan, which will adhered to the above mentioned policies and objectives, will not give rise to probable environmental conflicts that are unlikely to be mitigated to an acceptable level. Considering the above there is therefore no potential for cumulative effects on biodiversity with the proposed development under consideration in this appraisal.

5.3.1 Residual Impacts

It is anticipated with the implementation of mitigation measures (as detailed above), the construction and operation phases of the proposed development will not result in likely significant residual effects on any of the key ecological receptors at any geographic scale, with the exception of permanent loss of amenity and wet grassland habitat within the proposed

[13] McCarthy Kevile O'Sullivan Ltd. (2011) Natura Impact Statement Gaelscoil Development, Stranorlar, Co. Donegal. (Unpublished Report).

development site, which will have a likely significant residual effect at a local geographic scale only.

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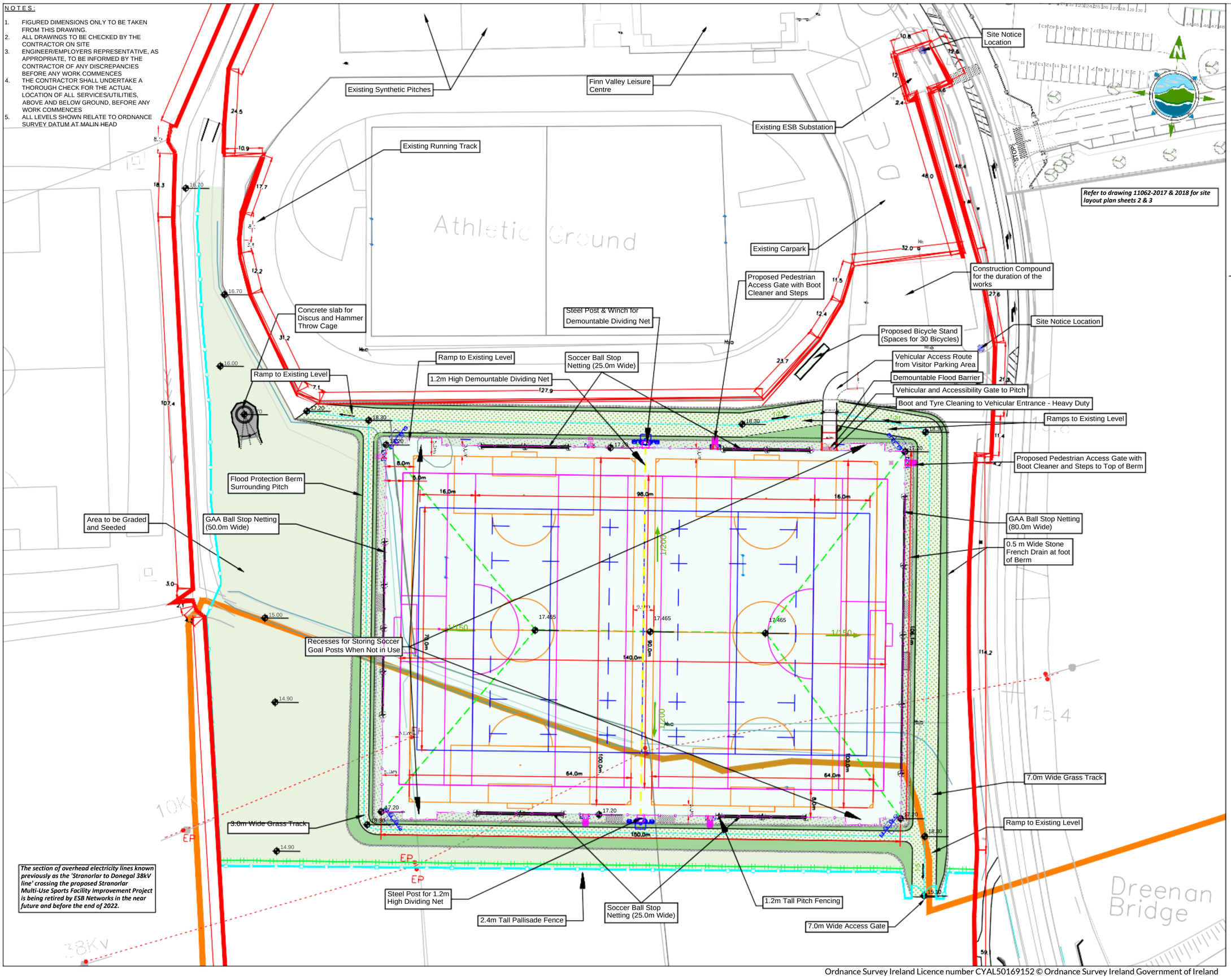
Appendix 1 – Site Layout Plan

NOTES:

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD



LEGEND

- Proposed Site Boundary
- All-Weather Surface
- Dugouts
- Ballstop Netting
- Floodlights 18m high
- GAA Line Markings
- Soccer Line Markings
- 1.2m High Dividing Net
- 3.0m and 7.0m Wide Perimeter Grass Track
- Grassed Area at foot of Berm
- Pitch Fencing
- 1/150 Pitch Gradient
- Drainage Slope
- 18.30 Proposed Finished Surface Level
- Berm Slope/Embankment
- 0.5m Wide Land Drain (stone)
- Graded and Seeded Area
- Proposed Native Hedging
- Proposed Pallisade Fencing
- Pedestrian Gate & Boot Cleaning
- River Finn SAC (002301)
- Discus/hammer Throwing Area

Peace Northern Ireland - Ireland

LCDC

Rev	Date	Description	By	Chkd.
P04	09/03/2022	Revised Notes	SF	BH
P03	02/03/22	Notes Added	SF	DM
P02	25/02/22	Revised Redline Boundary	SF	BH
P01	07.07.2021	Revised Redline Boundary	EC	BH
P0	01.06.2021	For Review	SH	BH

Client: Comhairle Contae Dhún na nGall Donegal County Council

Project: Stranorlar Multi-Use Sports Facility Improvement Project

Title: Site Layout Plan (Sheet 1 of 3)

Scale: 1:500 @A1/1:100 @A3

Prepared by:	Checked:	Date:
SH	BH	June 2021

Project Director: Michael McDonnell

Drawing Status: Planning

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Drawing No.: 11062-2001 Revision: P04

Area to be Graded and Seeded

GAA Ball Stop Netting (50.0m Wide)

Recesses for Storing Soccer Goal Posts When Not in Use

3.0m Wide Grass Track

Steel Post for 1.2m High Dividing Net

2.4m Tall Pallisade Fence

Soccer Ball Stop Netting (25.0m Wide)

1.2m Tall Pitch Fencing

7.0m Wide Access Gate

GAA Ball Stop Netting (80.0m Wide)

0.5 m Wide Stone French Drain at foot of Berm

7.0m Wide Grass Track

Ramp to Existing Level

1/150

1/200

140.0m

100.0m

64.0m

150.0m

No works are proposed on these lands under this planning application

The section of overhead electricity lines known previously as the 'Stranorlar to Donegal 38kV line' crossing the proposed Stranorlar Multi-Use Sports Facility Improvement Project is being retired by ESB Networks in the near future and before the end of 2022.

10KV

38KV

NOTES:

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5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

LEGEND

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- Soccer Line Markings
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- Pitch Fencing
- 1/150 Pitch Gradient
- Drainage Slope
- 18.30 Proposed Finished Surface Level
- Berm Slope/Embankment
- 0.5m Wide Land Drain (stone)
- Graded and Seeded Area
- Proposed Native Hedging
- Proposed Pallisade Fencing
- Pedestrian Gate & Boot Cleaning
- River Finn SAC (002301)
- Discus/hammer Throwing Area

Peace Northern Ireland - Ireland

LCDC

Rev	Date	Description	By	Chkd.
P01	09/03/22	Notes Revised	SF	DM
P0	19.07.2021	Planning	EC	BH

Client: Comhairle Contae Dhún na nGall Donegal County Council

Project: Stranorlar Multi-Use Sports Facility Improvement Project

Title: Site Layout Plan (Sheet 2 of 3)

Scale: 1:500 @A1/1:100 @A3

Prepared by:	Checked:	Date:
EC	BH	July 2021

Project Director: Michael McDonnell

Drawing Status: Planning

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Drawing No.: 11062-2017 Revision: P01

NOTES:

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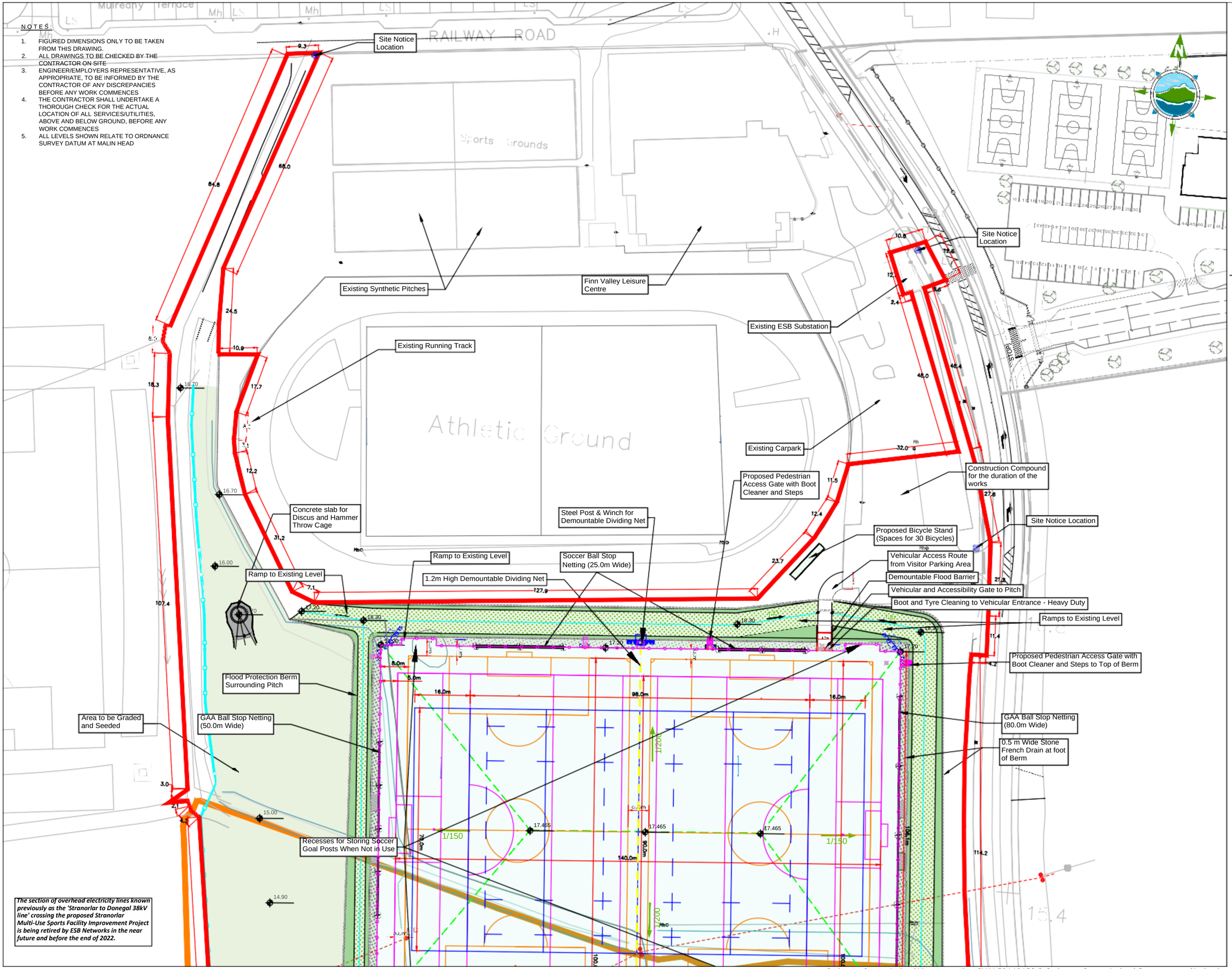
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD



LEGEND

- Proposed Site Boundary
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- Proposed Pallisade Fencing
- Pedestrian Gate & Boot Cleaning
- River Finn SAC (002301)
- Discus/hammer Throwing Area

Peace Northern Ireland - Ireland

LCDC Developing our communities

Rev	Date	Description	By	Chkd.
P01	09/03/22	Revised notes	SF	DM
P0	04/03/2022	Planning	SF	BH

Client: Comhairle Contae Dhún na nGall Donegal County Council

Project: Stranorlar Multi-Use Sports Facility Improvement Project

Title: Site Layout Plan (Sheet 3 of 3)

Scale: 1:500 @A1/1:100 @A3

Prepared by:	Checked:	Date:
SF	BH	FEB 2022

Project Director: Michael McDonnell

Drawing Status: Planning

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Drawing No.: 11062-2018 P01

Revision:

Appendix 2 - Invasive Species Management Plan

TOBIN
CONSULTING ENGINEERS
BUILT ON KNOWLEDGE

Comhairle Contae Dhún na nGall
Donegal County Council

Stranorlar Multi-Use Sports Facility Improvement Project

Invasive Species Management Plan

LCDC
Coiste um Fhorbairt Pobail Áitiúil Dhún na nGall
Donegal Local Community Development Committee

Peace
Northern Ireland - Ireland
European Regional Development Fund
EUROPEAN UNION

Stranorlar Multi-Use Sports Facility Improvement Project

Invasive Species Management Plan

Document Control Sheet	
Document Reference	11062_Invasive Species Management Plan
Report Status	For Client Review
Report Date	July 2021
Current Revision	A01
Client:	Donegal County Council
Client Address:	County House The Diamond Lifford Co. Donegal
Project Number	11062

Galway Office	Dublin Office	Castlebar Office
Fairgreen House, Fairgreen Road, Galway, H91 AXK8, Ireland. Tel: +353 (0)91 565 211	Block 10-4, Blanchardstown Corporate Park, Dublin 15, D15 X98N, Ireland. Tel: +353 (0)1 803 0406	Market Square, Castlebar, Mayo, F23 Y427, Ireland. Tel: +353 (0)94 902 1401

Revision	Description	Author:	Date	Reviewed By:	Date	Authorised by:	Date
D01	Draft for Internal Review	Á.S	05/07/2021	LK	14/07/2021		
A01	Draft for Client Review					BH	16/07/2021
A02	Final Version	Á.S	09/03/2022	LK	09/03/2022	BH	09/03/2022

TOBIN Consulting Engineers

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1.0 INTRODUCTION

TOBIN Consulting Engineers (TOBIN) were commissioned by Donegal County Council to prepare an Invasive Species Management Plan (ISMP) for a proposed development located at Millbrae, Stranorlar, in County Donegal. The proposed development will include upgrading of and extension to an existing conventional grass pitch to develop a Synthetic Multi-Use Sport All Weather Pitch and associated works, south of Finn Valley Centre.

The purpose of this ISMP is to document the following; the assessment of the site for the presence of invasive species, the quantification of the extent of their footprint, and the review and summary of available methods for the management and possible disposal of the invasive species, where required.

TOBIN carried out an invasive species survey within the proposed development site on the 7th of April and 22nd June, 2021 to determine the presence of non-native species listed in the Third Schedule of S.I. No. 477 of 2011, EC (Birds and Natural Habitats) Regulations 2011. Two invasive species; Japanese knotweed *(Reynoutria japonica)* and Himalayan Balsam *(Impatiens glandulifera)* were identified along the southern boundary of the Planning Application site. Further details on the invasive species recorded is provided in Section 2.2 of this report.

This ISMP, prepared prior to commencement of construction, will guide the appointed Contractor in the planning and execution of control measures in relation to the above mentioned invasive species. This ISMP is intended to be a working document and will be updated during the construction phase by the appointed Contractor.

1.1 LEGISLATIVE BACKGROUND

The key aim of the invasive species survey was to identify species listed on the Third Schedule, Part 1, of the European Communities (Birds and Natural Habitats) Regulations 2011, S.I. No. 477/2011 (commonly referred to as the Birds and Habitats Regulations), which may occur in the vicinity of the proposed development.

The definition of an invasive species as prescribed by the Convention on Biological Diversity (CBD)[1] is; "*species whose introduction and/or spread outside their natural past or present distribution threatens biological diversity*". Invasive species are found in all taxonomic groups including animals, plants, fungi and microorganisms and can affect both terrestrial and aquatic ecosystems around the world. Invasive species can be classified as High Impact Species or Medium Impact Species[2].

Ireland has ratified a number of treaties and conventions, including the Convention on Biological Diversity, under which Ireland is obligated to address issues on Biological Diversity, including invasive alien species. Through various pieces of legislation including the Wildlife Acts 1976 (as amended) and the Birds and Natural Habitats Regulations, Ireland sets out legal implications associated with invasive alien species.

Articles 49 and 50 of the Habitat Regulations details the legal requirements for the control of alien invasive species. Under Article 49 and 50 of these regulations, it is an offence to:

- Plant, disperse, allow or cause to disperse, or grow any plant listed in Part 1 of the Third Schedule (i.e. High Impact Species);

[1] Convention on Biological Diversity: Invasive Alien Species: https://www.cbd.int/invasive/WhatareIAS.shtml
[2] http://www.biodiversityireland.ie/projects/invasive-species/species-lists/

- Possess the plant or any component of the plant for sale, reproduction, propagation, transportation, distribution, introduction or release any plant listed in Part 1 of the Third Schedule;
- Import or transport any plant listed in Part 1 of the Third Schedule; and/or
- Possess any vector material (e.g. soil, plant material) for the purposes of breeding, sale, distribution, introduction or release as listed in Part 3 of the Third Schedule.

Note, licences may be granted for certain activities associated with invasive species.

High Impact Species

These include species designated as high-risk species recorded in Ireland and those listed on the Third Schedule, Part 1 of the Birds and Habitats Regulations (2011)[3].

Medium Impact Species

Medium risk species include those that are amber listed by Invasive species Ireland and are identified as those species that, under the right ecological conditions, may have an impact on the conservation goals of a site or impact on a water body achieving good/high ecological status under the Water Framework Directive. Additionally, medium impact species include those that are assessed as having a risk score of between 14-17 in a risk prioritization study, undertaken for invasive and non-native species on the Island of Ireland[4].

1.2 METHODOLOGY AND GUIDELINES

This report has been prepared with regard to the following guidance documents:

- Transport Infrastructure Ireland (TII) (2020a). The Management of Invasive Alien Plant Species on National Roads – Standard. GE-ENV-01104. December 2020.
- TII (2020b). The Management of Invasive Alien Plant Species on National Roads – Technical Guidance. GE-ENV-01105. December 2020.
- National Road Authority (2010). Guidelines on the Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads.
- Irish Water (IW-AMT-009). Irish Water Report. Information and Guidance on Japanese Knotweed Asset Strategy and Sustainability.
- Irish Water (IW-AMT-GL-002). Irish Water Guidance on the Management of Himalayan Balsam.

This report has been informed by an invasive plant species survey carried out by TOBIN ecologists at the proposed development site on the 7th of April and 22nd June 2021. All invasive species identified, were recorded, photographed and mapped.

2.0 PROPOSED DEVELOPMENT SITE

2.1 DESCRIPTION OF THE EXISTING ENVIRONMENT

As noted, the proposed development site is located immediately south of the existing Finn Valley Centre in at Millbrae, Stranorlar, in County Donegal. Habitats present within the proposed development site included; amenity grassland, wet grassland, hedgerows, treelines,

[3] http://www.irishstatutebook.ie/eli/2011/si/477/made/en/print

[4] Kelly, J., O'Flynn, C., & Maguire, C. (2013). Risk analysis and prioritisation for invasive and non-native species in Ireland and Northern Ireland. Report prepared for the Northern Ireland Environment Agency and National Parks and Wildlife Service as part of Invasive Species Ireland.

riparian woodland and a drainage ditch. The River Finn (EPA_Code: 01F01), which flows in an easterly direction, occurs along the southern boundary of the proposed development site. This watercourse forms part of the River Finn SAC (Site Code: 002301) at this location.

2.2 SURVEY RESULTS

During ecology surveys undertaken at the proposed development site, two high risk invasive species; Japanese knotweed and Himalayan Balsam, were identified within the Planning Application site boundary. Further information on the two invasive species are provided hereunder.

2.2.1 Japanese Knotweed

A patch of Japanese knotweed was recorded at one location on the bank of the River Finn, within an area of riparian woodland, during the survey (54°47'55.9"N, 7°45'53.3"W) (refer to Figure 2-1 and Photo 1 below). The patch of Japanese knotweed was approximately 5m x 3m in size with approximately 70 stands present ranging 1m to 1.5m in height.

Japanese knotweed is a fast-growing, robust, perennial plant that rapidly produces dense and extensive vegetation stands which can cause significant environmental impacts (TII, 2020b). The invasive species is highly invasive and extremely difficult to eradicate completely. The main impacts associated with Japanese knotweed is caused by its root system, which can extend outward from the parent plant by 7m horizontally and up to 2 to 3m in depth. These powerful rhizomes are capable of penetrating loose aggregates and can grow through existing small cracks, openings or voids in asphalt/concrete. It has the ability to break through hard surfaces such as concrete which can damage the foundations of buildings and underground services.

Japanese knotweed is listed under the Third Schedule of the European Communities Regulations 2011 (S.I. No. 477 of 2011). It is an offence to disperse plant species listed on the Third Schedule of the Regulations without a licence.

The zone of influence for the disturbance of Japanese knotweed is 7m from the plant due to the extent of its root system. Although the Japanese knotweed occurs within the Planning Application site boundary the invasive species does not occur within the proposed works area. The proposed construction works, at the closest point, are located approximately 75m from the infestation. No construction works will occur within 7m of the Japanese knotweed infestation. There is therefore no potential for the direct disturbance of this invasive species. However, general biosecurity measures are recommended in Section 2.3 of this report.

Photo 1: Japanese Knotweed

2.2.2 Himalayan Balsam

Himalayan balsam was recorded scattered along the bank of the River Finn, within an area of riparian woodland, located immediately south of the proposed development site boundary (refer to Figure 2-1 and Photo 2-2 below). The invasive species occurs as a mat across the entirety of the river bank in this area.

Himalayan balsam is regularly found along waterways and in damp areas as a result of its prolific seed production. It is an annual plant and forms dense stands up to 3m tall which can result in the shading out and competitively excluding native plant species (TII, 2020b). Unlike Japanese knotweed, Himalayan balsam spreads via seed. The plant produces seed pods which explode when ripe, propelling the small black seeds up to 7m from the parent plant (TII, 2020b). The seed can then remain viable for up to 18 months and are readily dispersed in water. Germination commences in February and flowering commences by June extending into October.

Himalayan balsam is listed under the Third Schedule of the European Communities Regulations 2011 (S.I. No. 477 of 2011). It is an offence to disperse plant species listed on the Third Schedule of the Regulations without a licence.

The zone of influence for the disturbance of Himalayan balsam is 7m due to the extent that seeds can be propelled from the parent plant. Similarly, to Japanese knotweed, the invasive species occurs within the Planning Application site boundary but does not occur in proximity to the proposed construction works area. The Himalayan balsam infestation is located, at the closest point, approximately 65m from the proposed construction works area. No construction works will occur within 7m of this invasive species. There is therefore no potential for the direct

disturbance of this invasive species. However, general biosecurity measures for the invasive species are recommended in Section 2.3 of this report.

Photo 2: Himalayan Balsam Recorded on the Bank of the River Finn

Legend

Site Boundary

Invasive Species

Japanese Knotweed

Himalayan Balsam

0 — 100
Metres

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THISDRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Issue	Date	Description	By	Chkd.
D01	28/02/2022	Draft issue	S.P	A.S

Client: Comhairle Contae Dhún na nGall, Donegal County Council

Project:

Stranalor Multi-Use
Sports Facility
Improvement Project

Title:

Invasive Species Map

Scale @ A3: 1:2,000

Prepared by:	Checked:	Date:
S.Pezzetta	A.Sands	February 2022

Project Director: D.Grehan

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Figure 2-1

Draft: D01

2.3 CONTROL MEASURES

2.3.1 Pre-construction Survey

Due to the enveloping nature of invasive plant species it is recommended that a pre-construction invasive species survey be undertaken prior to the construction works commencing to establish if there has been any change to the extent and distribution of the invasive species during the interim of the initial survey. In the event that there is change in extent and distribution, this ISMP will be updated accordingly. The pre-construction survey will be undertaken by a suitably qualified and appropriately experienced ecologist/botanist.

The two invasive species currently do not occur within the zone of influence of the proposed constructions, i.e. no works will occur within 7m of the invasive species.

2.3.2 Biosecurity Measures

In order to comply with Regulations 49 and 50 of the European Communities (Birds and Natural Habitat) Regulations (2011), the appointed Contractor will ensure the following biosecurity measures are implemented throughout the construction phase to ensure the introduction of new invasive species or the translocation of the existing invasive species is prevented. The following Biosecurity measures must be implemented:

- Fencing will be established along the southern boundary of the proposed development site. The fencing will be installed approximately 20m from the bank of the River Finn. This will ensure no construction works or the movement of vehicles/machinery/site personnel occurs within the zone of influence of the invasive species, i.e. no works within 7m of the two invasive species.
- "*Biosecure zone*" signage will be erected around the fencing. This will inform site personnel that access in and out of the area is restricted.
- All site personnel will be made aware of the location of the invasive species and the restrictions around access.
- No material will be stored within 20m of the river bank. In addition, no tracked machinery may be used within 20m of the river bank.
- Designated and clearly marked cleaning and/or disinfection stations should be strategically placed within the work site for use by staff, vehicles and machinery.
- All vehicles and equipment that have been used in invasive plant species control operations must be thoroughly pressure-washed in a designated wash-down area each time they leave the works site and once work in that area has been completed. This also includes footwear, personal protective equipment (PPE), tools, and other light equipment. It is important to remove soil that may contain seeds or plant fragments, which otherwise could be transported along the road corridor as works are being undertaken.
- An appointed Ecological Clerk of Works (ECoW) will monitor and oversee the implementation of this plan.

3.0 CONCLUSION

This ISMP provides control measures to ensure the prevention of the spread of invasive species during the construction phase of the proposed development. Prior to the control measures being carried out a pre-construction invasive species survey will be undertaken to confirm the extent of the invasive species. All the above mentioned measures must be overseen the ECoW.

Following the implementation of the above mentioned control measures, there will be no potential for the spread or disturbance of invasive species during the proposed construction works.

4.0 REFERENCES

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