ALTEMAR
Marine & Environmental Consultancy

Ecological Impact Assessment (EcIA) for the proposed development of an All-Weather Pitch at Oatlands College, Mount Merrion, Blackrock, Co. Dublin.

18th April 2023

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Dún Laoghaire Rathdown County Council.

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie
Directors: Bryan Deegan and Sara Corcoran
Company No.427560 VAT No. 9649832U
www.altemar.ie

Document Control Sheet			
Client	Dún Laoghaire Rathdown County Council.		
Project	Ecological Impact Assessment (EcIA) for the proposed development of an All-Weather Pitch at Oatlands College, Mount Merrion, Blackrock, Co. Dublin.		
Report	Ecological Impact Assessment		
Date	18th April 2023		
Version	Author	Reviewed	Date
Draft 01	Bryan Deegan	Jack Doyle	10th April 2023
Planning	Bryan Deegan		18th April 2023

Table of Contents

Introduction

Background

Ecological Impact Assessment (EcIA) has been defined as '*the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components*' (Treweek, 1999). "*The purpose of EcIA is to provide decision-makers with clear and concise information about the likely ecological effects associated with a project and their significance both directly and in a wider context. Protecting and enhancing biodiversity and landscapes and maintaining natural processes depends upon input from ecologists and other specialists at all stages in the decision-making and planning process; from the early design of a project through implementation to its decommissioning*" (IEEM, 2010).

The following EcIA has been prepared by Altemar Ltd. at the request of Dún Laoghaire Rathdown County Council. The project relates to the proposed development of an All-Weather Pitch at Oatlands College, Mount Merrion, Blackrock, Co. Dublin.

Study Objectives

The objectives of this EcIA are to:

1. Outline the project and any alternatives assessed;
2. Undertake a baseline ecological feature, resource and function assessment of the site and zone of influence;
3. Assess and define significance of the direct, indirect and cumulative ecological impacts of the project during its construction, lifetime and decommissioning stages;
4. Refine, where necessary, the project and propose mitigation measures to remove or reduce impacts through sustainable design and ecological planning; and
5. Suggest monitoring measures to follow up the implementation and success of mitigation measures and ecological outcomes.

The following guidelines have been used in preparation of this EcIA:

- Guidelines on the information to be contained in Environmental Impact Statements (EPA, 2002);
- Guidelines on the information to be contained in EIARs (2022);
- Guidelines for Ecological Impact Assessment (EcIA) (IEEM, 2019);
- Advice Notes on current practice in the preparation of EIS's (EPA, 2003);
- Institute of Ecology and Environmental Management Guidelines for EIA (IEEM, 2005).

Altemar Ltd.

Since its inception in 2001, Altemar has been delivering ecological and environmental services to a broad range of clients. Operational areas include: residential; infrastructural; renewable; oil & gas; private industry; Local Authorities; EC projects; and, State/semi-State Departments. Bryan Deegan, the managing director of Altemar, is an Environmental Scientist and Marine Biologist with 28 years' experience working in Irish terrestrial and aquatic environments, providing services to the State, Semi-State and industry. He is currently contracted to Inland Fisheries Ireland as the sole "External Expert" to environmentally assess internal and external projects. He is also chair of an internal IFI working group on environmental assessment. Bryan Deegan (MCIEEM) holds a MSc in Environmental Science, BSc (Hons.) in Applied Marine Biology, NCEA National Diploma in Applied Aquatic Science and a NCEA National Certificate in Science (Aquaculture).

Hugh Delaney is an ecologist (ornithologist primarily) having completed work on numerous sites with ecological consultancies over 10+ years. Hugh is local to the Dun Laoghaire-Rathdown area in Dublin and is especially familiar with the bird life and its ecology in the environs going back over 30 years.

Project Description

Dún Laoghaire Rathdown County Council intend to apply for planning permission for the proposed development of an All-Weather Pitch at Oatlands College, Mount Merrion, Blackrock, Co. Dublin.

The proposed all-weather pitch (135m x 86m) shall include third generation synthetic surfacing, floodlighting, fencing, retaining walls, ballstop netting, temporary changing facilities, tree planting and all ancillary works. The site as outlined in red on the site location plan is approximately 1.65 Hectares.

The proposed site outline, location, general arrangement plan, and elevations are demonstrated in Figures 1-4.

Arborist

An Arboricultural Assessment report has been prepared by Arborist Associates Ltd. to accompany this planning application. In relation to tree loss as a result of the proposed development, this report outlines the following:

'*19 individually tagged trees and c.36m of hedging are proposed for removal along the northern boundary mostly from its western end to facilitate the proposed development of this area for a new all-weather pitch.'*

'To help minimize impact on Tree Nos.1714 – 1718 & 17365-1737, it will be necessary to review the construction techniques in this area so as to reduce the encroachment of the works into their root zones. This may need to look at some sort of pile wall or pre-build wall prior to the main excavations occurring within this area so as to reduce the extent of excavation in this area which could be detrimental to these trees.

It will also be necessary to trim Hedge No.2 to incorporate it into the finished development and to tidy it up and it will also be necessary to carry out some trimming of side branches on some trees along this boundary in order to achieve clearance and juxtaposition with the new pitch.

Along the southern side of the school grounds which have been included within this assessment area, an additional 5No. Trees (Nos.1627, 1630, 1654, 1655 & 1666) which have been categorized as 'U' are being recommended for removal as part of management of the school grounds and are not directly affected by the proposed works.

In the design layout, great efforts have been made to retain as much of the perimeter tree vegetation as possible to ensure that this area continues to be screened off from the surrounding areas.

The greatest loss of trees from these grounds is in the north-western corner of the site area and the loss of the above listed tree vegetation is to be mitigated against with the planting of trees, shrub and hedging as part of the landscaping of the completed development which will complement the development and its incorporation into the surrounding area. It will also help to provide good quality and sustainable long-term tree cover, and as this establishes and grows in size, it will be continuously mitigating any negative impacts created with the loss of the existing tree vegetation to facilitate the proposed development.'

The tree constraints plan and tree protection plan are demonstrated in Figures 5 & 6.

Drainage

A Part 8 Report has been prepared by Dún Laoghaire Rathdown County Council to accompany this planning application. This report details the following drainage strategy for the proposed development:

'*The proposed drainage for the all-weather pitch includes installation of 100mm perforated lateral drains at 8m centres and directed to an attenuation system via collector drains (225mm diameter) that will be installed around the perimeter of the pitch. The attenuation system is to be located along the southern boundary of the pitch and has been designed so that attenuation will be provided to store volumes for a 1.0% AEP (1:100 year) storm event including an allowance for 20% climate change (attenuation volume = 424m3). The attenuation system outflow will be controlled by a hydrobrake connected to the existing surface water drainage system serving the existing grass pitch. The hydrobrake outflow will be restricted to Qbar which has been calculated based on the site specific soil conditions, as such the proposed discharge into the existing surface water network will match the existing discharge in accordance with the Greater Dublin Strategic Drainage Strategy (GDSDS).*'

The proposed surface water layout is demonstrated in Figure 7.

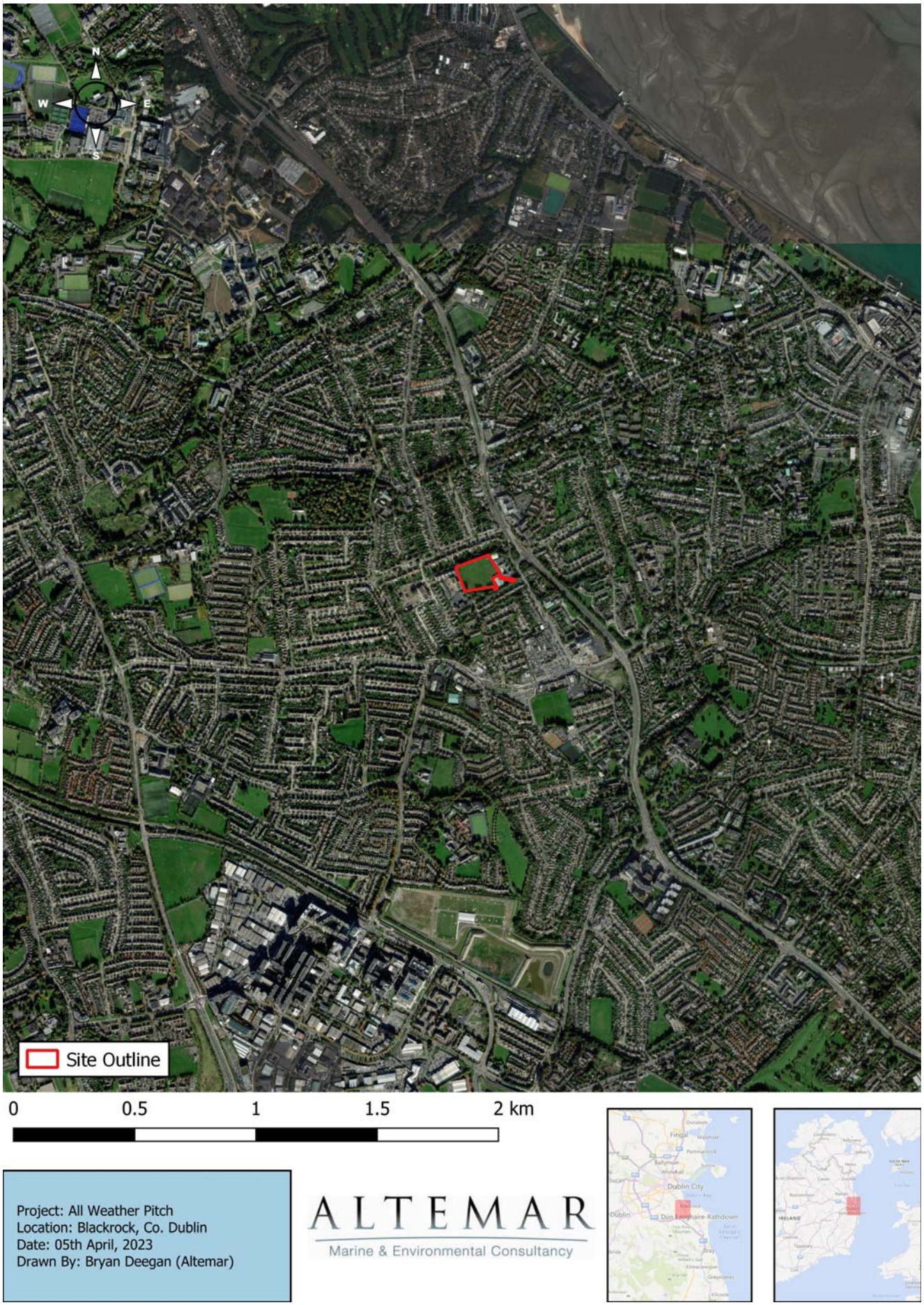


Figure 1. Site outline and location

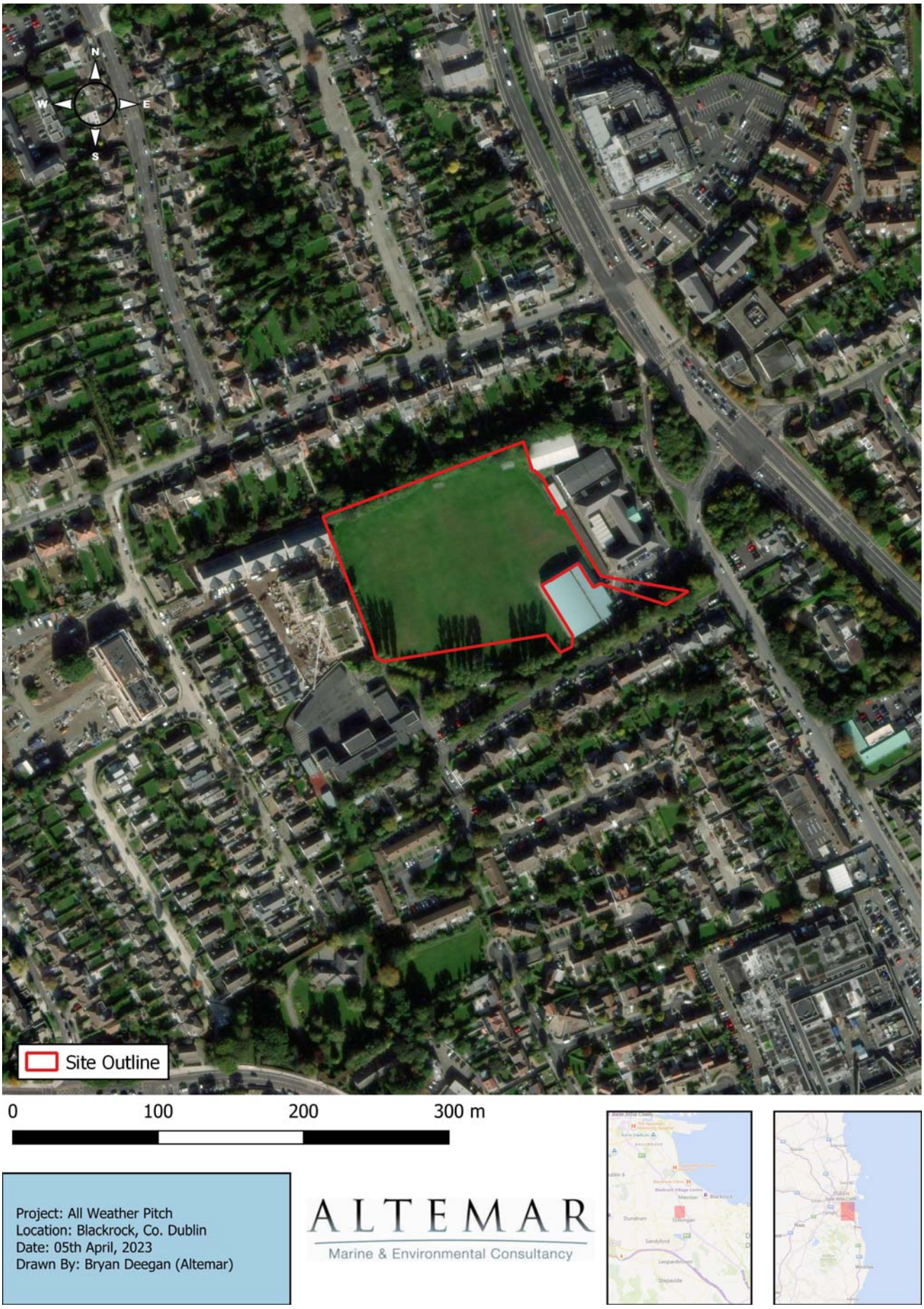


Figure 2. Site outline

Figure 3. General Arrangement Plan

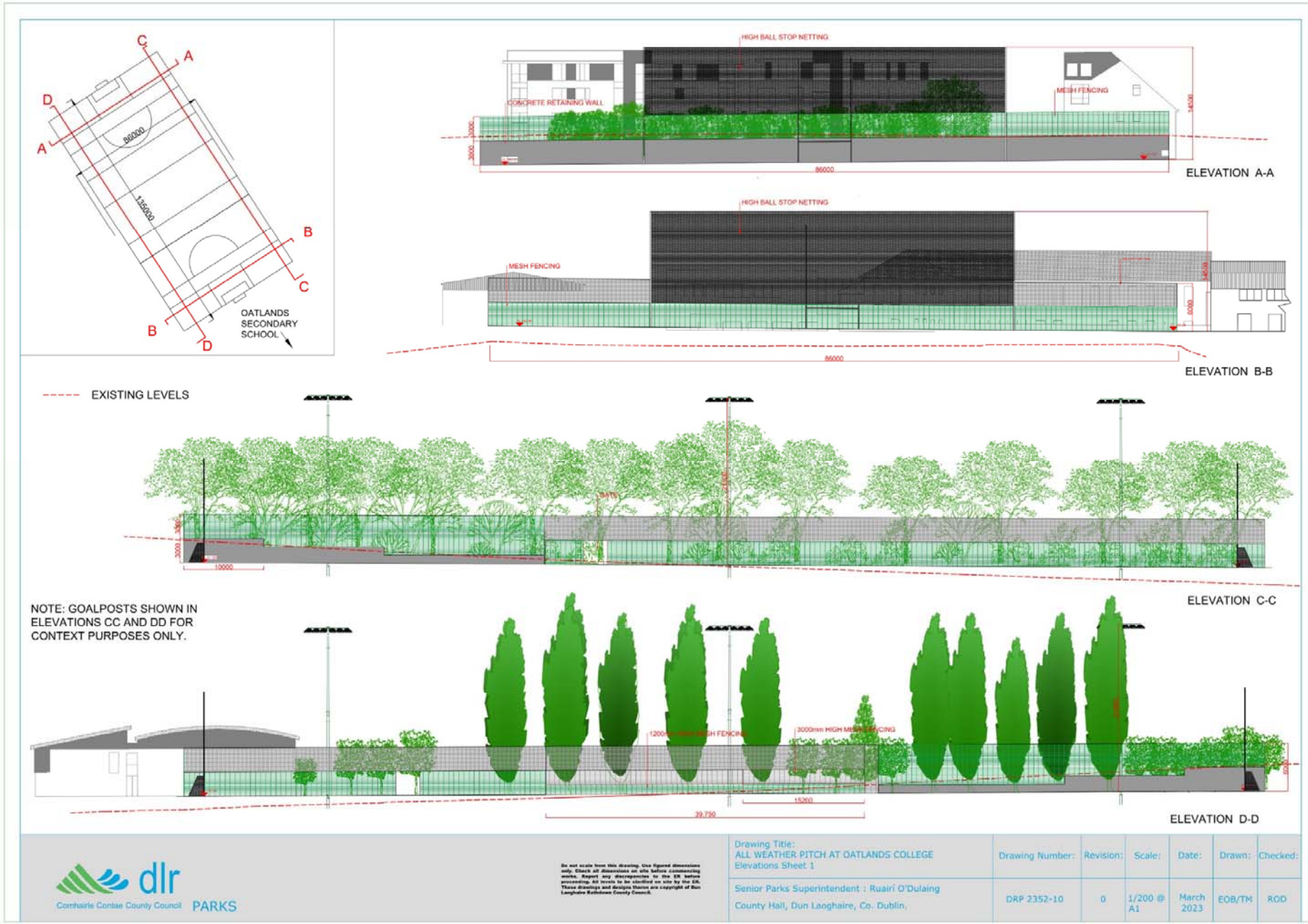


Figure 4. Proposed elevations

Figure 5. Tree constraints plan

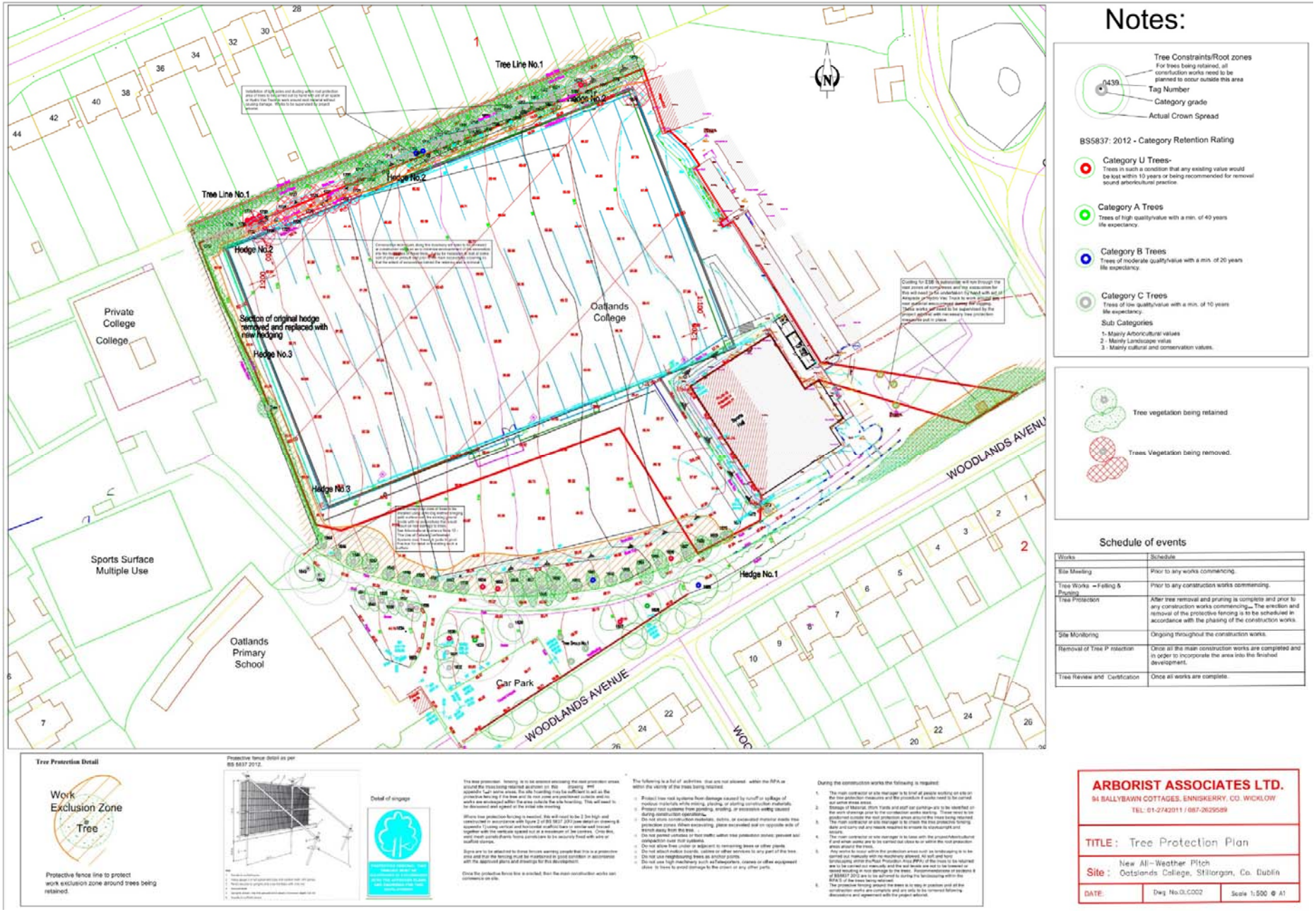


Figure 6. Tree protection plan

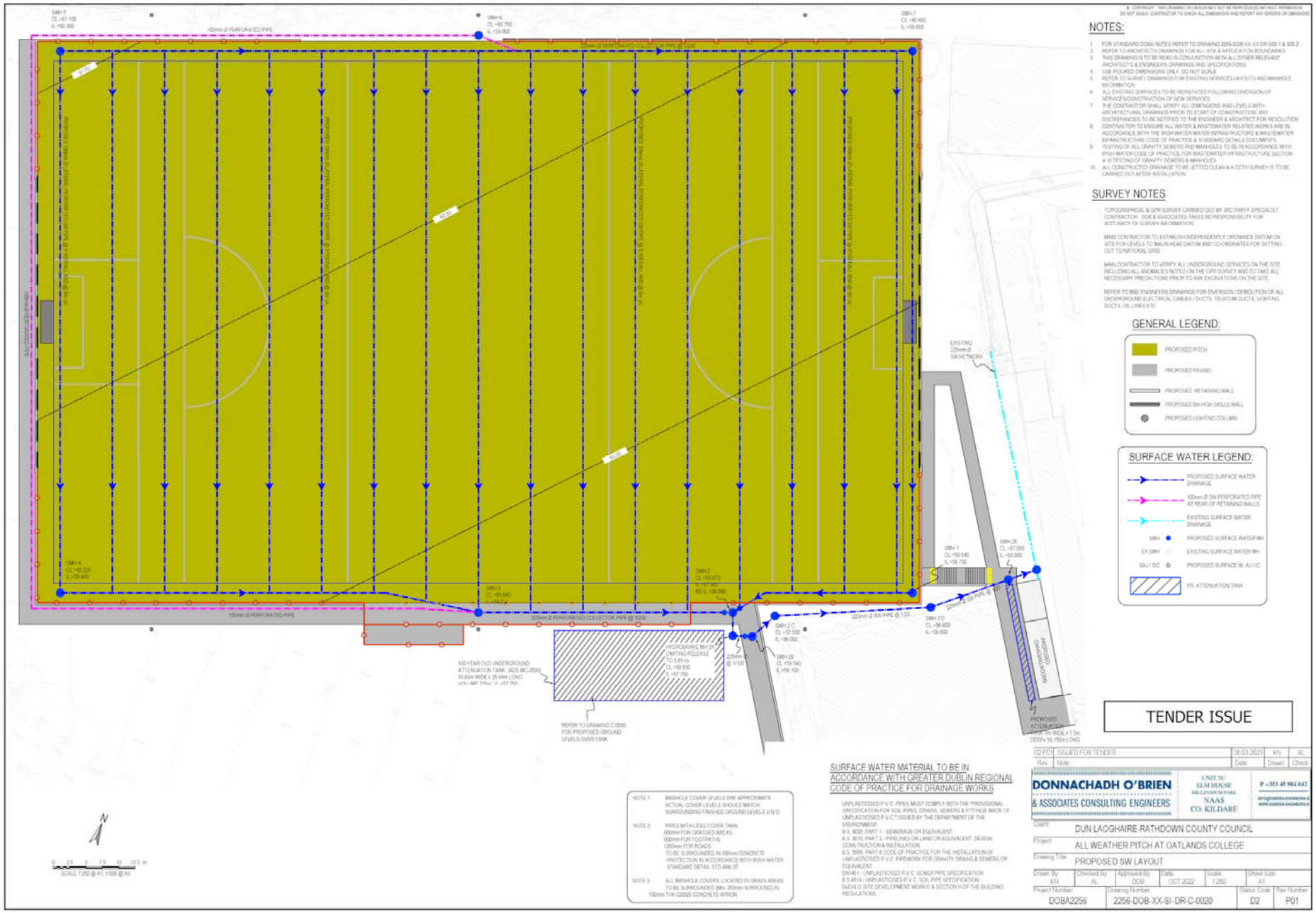


Figure 7. Proposed surface water layout

Lighting

The lighting strategy for the proposed development has been prepared by Musco Lighting. The proposed lighting system and light level data is outlined below:

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
S1, S3	21.3	21.3	1	TLC-LED-1200	1.17 kW	A
		21.3	5	TLC-LED-1500	7.05 kW	A
S2	21.3	21.3	2	TLC-LED-1200	2.34 kW	A
		21.3	5	TLC-LED-1500	7.05 kW	A
S4, S6	21.3	21.3	6	TLC-LED-1500	8.46 kW	A
S5	21.3	21.3	7	TLC-LED-1500	9.87 kW	A
6			***38***		***52.62 kW***	

Circuit Summary

Circuit	Description	Load	Fixture Qty
A	GAA/Football	52.62 kW	38

Fixture Type Summary

Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1200	LED 5700K - 75 CRI	1170W	150,000	>120,000	>120,000	>120,000	4
TLC-LED-1500	LED 5700K - 75 CRI	1410W	181,000	>120,000	>120,000	>120,000	34

Single Luminaire Amperage Draw Chart

Driver (.90 min power factor)	Line Amperage Per Luminaire					
Single Phase Voltage	220 (50)	230 (50)	240 (50)	380 (50)	400 (50)	415 (50)
TLC-LED-1200	6.5	6.3	6.0	3.8	3.6	3.5
TLC-LED-1500	7.9	7.6	7.3	4.6	4.4	4.2

Light Level Summary

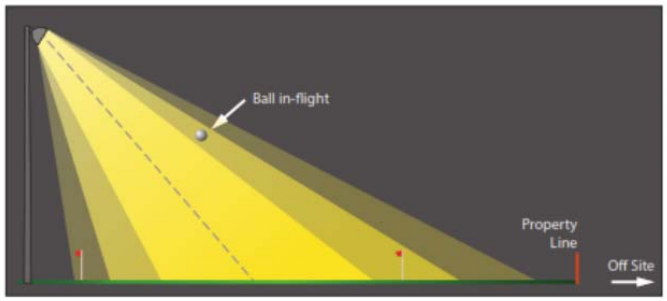
Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Min/Max	Min/Ave		
Football	Horizontal Illuminance	513	392	687	0.57	0.76	A	38
GAA Spill	Horizontal Illuminance	22.4	0	389	0.00	0.00	A	38
GAA Spill	True Max Vert Illuminance	23.9	0	407	0.00	0.00	A	38
GAA	Horizontal Illuminance	517	387	702	0.55	0.75	A	38
LTW	Horizontal	0	0	0.05	0.00	0.00	A	38
LTW	True Max Vert Illuminance	0.01	0	0.14	0.00	0.00	A	38

Additionally, the Part 8 Report that accompanies this planning application outlines the following in relation to floodlighting:

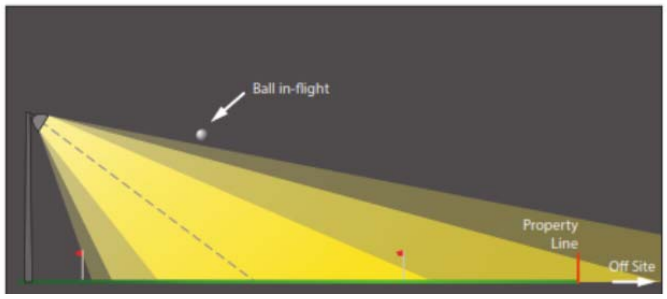
'*The floodlighting design undertaken uses the latest floodlighting design technology to reduce the impact of light spill on adjoining lands, trees and hedgerows. The floodlighting for the pitch has been designed to achieve an average light level of 500 lux which is suitable for competitive hurling. The other potential sporting uses (soccer, gaelic football, rugby) require 250 lux level so this system can be dimmed and this lighting level will be most commonly used. The lighting design uses 6no. 21m high galvanised steel columns similar to those used in the all-weather pitches throughout the county.*

Choosing the appropriate number of columns and column heights is key to the overall quality of the lighting design. Based on the size of the pitch, the sport being played, the competition level, and the application of the floodlighting system (televised or non-televised); column numbers and height requirements must be accurately assessed to ensure the aiming angle of the floodlight onto the pitch is at an appropriate degree to maintain good playability, control glare, and reduce spill light on adjoining properties and roadway. See the diagram below:



Higher Mounting Height

- Optimal control
- Limited spill
- Optimal quality of play



Lower Mounting Height

- Some control
- More spill
- Poor quality of play
- Player safety issue

The luminaires will be LED which are much more energy efficient than the metal halide alternative. Associated civil works (ducting, foundations for columns, installation of mini pillars etc) will be undertaken whilst all electrical controls and switches will be brought to the prefabricated changing rooms. A three-phase power connection and associated ESB substation may be required, and this will be located in close proximity to the sports hall.

The lighting design has been prepared in compliance with the Chartered Institute of Building Services Engineers Lighting Guide 4: Sports Lighting (CIBSE LG4) & the Institute of Lighting Professionals (ILP), Guidance Note for the Reduction of Obtrusive Light GN01:2021 and Guidance Note for Bats and Artificial Lighting in the UK GN08:2018. All lighting has been designed to be bat sensitive. The lights will provide only the amount of light necessary for the task in hand and shield the light given out in order to avoid creating glare or omitting light above the horizontal plane. The lighting design and report has been undertaken by MUSCO Lighting and is included as an appendix to the main Part 8 report (see appendix 8).

The permitted timing for the floodlighting will be from 16:00 until 22:00, Monday to Friday and from 16:00 until 21:00 Saturday and Sunday. The design of the lighting scheme minimises the incidence of light spillage or pollution in the immediate surrounding environment and has due regard to the residential amenity of surrounding areas.'

The proposed lighting equipment layout is demonstrated in Figure 8. The proposed Horizontal and Vertical illuminance (lux) levels (GAA Spill and LTW) are demonstrated in Figures 9-12.

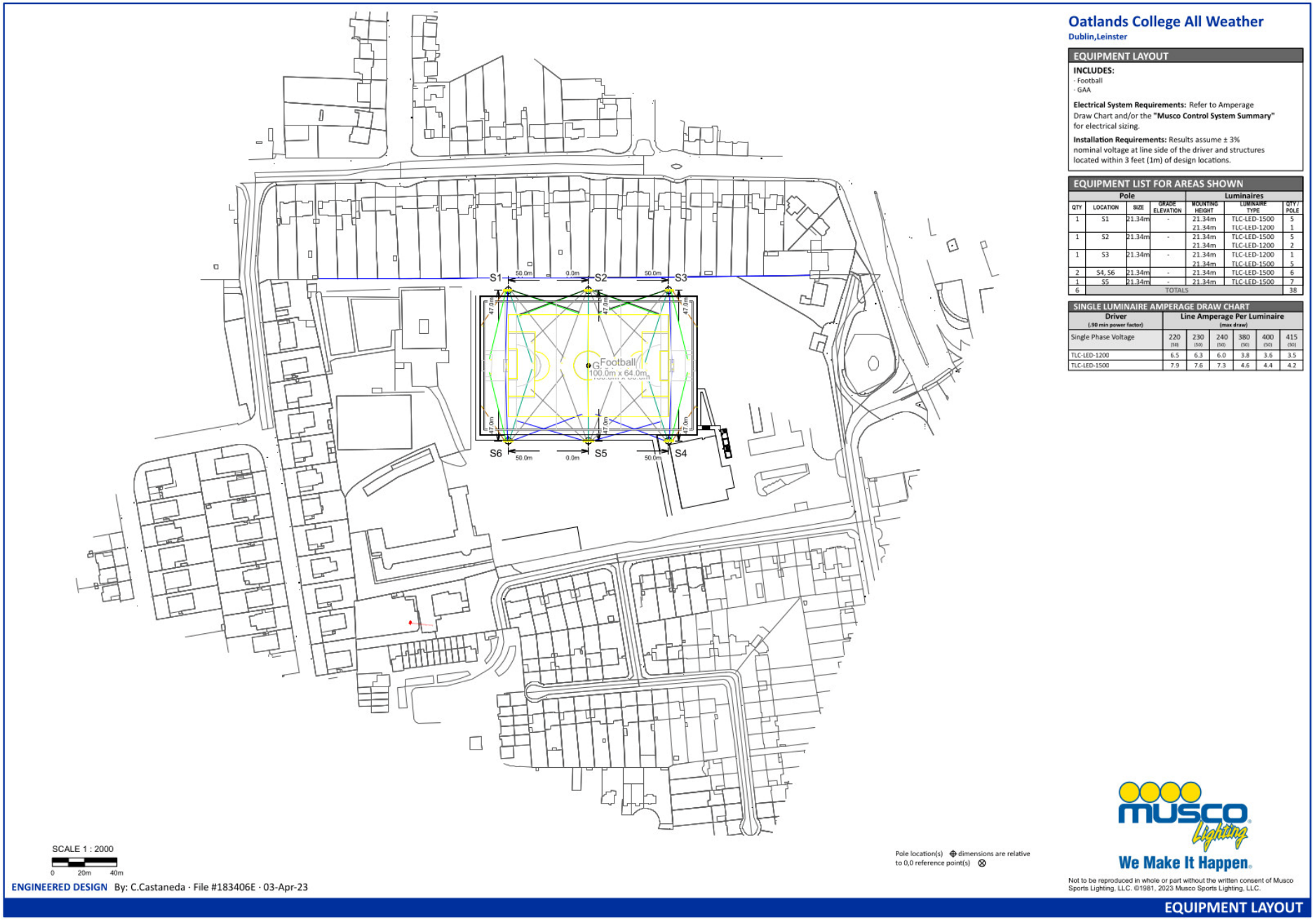


Figure 8. Proposed lighting equipment layout

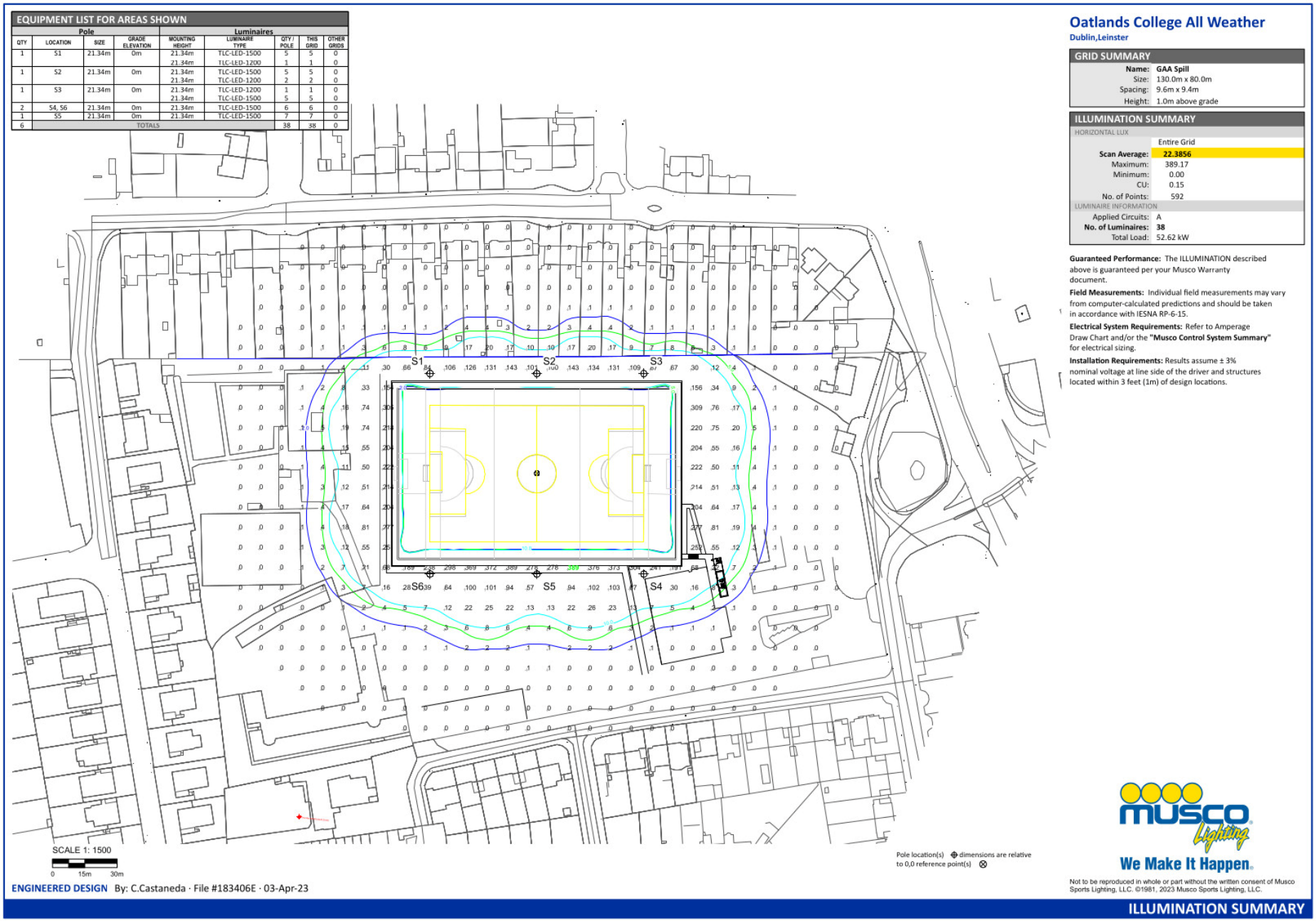


Figure 9. Horizontal lux spill (GAA Spill) (Blue is the 1 lux contour)

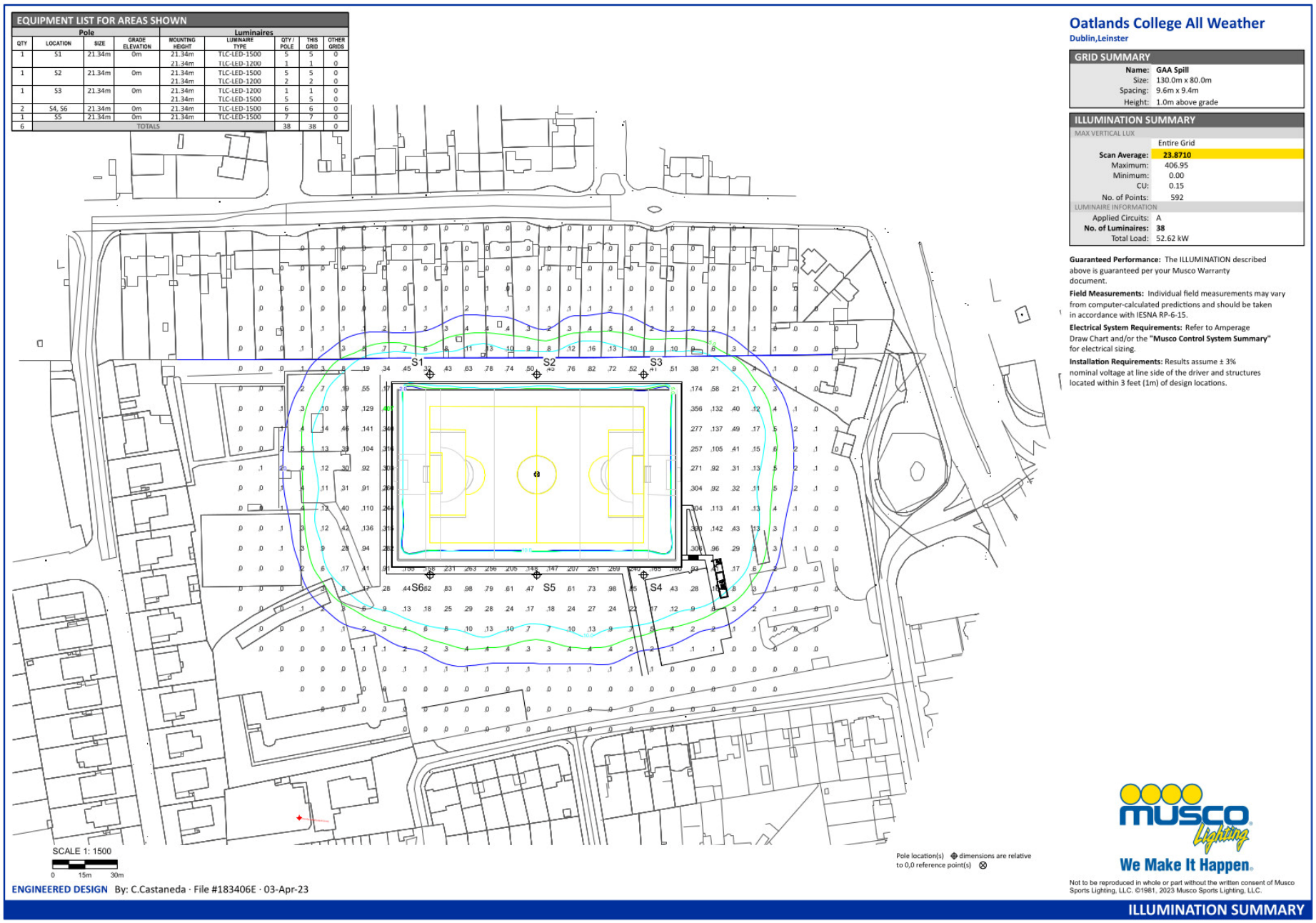


Figure 10. Max vertical lux spill (GAA Spill) (Blue is the 1 lux contour)

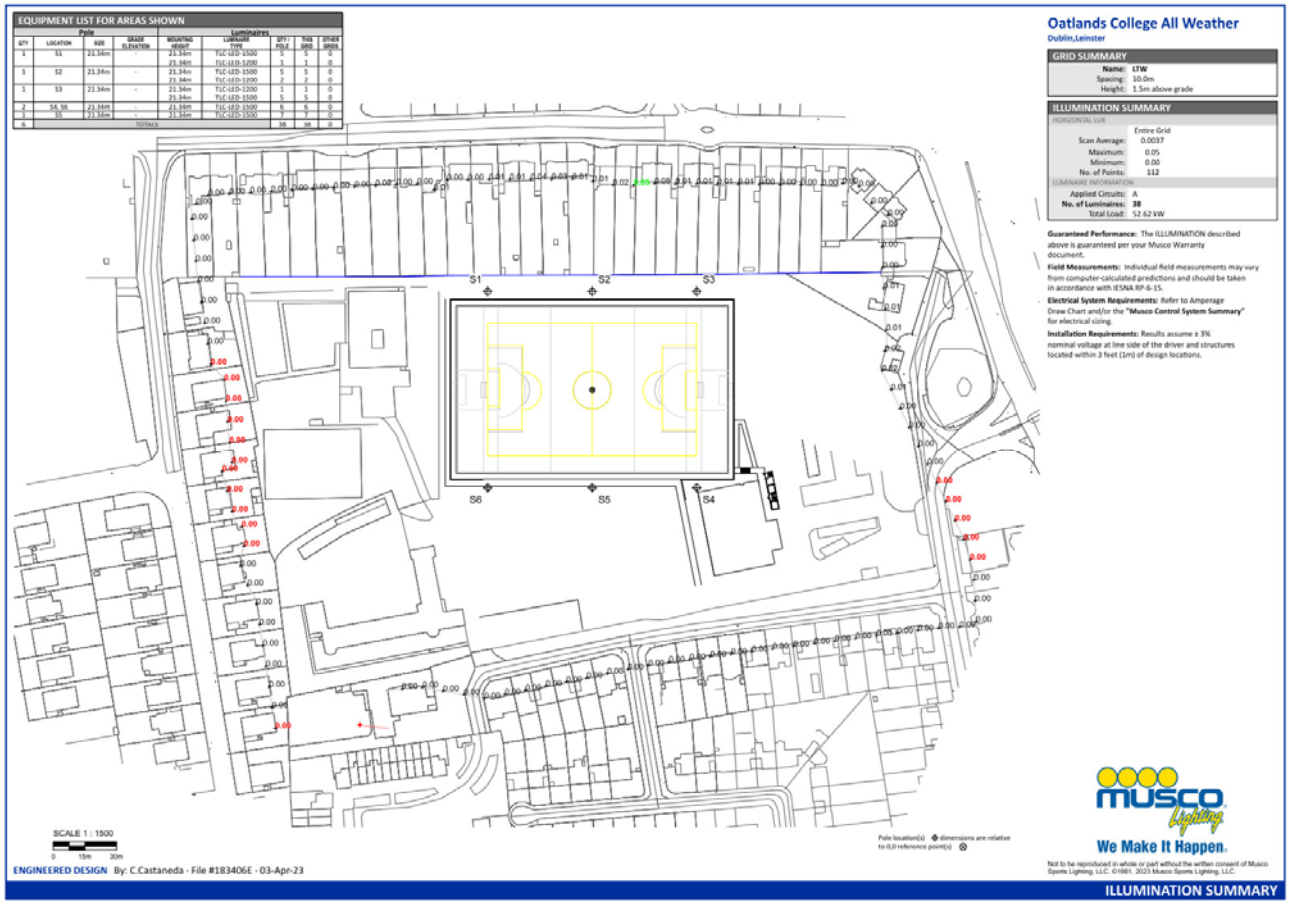


Figure 11. Horizontal lux spill (LTW)

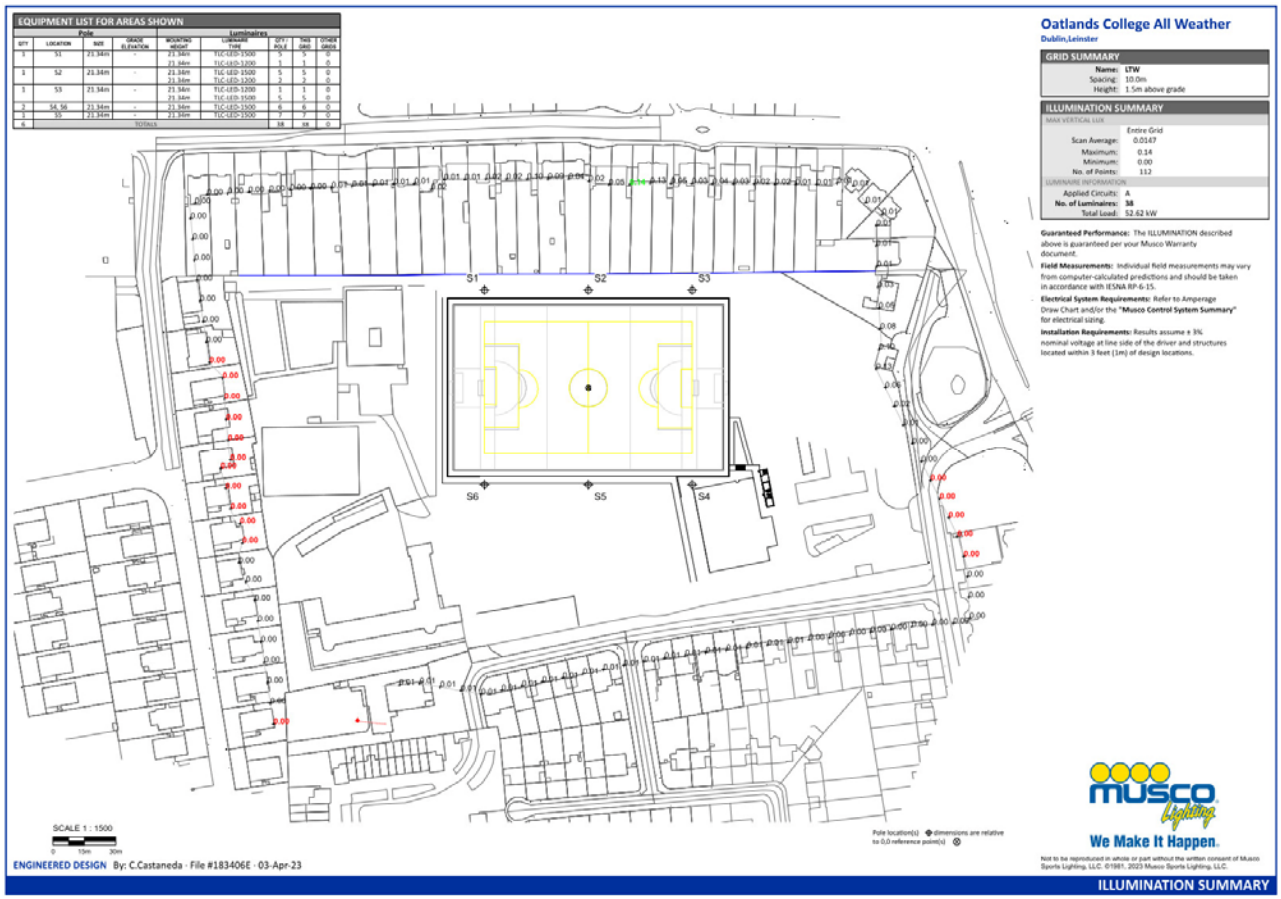


Figure 12. Vertical lux spill (LTW)

Ecological Assessment Methodology

Desk Study

A desk study was undertaken to gather and assess ecological data prior to undertaking fieldwork elements. Sources of datasets and information included:

- The National Parks and Wildlife Service
- National Biological Data Centre
- Satellite, aerial and 6" map imagery
- Bing Maps (ArcGIS)

A provisional desk-based assessment of the potential species and habitats of conservation importance was carried out in March 2023 and updated in April 2023. Altemar assessed the project, the proposed construction methodology and the operation of the proposed development.

Field Survey

An initial field survey was carried out by Altemar Ltd. on the 13th September 2022, following completion of the desk-based assessment. A site visit was carried out by Bryan Deegan in relation to flora, fauna and included a bat survey. A second survey was carried out by Altemar on the 5th December 2022 and a third visit was carried out on the 6th April 2023. The surveys were carried out in mild dry conditions and covered all the lands within the site outline and the land immediately outside the site. The purpose of the field survey was to identify habitat types according to the Fossitt (2000) habitat classification and map their extent. In addition, more detailed information on the species composition and structure of habitats, conservation value and other data were gathered.

Ten wintering bird assessments (October 2022-March 2023) were carried out to monitor the site for wintering birds that are qualifying interests of nearby Special Protection Areas (Appendix II).

Survey Limitations

The field surveys were within the period for full species assessments of the floral cover in addition to bat and mammal surveys. Weather conditions were mild and dry and allowed a bat detector surveys to take place. It should be noted that good coverage of the site was possible and there was full and clear access to all areas. There are no limitations in relation to the surveys on site.

Consultation

The National Parks and Wildlife Service (NPWS) were consulted in relation to species and sites of conservation interest. Data of rare and threatened species were acquired from NPWS. The National Biological Data Centre records were consulted for species of conservation significance.

Spatial Scope and Zone of Influence

As outlined in CIEEM (2018) '*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.*' In line with best practice guidance an initial zone of influence be set at a radius of 2km for non-linear projects (IEA, 1995).

The ZoI of the proposed project would be seen to be restricted to the site outline, with the loss of several trees and grassland habitat, with potential for minor localised noise impacts during construction which do not extend significantly beyond the site outline nor are they likely to have any significant effects on any designated conservation sites. However, there is also the potential for increased lighting impacts on biodiversity during construction and operation which would be expected to extend the ZOI beyond the site outline.

Impact Assessment Significance Criteria

This section of the EcIA examines the potential causes of impact that could result in likely significant effects to the species and habitats that occur within the ZOI of the proposed development. These impacts could arise during either the construction or operational phases of the proposed development. The following terms are derived from EPA EIAR and CIEEM EcIA Guidance and are used in the assessment to describe the predicted and potential residual impacts on the ecology by the construction and operation of the proposed development.

Magnitude of effect and typical descriptions

Magnitude of effect (change)		Typical description
High	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Medium	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements
	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Low	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial effect on attribute or a reduced risk of negative effect occurring
Negligible	Adverse	Very minor loss or alteration to one or more characteristics, features or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.

Criteria for Establishing Receptor Sensitivity/Importance

Importance	Ecological Valuation
International	Sites, habitats or species protected under international legislation e.g. Habitats and Species Directive. These include, amongst others: SACs, SPAs, Ramsar sites, Biosphere Reserves, including sites proposed for designation, plus undesignated sites that support populations of internationally important species.
National	Sites, habitats or species protected under national legislation e.g. Wildlife Act 1976 and amendments. Sites include designated and proposed NHAs, Statutory Nature Reserves, National Parks, plus areas supporting resident or regularly occurring populations of species of national importance (e.g. 1% national population) protected under the Wildlife Acts, and rare (Red Data List) species.
Regional	Sites, habitats or species which may have regional importance, but which are not protected under legislation (although Local Plans may specifically identify them) e.g. viable areas or populations of Regional Biodiversity Action Plan habitats or species.
Local/County	Areas supporting resident or regularly occurring populations of protected and red data listed-species of county importance (e.g. 1% of county population), Areas containing Annex I habitats not of international/national importance, County important populations of species or habitats identified in county plans, Areas of special amenity or subject to tree protection constraints.
Local	Areas supporting resident or regularly occurring populations of protected and red data listed-species of local importance (e.g. 1% of local population), Undesignated sites or features which enhance or enrich the local area, sites containing viable area or populations of local Biodiversity Plan habitats or species, local Red Data List species etc.
Site	Very low importance and rarity. Ecological feature of no significant value beyond the site boundary

Quality of Effects	Effect Description
Negative /Adverse Effect	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).
Neutral Effect	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Positive Effect	A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).

Significance of Effects

Significance of Effect	Description of Potential Effect
Imperceptible	An effect capable of measurement but without significant consequences.
Not significant	An effect which causes noticeable2 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.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
Profound	An effect which obliterates sensitive characteristics.

Duration and Frequency of Effect	Description
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting less than a year
Short-term	Effects lasting one to seven years.
Medium-term	Effects lasting seven to fifteen years.
Long-term	Effects lasting fifteen to sixty years.
Permanent	Effects lasting over sixty years
Reversible	Effects that can be undone, for example through remediation or restoration

Describing the Probability of Effects	Description
Likely Effects	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

Results

Proximity to Designated Conservation Sites

Designated conservation sites (National and international) within 15km of the proposed development are seen in Figures (13-16) and Tables 1 & 2. It should be noted that the proposed development site is not within a designated conservation area. The closest European sites are the South Dublin Bay and River Tolka Estuary SPA and South Dublin Bay SAC, located 1.8 km from the proposed development site (Figures 13 & 14). There are no designated Natural Heritage Areas (NHA) within a 15km radius. However, the nearest Proposed NHA (South Dublin Bay pNHA) is located 1.8 km from the site (Figure 15). The nearest RAMSAR site (Sandymount Strand/Tolka Estuary) is located 1.8 km from the proposed development site (Figure 16).

The nearest watercourse to the subject site is the Priory Stream, located 0.4 km from the subject site (Figure 17). There is an indirect hydrological connection to this watercourse via surface water drainage. Surface water drainage will be directed to an existing surface water network within Oatlands College which has a restriction of 150mm prior to the connection to the public surface water drainage network, which in turn outfalls to the Priory Stream, which in turn outfalls to the marine environment at Dublin Bay. Therefore, there is an indirect hydrological connection to designated conservation sites located within Dublin Bay via the proposed surface water drainage strategy. Watercourses located proximate to the subject site are demonstrated in Figure 17.

Table 1. Distances to NATURA 2000 sites within 15km of the subject site

Code	NATURA 2000 Site	Distance	Direct Hydrological / Biodiversity Connection
	Special Areas of Conservation		
IE000210	South Dublin Bay SAC	1.8 km	No
IE000206	North Dublin Bay SAC	6.7 km	No
IE003000	Rockabill to Dalkey Island SAC	7.4 km	No
IE002122	Wicklow Mountains SAC	8 km	No
IE001209	Knocksink Wood SAC	8.8 km	No
IE000713	Ballyman Glen SAC	9.6 km	No
IE0000202	Howth Head SAC	11 km	No
IE001209	Glenasmole Valley SAC	11.4 km	No
IE000199	Baldoyle Bay SAC	12.4 km	No
IE000714	Bray Head SAC	13 km	No
	Special Protection Areas		
IE004024	South Dublin Bay and River Tolka Estuary SPA	1.8 km	No
IE0004006	North Bull Island SPA	6.7 km	No
IE004172	Dalkey Islands SPA	7.2 km	No
IE004040	Wicklow Mountains SPA	8.1 km	No
IE0004016	Baldoyle Bay SPA	12.4 km	No
IE0004113	Howth Head Coast SPA	12.6 km	No
IE0004117	Ireland's Eye SPA	14.8 km	No

Table 2. Distances to designated conservation sites within 15km of the subject site

Conservation Site Name	Conservation Type	Distance
South Dublin Bay	pNHA	1.8 km
Booterstown Marsh	pNHA	1.8 km
Fitzsimon's Wood	pNHA	3 km
Dalkey Coastal Zone and Killiney Hill	pNHA	4.8 km
Grand Canal	pNHA	5.3 km
Dolphins, Dublin Docks	pNHA	5.4 km
Dingle Glen	pNHA	5.7 km
Royal Canal	pNHA	6.5 km
North Dublin Bay	pNHA	6.6 km
Loughlinstown Woods	pNHA	6.7 km
Ballybetagh Bog	pNHA	7.3 km
Dodder Valley	pNHA	8.3 km
Howth Head	pNHA	11 km
Knocksink Wood	pNHA	8.8 km
Ballyman Glen	pNHA	9.6 km
Powerscourt Woodland	pNHA	11.2 km
Glenasmole Valley	pNHA	11.4 km
Liffey Valley	pNHA	11.8 km
Santry Demesne	pNHA	11.9 km
Dargle River Valley	pNHA	12.1 km
Glencree Valley	pNHA	12.2 km
Baldoyle Bay	pNHA	12.4 km
Bray Head	pNHA	13 km
Great Sugar Loaf	pNHA	13 km
Lugmore Glen	pNHA	13.5 km
Sluice River Marsh	pNHA	14.6 km
Kilmacanogue Marsh	pNHA	14.6 km
Sandymount Strand/Tolka Estuary	Ramsar	1.8 km
North Bull Island	Ramsar	6.8 km
Baldoyle Bay	Ramsar	12.4 km

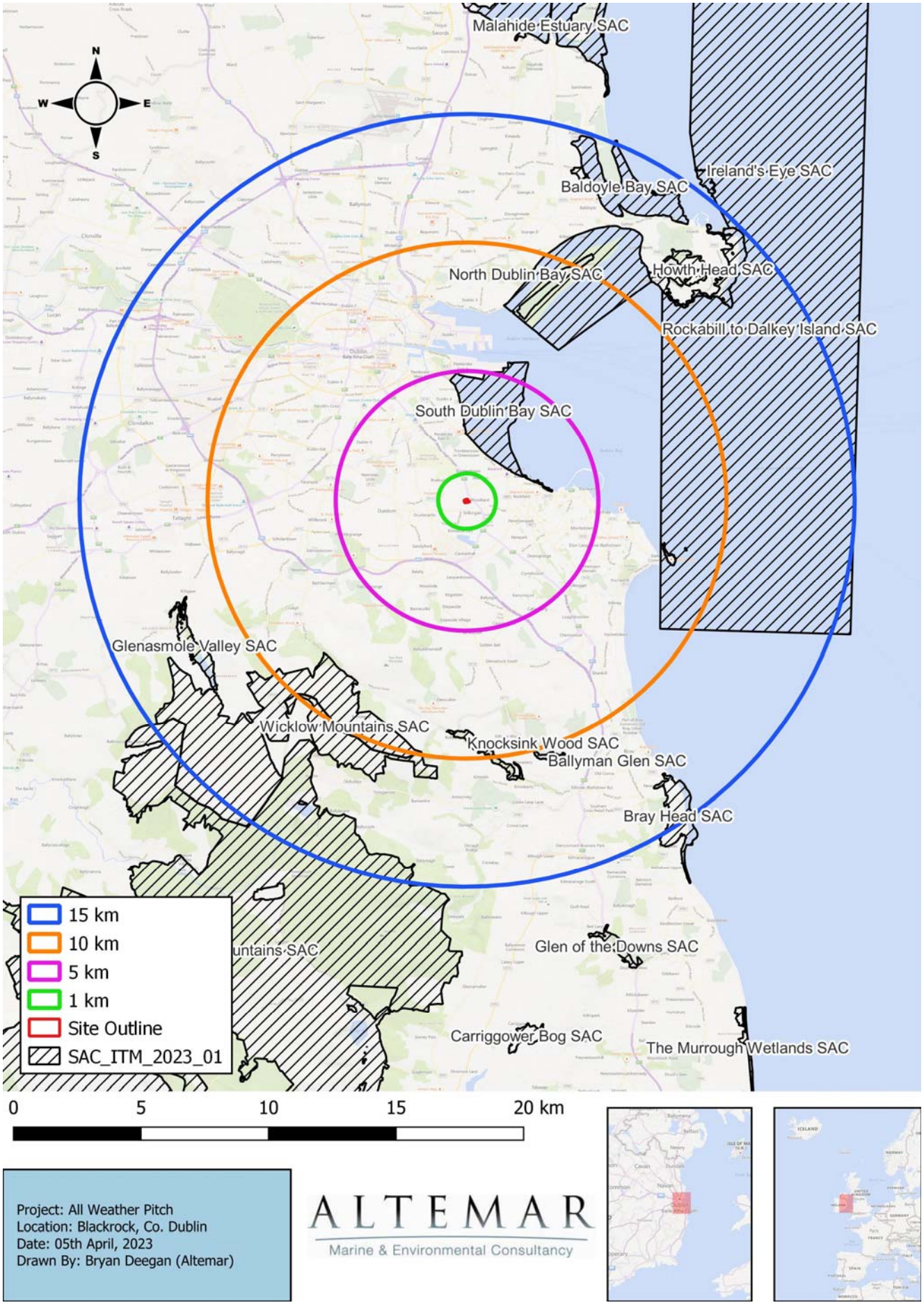


Figure 13. Special Areas of Conservation (SAC) located within 15km of the proposed development

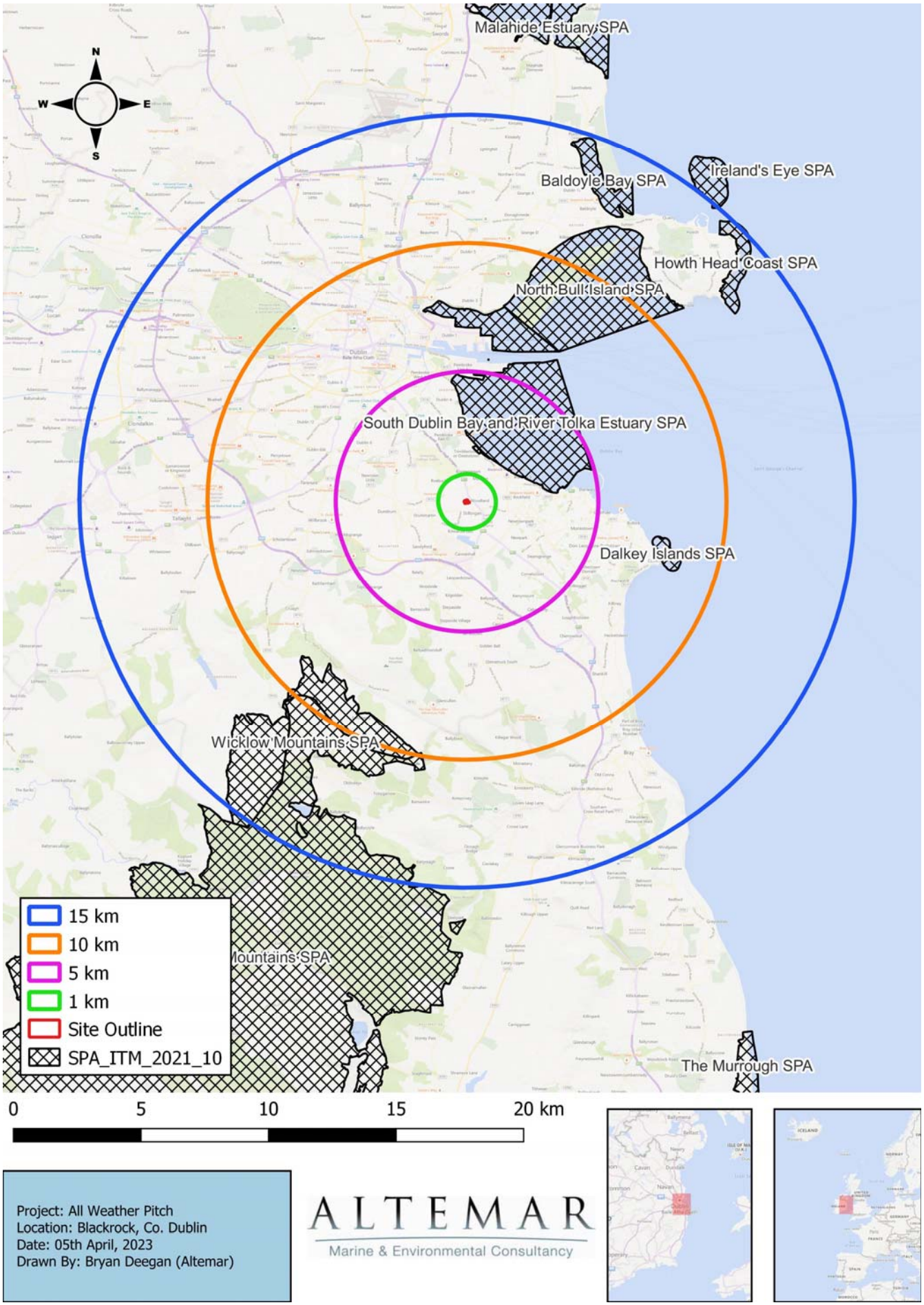


Figure 14. Special Protection Areas (SPA) within 15km of proposed development

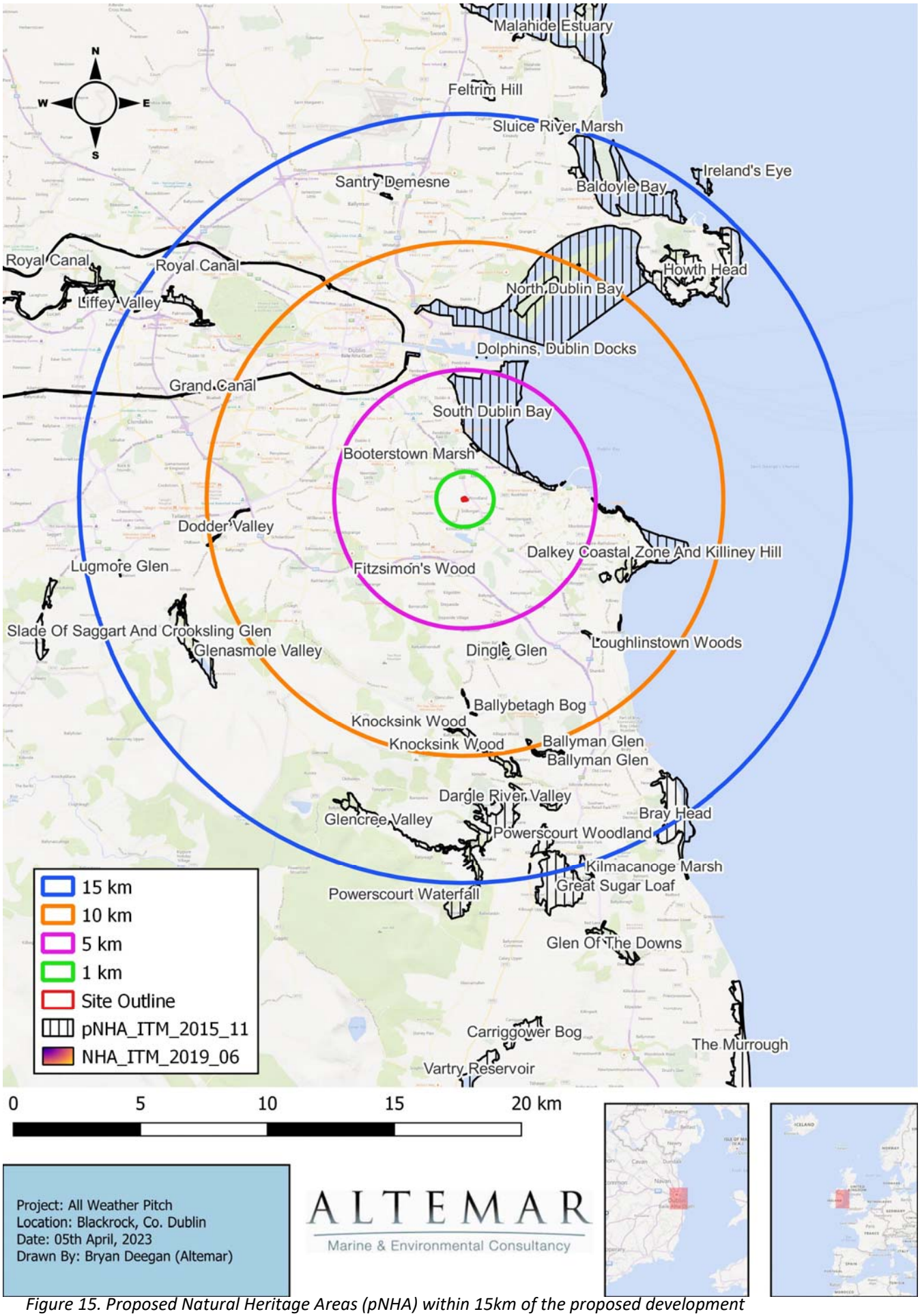


Figure 15. Proposed Natural Heritage Areas (pNHA) within 15km of the proposed development

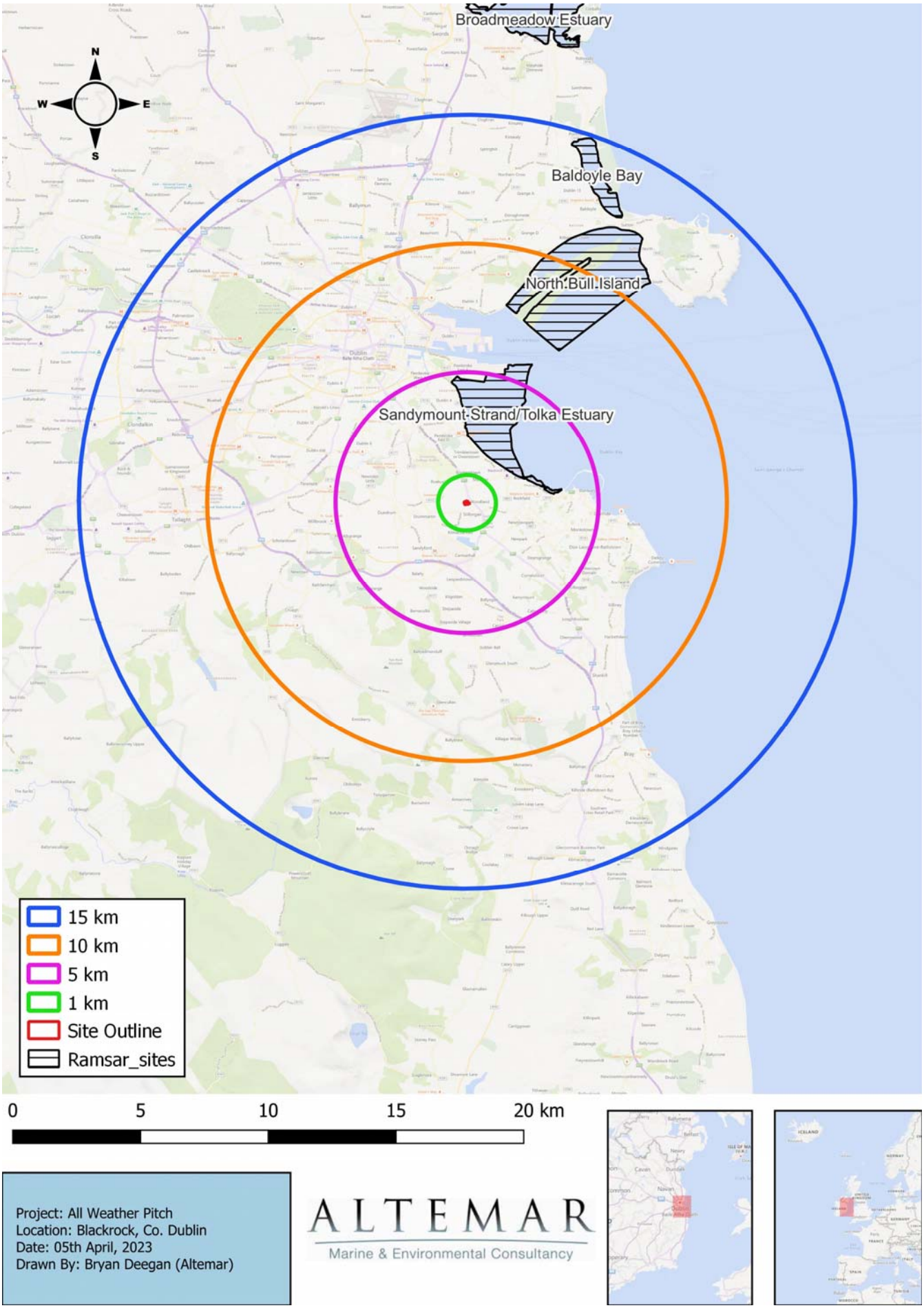


Figure 16. Ramsar sites within 15km of the proposed development

Figure 17. Watercourses within 1km of the proposed development

Habitats and Species

A site assessment was carried out on 13th September 2023 and 6th April 2023. Habitats within the proposed site were classified according to Fossitt (2000) (Figure 18).

Figure 18. Fossitt (2000) Habitat map of proposed development site

As can be seen from Figure 18, the site consists of the following habitats (Fossitt, 2000):

BL3- (Buildings and artificial surfaces)

No flora or fauna of conservation importance were noted in these areas. These areas consisted primarily of built roads.

Plate 1. Built land.

GA2-Amenity Grassland.

The majority of the proposed development area consists of amenity grassland. Species included buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), daisy (*Bellis perennis*), plantains (*Plantago spp.),* thistles (*Cirsium sp*.), docks (*Rumex spp*.) ragwort (*Jacobaea vulgaris*) and dandelion (*Taraxacum spp*.).

Plate 2. Amenity Grassland.

WL1-Hedgerow

A single hedgerow of Griselinia (*Griselinia littoralis*) is located on the south western boundary. There was a paucity of flora in the understory due to the occlusion of light from the dense hedgerow.

Plate 4. Hedgerow.

WL2- Treelines

The treeline is a prominent feature of the northern boundaries of the site. This habitat consisted of mature elm (*Ulmus glabra*), ash (*Fraxinus excelsior*), Lawson Cypress (*Chamaecyparis lawsoniana*), sycamore (*Acer pseudoplatanus*), lombardy poplar (*cv. Populus nigra 'italica' cv*.),, hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*), holly (*ilex aquifolium*), blackthorn (*Prunus spinosa*), green plum (*Prunus cerasifera*), bramble (*Rubus fruticosus*), ivy *(Hedera helix),* few-flowered garlic*, (Allium paradoxum),* herb-robert *(Geranium robertianum),* honeysuckle *(Lonicera periclymenum),* cleavers *(Galium aparine),* lesser celandine *(Ficaria verna ssp verna), cow parsley (Anthriscus sylvestris),* Lords-and-ladies *(Arum maculatum),* common ragwort *(Jacobaea vulgaris), thistles (Cirsium),* winter heliotrope *(Petasites pyrenaicus)* and snowberry *(Symphoricarpos albus).* Two disused fox dens were noted in the eastern third of the treeline.

Plate 5. Treeline.

Evaluation of Habitats
The proposed development site is primarily on existing grassland, artificial surfaces and bordering treelines and a line of hedgerow. No habitats of conservation significance were noted within the site outline.

Plant Species
The plant species encountered at the various locations on site are detailed above. No plant species protected under Irish or international legislation were noted on site. Records of rare and threatened species from NBDC and NPWS were examined. No rare or threatened plant species were recorded within the proposed development site.

Invasive Plant species
No species that are noted as invasive species and listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011) which makes it an offence under Regulation 49 to plant, disperse, allow or cause to grow these plants were noted on site.

Terrestrial Mammals
All areas of the site were accessible. Full survey coverage of the site was possible and there are no limitations in relation to the mammal assessment. No mammal activity was noted on site. No badgers or badger activity was noted on site. Otters (*Lutra lutra*) activity was not noted on site and it is unlikely that they are present due to the lack of a nearby watercourse. Two disused fox dens were noted on site. No evidence of deer was noted on site. Hedgehogs (*Erinaceus erinaceus)* have been recorded by NPWS within the 10km square. No hedgehogs were seen during the site visit, but may be present on site. No protected terrestrial mammals were noted on site or in the vicinity of the site. Records of rare and threatened species from NBDC and NPWS were examined. No rare or threatened faunal species were recorded within the proposed site.

Bats
The results of the bat assessment are seen in Appendix I. There were no seasonal or climatic constraints as survey was undertaken within the active bat season in good weather conditions with temperatures of 16°C after dark. Winds were very light and there was no rainfall. No evidence of a bat roost was found in any of the onsite trees. However, several trees in the treeline do have the heavy ivy cover which could potentially form an interim bat roost. A detector survey was carried out with an Echo Meter Touch 2 Pro. Foraging activity of a common pipistrelle (*Pipistrellus pipistrellus*) was noted proximate treeline area located to the south and outside the proposed site outline. However as noted in Appendix I "*There is no evidence of a current or past bat roost on site, therefore no significant negative impacts on these animals are expected to result from the proposed redevelopment. However, foraging activity within the area at lower levels may be lost but would be expected to continue at higher levels beside treelines, above the areas of light spill."* No foraging activity was noted near the large treeline.

Amphibians/Reptiles
The common frog (*Rana temporaria*) or the common lizard (*Lacerta vivipara*) were not observed on site. There are no water features within the site boundary that could be important to frogs.

Birds
As outlined in Appendix II *"In total 37 Bird species were recorded overall at the Oatlands College site, at Stillorgan, South Dublin, during 10 surveys over the course of the winter bird survey period 2022-2023. Species recorded that are red listed as a wintering species of conservation concern (Birdwatch Ireland's birds of conservation concern in Ireland 2020-2026) that were recorded on-site were Redwing, recorded in foraging small numbers (recorded in five visits, maximum count of 30 birds in one visit). Of those species of specific interest in the context of the sites habitat type (notable species foraging on maintained grassland in the area) namely Brent Goose, Curlew, Oystercatcher and Black-tailed Godwit, only Oystercatcher was recorded foraging on-site in small numbers (less than 7 on almost all dates with the exception a peak of 13 birds recorded on January 3rd). Brent Geese were recorded passing site only (all flightlines were off-site to the east and south of site area, average flight heights c.25m). Checking for signs of Brent Geese scat on foraging area did not reveal any on all visits. Gulls species recorded foraging on-site were Black-headed Gull, Herring Gull and Common Gull, foraging in small numbers (less than 30 birds with Herring Gull being most regular). Results suggest that the site is not a significant ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). The site is frequently used by the adjacent secondary and primary schools (all week days and often weekends) this was noted as a likely negative in terms of species numbers and diversity foraging on-site and foraging periods unharrassed. A selection of passerines typical of parkland in suburban Dublin were recorded and remained consistent throughout the surveys.'*

The proposed development is surrounded by tall trees within a suburban environment. It would not be expected that there would be a significant potential interaction of the pitch location, construction materials and artificial lighting to impact flight lines and / or collision of sensitive birds.

Assessment of Biodiversity Records

The National Biodiversity Data Centre's online viewer was consulted in order to determine the extent of biodiversity and/or species of interest in the area. First, an assessment of the site-specific area was carried out by generating a report based on the site outline, however it recorded no species of interest in the site area. Following this a 2 km^2 grid, reference number O12Z, based on the Ordnance Survey Ireland (OSI) Irish Grid classification system was assessed. Table 3 provides a list of all species recorded in the species reports generated for this grid that possess a specific designation, such as Invasive Species or Protected Species.

Table 3. Table of species, NBDC

Date of Record	Species Name	Designation
06/10/2020	*Smooth Newt (Lissotriton vulgaris)*	*Protected Species: Wildlife Acts*
31/12/2011	*Barn Swallow (Hirundo rustica)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
30/01/2023	*Black-headed Gull (Larus ridibundus)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List*
30/01/2023	*Common Coot (Fulica atra)*	*Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
17/08/2012	*Common Kestrel (Falco tinnunculus)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
31/12/2011	*Common Linnet (Carduelis cannabina)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
04/12/2022	*Common Redshank (Tringa totanus)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List*
29/09/2016	*Common Starling (Sturnus vulgaris)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
31/12/2011	*Common Swift (Apus apus)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
29/09/2016	*Common Wood Pigeon (Columba palumbus)*	*Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species*
09/03/2018	*Eurasian Curlew (Numenius arquata)*	*Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List*

Date of Record	Species Name	Designation
31/12/2011	*Eurasian Oystercatcher (Haematopus ostralegus)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
30/01/2023	*Gadwall (Anas strepera)*	*Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
30/09/2016	*Great Cormorant (Phalacrocorax carbo)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
30/01/2023	*Herring Gull (Larus argentatus)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Red List*
18/05/2001	*House Martin (Delichon urbicum)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
31/12/2011	*House Sparrow (Passer domesticus)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
30/01/2023	*Mallard (Anas platyrhynchos)*	*Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section I Bird Species*
31/12/2011	*Mew Gull (Larus canus)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
05/12/2022	*Mute Swan (Cygnus olor)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
30/08/1998	*Northern Goshawk (Accipiter gentilis)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
06/06/2014	*Peregrine Falcon (Falco peregrinus)*	*Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex I Bird Species*
29/09/2016	*Rock Pigeon (Columba livia)*	*Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species*
14/05/2001	*Sand Martin (Riparia riparia)*	*Protected Species: Wildlife Acts || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
18/05/2001	*Tufted Duck (Aythya fuligula)*	*Protected Species: Wildlife Acts || Protected Species: EU Birds Directive || Protected Species: EU Birds Directive >> Annex II, Section I Bird Species || Protected Species: EU Birds Directive >> Annex III, Section II Bird Species || Threatened Species: Birds of Conservation Concern || Threatened Species: Birds of Conservation Concern >> Birds of Conservation Concern - Amber List*
24/11/2012	*Arthurdendyus triangulatus*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species*

Date of Record	Species Name	Designation
06/12/2022	*Butterfly-bush (Buddleja davidii)*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species*
30/09/2016	*Canadian Fleabane (Conyza canadensis)*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species*
30/09/2016	*Canadian Waterweed (Elodea canadensis)*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)*
15/07/2020	*Himalayan Honeysuckle (Leycesteria formosa)*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species*
18/07/2020	*Japanese Knotweed (Fallopia japonica)*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)*
30/09/2016	*Sycamore (Acer pseudoplatanus)*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species*
07/05/2021	*Three-cornered Garlic (Allium triquetrum)*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)*
24/04/2022	*Andrena (Melandrena) nigroaenea*	*Threatened Species: Vulnerable*
26/03/2019	*Large Red Tailed Bumble Bee (Bombus (Melanobombus) lapidarius)*	*Threatened Species: Near threatened*
29/09/2016	*Endive Pellia (Pellia endiviifolia)*	*Threatened Species: Least concern*
29/09/2016	*Marchantia polymorpha subsp. polymorpha*	*Threatened Species: Least concern*
30/09/2016	*Jenkins' Spire Snail (Potamopyrgus antipodarum)*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> Medium Impact Invasive Species*
29/09/2016	*Anomalous Bristle-moss (Orthotrichum anomalum)*	*Threatened Species: Least concern*
30/09/2016	*Capillary Thread-moss (Bryum capillare)*	*Threatened Species: Least concern*
29/09/2016	*Clustered Feather-moss (Rhynchostegium confertum)*	*Threatened Species: Least concern*
30/09/2016	*Common Cord-moss (Funaria hygrometrica)*	*Threatened Species: Least concern*
29/09/2016	*Ctenidium molluscum var. molluscum*	*Threatened Species: Least concern*
30/09/2016	*Cylindric Beard-moss (Didymodon insulanus)*	*Threatened Species: Least concern*
30/09/2016	*Fern-leaved Hook-moss (Cratoneuron filicinum)*	*Threatened Species: Least concern*
29/09/2016	*Grey-cushioned Grimmia (Grimmia pulvinata)*	*Threatened Species: Least concern*
29/09/2016	*Hooded Bristle-moss (Orthotrichum cupulatum)*	*Threatened Species: Least concern*
30/09/2016	*Intermediate Screw-moss (Syntrichia intermedia)*	*Threatened Species: Least concern*
29/09/2016	*Kneiff's Feather-moss (Leptodictyum riparium)*	*Threatened Species: Least concern*
30/09/2016	*Lesser Bird's-claw Beard-moss (Barbula convoluta)*	*Threatened Species: Least concern*
30/09/2016	*Redshank (Ceratodon purpureus)*	*Threatened Species: Least concern*
29/09/2016	*Springy Turf-moss (Rhytidiadelphus squarrosus)*	*Threatened Species: Least concern*
30/09/2016	*Supine Plait-moss (Hypnum cupressiforme var. resupinatum)*	*Threatened Species: Least concern*
29/09/2016	*Thickpoint Grimmia (Schistidium crassipilum)*	*Threatened Species: Least concern*

Date of Record	Species Name	Designation
30/09/2016	*Variable Crisp-moss (Trichostomum brachydontium)*	*Threatened Species: Least concern*
29/09/2016	*Wall Screw-moss (Tortula muralis)*	*Threatened Species: Least concern*
30/09/2016	*Water Screw-moss (Syntrichia latifolia)*	*Threatened Species: Least concern*
29/09/2016	*Wood Bristle-moss (Orthotrichum affine)*	*Threatened Species: Least concern*
28/02/2013	*Brown Rat (Rattus norvegicus)*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)*
04/12/2022	*Eastern Grey Squirrel (Sciurus carolinensis)*	*Invasive Species: Invasive Species || Invasive Species: Invasive Species >> High Impact Invasive Species || Invasive Species: Invasive Species >> EU Regulation No. 1143/2014 || Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)*
23/02/2016	*Eurasian Red Squirrel (Sciurus vulgaris)*	*Protected Species: Wildlife Acts*
01/04/2001	*Lesser Noctule (Nyctalus leisleri)*	*Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex IV || Protected Species: Wildlife Acts*
03/12/2018	*Pine Marten (Martes martes)*	*Protected Species: EU Habitats Directive || Protected Species: EU Habitats Directive >> Annex V || Protected Species: Wildlife Acts*

An assessment of files received from the NPWS (Code No. 2022_120) which contain records of rare and protected species and grid references for sightings of these species was carried out as part of this EcIA for the proposed development. There are no recorded sightings within the site itself, however the following table (Table 4) provides a summary of the species identified, the year of identification/sample, survey name and data ID of sightings locations in the areas surrounding the proposed development.

Table 4. Species survey, NPWS

Data ID.	Species	Survey Name	Sample Year
22095	Common Frog (*Rana temporaria*)	Frog – National Frog Survey 2011 additional records	2011
26678	West European Hedgehog (*Erinaceus europaeus*)	AFF Mammals, Reptiles & Amphibians Distribution Atlas 1978 (II)	1965
27255	Irish Whitebeam (*Sorbus Hibernica*)	Herbarium and Literature Database 19/02/2013	1988

Potential Impacts

This report has been prepared to outline the construction and operational phase measures in addition to detailing the potential impacts on sensitive receptors within the Zone of Influence (ZOI).

Construction Impacts

In the absence of mitigation, the overall development of the site is likely to have direct negative impacts upon the existing habitats, fauna and flora. Direct negative effects will be manifested in terms of the removal of the site's internal habitats primarily amenity grassland and several trees. The removal of these habitats will result in a loss of species and habitats of low biodiversity importance. The area is not deemed to be an important foraging area for terrestrial mammals or birds of conservation importance.

Designated Conservation sites within 15km

The proposed development is not within a designated conservation site. The nearest designated conservation sites are South Dublin Bay SAC & pNHA, South Dublin Bay and River Tolka Estuary SPA, and Sandymount Strand/Tolka Estuary Ramsar site (1.8 km). There is no direct hydrological pathway to any designated conservation site. There is no proposed outfall of surface water drainage to proximate watercourses. During construction, there is the potential for an indirect hydrological pathway to designated conservation sites located downstream of the subject site via the proposed surface water drainage strategy. Surface water will be directed to the existing surface water drainage system onsite, which outfalls to the existing catch pit, surface water network within the College and then the public surface water network via a 150mm pipe. This network ultimately outfalls to the Priory Stream, which in turn outfalls to the marine environment at South Dublin Bay. Given the scale of the proposed development, and the minimum distance to designated conservation sites (1.8 km to South Dublin Bay SAC & pNHA, South Dublin Bay and River Tolka Estuary SPA, and Sandymount Strand/Tolka Estuary Ramsar site) across a substantial public drainage network, any silt or pollutants will settle, be dispersed or diluted along this existing network. In the absence of mitigation, it is considered that significant impacts on designated conservation sites would be unlikely.

Biodiversity

The impact of the development during construction phase will be a loss of existing habitats and species on site. It would be expected that the flora and fauna associated with these habitats would also be displaced.

Terrestrial mammalian species

No protected terrestrial mammals were noted on site. Loss of habitat and habitat fragmentation may affect some common mammalian species.

Impacts: Low adverse / site / Negative Impact / Not significant / short term. Mitigation is needed in the form of a pre-construction survey for terrestrial mammals of conservation importance.

Flora

No protected flora was noted on site. Site clearance will remove the flora species on site where works are proposed outside arborist tree protection areas.

Impacts: Low adverse / site / Negative Impact / Not Significant / Short term

Bat Fauna

One bat species was noted foraging proximate to the subject site. No bats were noted roosting on site. No bats were noted emerging from trees or adjacent buildings on site. No significant impacts are foreseen. Lighting during construction could impact on foraging activity.

Impacts: Low adverse / site / Negative Impact / Not significant / short term. Mitigation is needed in the form of a pre-construction survey and the control of light spill during construction. A post construction assessment of lighting will be required.

Aquatic Biodiversity

Due to the lack of any watercourse or drainage ditch within the site boundary, and the lack of direct hydrological pathway to a watercourse, there is little potential for significant downstream impacts on biodiversity from silt or petrochemicals. Standard measures will be required to be in place in relation to surface water discharges.

Potential Impacts in the absence of mitigation: Low adverse / local / Negative Impact / Slight Effects / short term.

Bird Fauna

No bird species of conservation importance have been noted on site. However, site clearance could impact on bird nesting.

Impacts: Low adverse / Local / Negative Impact / Not significant / short term. Mitigation is needed in the form of site clearance out side bird nesting season.

Operational Impacts

Once developed, the site would be seen as a stable ecological environment. Appropriate measures will be taken to prevent contaminated surface water run-off and silt into adjacent habitats. Light spill should be limited during operation and lighting times controlled. The construction of new drainage networks will have to comply with SUDS and County Council requirements and as a result would have negligible impact on habitats and species surrounding proposed development site.

Designated Conservation sites within 15km

The proposed development includes a standard sustainable drainage strategy. The development will comply with DLRCC requirements and the Water Pollution Acts and standard measures will be in place to prevent downstream impacts. The presence of this drainage strategy is standard and not necessary for the protection of designated sites. In the absence of these measures no significant effects are likely on designated sites.

Impacts: Negligible / International / Neutral Impact / Not significant / Long-term

Biodiversity

Biodiversity value of the site will improve as landscaping matures particularly in relation to the additional trees that will be planted.

Terrestrial mammalian species

No protected terrestrial mammals were noted on site.

Impacts: Low adverse / site / Negative Impact / Not significant / short term.

Flora

No protected flora was noted on site. Mitigation is required through additional planting of trees to offset tree loss and to provide additional light spill absorbance to the surrounding environment.

Impacts: Negligible beneficial / site / Negative Impact / Not significant / long-term

Bat Fauna

The proposed development will change the local environment as lights are to be erected and some of the existing vegetation will be removed. No bat roosts will be lost or impacted due to this development and the species expected to occur onsite should persist. Minor loss of foraging areas through the site (not at the perimeter) will be seen when lighting is on. However, mitigation has been placed within the design and operation of the proposed lighting (limited to 10pm weekdays and 9pm Saturday and Sundays. Additional mitigation in the form of tree planting is required to further limit light spill.

Effects: Low adverse / International / Negative Impact / Not significant / long term. Mitigation is required in relation to the provision of the ecological supervision during the landscaping stage to ensure bat foraging corridors are developed and that lighting installed is as per proposed lighting strategy. This will include controls in relation to timing of lights.

Aquatic Biodiversity

Standard measures will be in place in relation to surface water discharges. No additional mitigation is required.

Potential Impacts in the absence of mitigation: Low adverse / local / Negative Impact / Not significant / long term

Bird Fauna

The proposed development will change the local environment as new structures are to be erected. The lighting would be clearly visible to bird species and would not pose a significant collision risk. Lighting may locally impact on nocturnal rhythms of bird species. However, the presence of additional landscaping may provide additional nesting and foraging potential for garden bird species.

Impacts: Low adverse / site / Negative Impact / Not significant / long term.

Mitigation Measures & Monitoring

Standard construction and operational controls will be incorporated into the proposed development project to minimise the potential negative impacts on the ecology within the Zone of Influence (ZoI), biodiversity, and local biodiversity within / proximate to the subject site are outlined in Table 5.

Table 5. Sensitive Receptors/Impacts and mitigation measures.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
Biodiversity and Watercourses	• Habitat Degradation • Dust deposition • Pollution • Silt ingress • Potential downstream impacts.	• A project ecologist will be appointed to oversee works from prior to commencement of works on site to the completion of all landscape and lighting elements. • Local silt traps established throughout site. • Mitigation measures on site include dust control, stockpiling away from drains • Stockpiling of loose materials will be kept to a minimum of 20m from drains. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system. • Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, ditches, excavations and other locations where it may cause pollution. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations that require pumping will not directly discharge to the public network. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality. • Mitigation measures on site include dust control, stockpiling away from drains • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system. • Fuel, oil and chemical storage will be sited within a bunded area. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. • During the construction works silt traps will be put in place in the vicinity of all runoff channels to prevent sediment entering the public network. • Petrochemical interception and bunds in refuelling area • Maintenance of any drainage structures (e.g. de-silting operations) will not result in the release of contaminated water to the surface water network. • No entry of solids to the associated stream or drainage network during the connection of pipework to the public water system • Sufficient onsite cleaning of vehicles prior to leaving the site and on nearby roads, will be carried out, particularly during groundworks. • The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained. • The site compound will include a dedicated bund for the storage of dangerous substances including fuels, oils etc. Refuelling of vehicles/machinery will only be carried out within the bunded area. • A project ecologist will be appointed and be consulted in relation to all onsite drainage during construction works. • Concrete trucks, cement mixers or drums/bins are only permitted to wash out in designated wash out area greater than 50m from sensitive receptors including drains.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		• Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis. **Air & Dust** Dust may enter the surface water network via air or surface water with potential downstream impacts. Mitigation measures will be carried out reduce dust emissions to a level that avoids the possibility of adverse effects on downstream biodiversity. The main activities that may give rise to dust emissions during construction include the following: • Excavation of material; • Materials handling and storage; • Movement of vehicles (particularly HGV's) and mobile plant. • Contaminated surface runoff *Mitigation measures to be in place:* • Consultation will be carried with an ecologist throughout the demolition and construction phases; • Trucks leaving the site with excavated material will be covered so as to avoid dust emissions along the haulage routes. • Speed limits on site (15kmh) to reduce dust generation and mobilisation. *Site Management* • Regular inspections of the site and boundary should be carried out to monitor dust, records and notes on these inspections should be logged. • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. • Make the complaints log available to the local authority when asked. • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book. *Monitoring* • Undertake daily on-site and off-site inspection, where receptors are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces within 100 m of site boundary, integrity of the silt control measures, with cleaning and / or repair to be provided if necessary. *Preparing and Maintaining the Site* • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. • Fully enclose specific operations where there is a high potential for dust production and the site is active for an extensive period. • Avoid site runoff of water or mud.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		• Keep site fencing, barriers and scaffolding clean using wet methods. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below. • Cover, seed or fence stockpiles to prevent wind whipping. • Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic. • Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions. *Operations* • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems. • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. • Use enclosed conveyors and covered skips. • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. • Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. *Measures Specific to Earthworks* • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable. • Only remove the cover in small areas during work and not all at once. • During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust. • The Contractor will be required to consult with an ecologist prior to the beginning of works to identify any additional measures that may be appropriate and/or required. *Storage/Use of Materials, Plant & Equipment* • Materials, plant and equipment shall be stored in the proposed site compound location; • All oils, fuels and other hazardous liquid materials shall be clearly labelled and stored in an upright position in an enclosed bunded area within the proposed development site compound. The capacity of the bunded area shall conform with EPA Guidelines – hold 110% of the contents or 110% of the largest container whichever is greater; • Fuel may be stored in the designated bunded area or in fuel bowsers located in the proposed compound location. Fuel bowsers shall be double skinned and equipped with certificates of conformity or integrity tested, in good condition and have no signs of leaks or spillages;

Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		• Smaller quantities of fuel may be carried/stored in clearly labelled metal Jeri cans. Green for diesel and red for petrol and mixes. The Jeri cans shall be in good condition and have secure lockable lids. The Jeri cans shall be stored in a drip tray when not in use. • Drip trays will be turned upside down if not in use to prevent the collection of rainwater; • Plant and equipment to be used during works, will be in good working order, fit for purpose, regularly serviced/maintained and have no evidence of leaks or drips; • No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction
Birds (National Protection)	• Removal nesting habitat. • Removal foraging habitat. • Destruction and/or disturbance to nests (injury/death). • Predation .	• Relevant guidelines and legislation (Section 40 of the Wildlife Acts, 1976 to 2012) Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. This would include nesting gulls on buildings if present. Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent. • 20 Nest boxes are to be placed on site to compensate for resource loss. • Planting will provide suitable cover for nesting birds and encourage insect diversity that would sustain birds. • Additional planting of native trees (min 50) will be carried out in consultation with the project ecologist to assist in limiting light spill and provide an increased nesting resource.
Bats (International Protection)	• Removal roosting/foraging habitat. • Lighting Impacts	• Pre Construction inspection for bats including trees of low roosting potential. • During construction lighting at all stages will be done sensitively with no direct lighting of hedgerows and treelines. • All lighting during construction and operation will be carried out to the satisfaction of the project ecologist. • A post construction light spill and bat foraging assessment will be carried out by a bat specialist to confirm lighting has been constructed as per project submission. • A letter will be provided to DLR Biodiversity Officer from the bat specialist confirming that they have checked and are satisfied with the installation of the lighting as per its design. Any remedial actions, if required, will be implemented to the satisfaction of the bat specialist.
Mammals	• Death/injury • Disturbance	• A pre-construction survey will be carried out for terrestrial mammals of conservation importance. If terrestrial mammals of conservation importance are noted on site NPWS will be consulted in relation to removal and the appropriate permissions obtained.

Cumulative Impacts

There are several proposed developments located in the area immediately surrounding the subject site. The following is a list of planning applications as identified on the Department of Housing, Local Government and Heritage's 'National Planning Application Database' portal[1]:

Table 1. Planning application details and reference numbers of sites proximate to the proposed development

Ref. No.	Address	Proposal
LRD23A/0165	Former Stillorgan Leisureplex, Old Dublin Road, Stillorgan, Co.Dublin, A94 NY56 and 62 and 63 St. Laurences Park, Stillorgan, Co. Dublin	Planning Permission for a Large Scale Residential Development consisting of alterations to the Strategic Housing Development permitted under ABP-305176-19, which is currently under construction, on a site the former Stillorgan Leissureplex. The subject site also includes 62 and 63 St. Laurence's Park buildings now demolished, and no development is proposed in this location as part of the subject development). The proposed alterations primarily comprise revisions to the landscape proposals to the Lower Kilmacud Road and Old Dublin Road and revisions to the elevations, as described in the following: Revisions to the landscape proposals at Lower Kilmacud Road and Old Dublin Road including the reorientation of steps and revisions to the hard and soft landscaping. Reorientation of 3 no. balconies from the eastern to northern elevation on the block fronting the Lower Kilmacud Road (Block B). Change in soffit colour to balconies to the Lower Kilmacud Road and Old Dublin Road elevations (Blocks A & B). Change in architectural treatment from render finish to brick on the northern elevation addressing St. Laurence's Park (Block D). Change in architectural treatment from metal cladding to render finish on the elevations of set back levels fronting St. Laurence's Park (Block D) and Old Dublin Road (Block A) (level 03 and 04 to St. Laurence's Park; level 05 to Old Dublin Road). Adjustments to lift overruns and addition of ventilation overruns in various locations. Extent of glazed balustrade amended at Level 03 on the northern elevation fronting St. Laurence's Park (Block D). Continuous glazed terrace replaced with individual metal frame terraces at Level 05 on the eastern facade (Block C). Parapet height adjusted at roof and set back levels. Additional and consequential amendments to the elevations including updated window treatment and adjustment of window width in certain locations, repositing of louvres, minor increase of wall height fronting St. Laurence's Park, removal and addition of doors and revised substation access. No Alterations are proposed to overall unit numbers (232 no. permitted) or floor area of the permitted development.
ABP305176119	Stillorgan Leisureplex, Old Dublin Road, Stillorgan, Co. Dublin, A94 NY56	Permission for a 'Build-To-Rent' strategic housing development. consisting of: Demolition of existing buildings on site consisting of the Stillorgan Leisureplex and associated structures; Construction of a mixed-use development generally ranging in height from 4 no. storeys to 8 no. storeys from street level, stepping down to 2 no. storeys in part to the Lower Kilmacud Road. Two basement levels are proposed; The development will have a total of 232 no. Build-To-Rent apartment units, (109 no. 2 bedroom units, 113 no. 1 bedroom units and 10 no. studio units) with associated balconies and terraces; The development will provide for 2 no. retail (shop) units (c. 1049 sq.m.) and 4 no. restaurant/ café units (c. 806 sq.m.); Provision of a public plaza (827 sq.m.) onto the corner of the Lower Kilmacud Road and the Old Dublin Road; Public Realm improvements including footpaths, parking, loading bays and landscaping works to the Lower Kilmacud Road, Old Dublin Road and St. Laurence's Park; The proposed development will also include the provision of communal and private open space including courtyard areas, terraces and balconies and roof terraces and the provision of tenant amenity space (c. 1021 sq.m) including resident lounge area, communal kitchen and dining, co-working space, cinema, gym and concierge service; Parking at basement levels for 162 cars, 458 bicycles and 10 motorcycles; 60 no. bicycle parking spaces will be provided at ground level; Vehicular access to the basements is from the

[1] https://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=9cf2a09799d74d8e9316a3d3a4d3a8de

Ref. No.	Address	Proposal
		Lower Kilmacud Road and St. Laurence's Park; All hard and soft landscaping, boundary treatments and all associated site development works and services and plant.
D16A/0465	Site of c.1.12ha at Oatlands Monastery, to the rear of Oatlands College, Mount Merrion, Blackrock, Co Dublin and at No. 2 Cherrygarth, Mount Merrion, Blackrock, Co Dublin	Permission for the demolition of the former Oatlands Monastery building (c.1,682 sqm) and other derelict buildings on the site (c.101 sqm), the demolition of the existing single storey dwelling at No. 2 Cherrygarth (c.157 sqm) and the construction of 63 residential units. The development will be accessed through a new entrance at No. 2 Cherrygarth. Residential development will comprise 9 houses, 24 duplexes and 30 apartments. These are broken down as follows: One 3-bed detached two-storey dwelling (c.8.3m in height) to replace the demolished dwelling at No. 2 Cherrygarth, 8 no. 2.5 storey 4/5 bed detached units (between c.9.9 - 10.13 metres in height), 12 no. 3-bed duplex units of 3 storeys (c.12.8 - 15.8 metres in height) with terraces and balconies on the north and south elevations, two apartment blocks of 4 storeys (c.13.5 metres in height) with 4 no. 1-bed units, 20 no. 2-bed units and 6 no. 3-bed units with balconies on the north, east and south elevations. The development will also include 18 on-curtilage car parking spaces associated with the detached dwelling units, 43 at-grade car parking spaces associated with the duplex units, 47 car parking spaces at basement level of the apartment block (c.1,808 sqm), 2,929 sqm of open space, including a children's play area and all associated site development works above and below ground, including site services.

The projects outlined were reviewed. It is considered that cumulative effects on biodiversity, with other existing and proposed developments in proximity to the application area, would be unlikely, neutral, not significant and localised. It is concluded that no significant effects on biodiversity will be seen as a result of the proposed development alone or in combination with other projects.

No significant cumulative impacts are likely in relation to the proposed development.

Residual Impacts and Conclusion

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential effects on the terrestrial, mammalian, avian and aquatic sensitive receptors through the application the standard construction and operational phase controls. No significant effects on biodiversity are likely. Residual effects on biodiversity are considered to be: Low adverse / site / Negative Impact / Not significant / long term.

References

1. **Bat Conservation Ireland 2004** on-going, *National Bat Record Database.* Virginia, Co. Cavan
2. **Boyd, I. and Stebbings, R.E. 1989** Population changes in brown long-eared bats (*Plecotus auritus*) in Bat Boxes at Thetford Forest. *Journal of Applied Ecology* **26**: 101 - 112
3. **Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1982**
4. **Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979**
5. **EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive) 1992**
6. **Jefferies, D.J. 1972** Organochlorine insecticide residues in British bats and their significance. *Journal of Zoology*, London **166**: 245 - 263
7. **Kelleher, C. 2004**, Thirty years, six counties, one species – an update on the lesser horseshoe bat *Rhinolophus hipposideros* (Bechstein) in Ireland – *Irish Naturalists' Journal* **27**, No. 10, 387 – 392
8. **Kelleher, C. 2015** *Proposed Residential Development, Church Road, Killiney, Dublin: Bat Fauna Study*. Report prepared for Altemar Marine and Environmental Consultants
9. **Marnell, F., Kingston, N. and Looney, D. 2009** *Ireland Red List No. 3: Terrestrial Mammals.* National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin
10. **Racey, P.A. and Swift, S.M. 1986** The residual effects of remedial timber treatments on bats. *Biological Conservation* **35**: 205 – 214
11. **Smal, C.M.** 1995 *The Badger & Habitat Survey of Ireland.* The Stationery Office, Dublin
12. **Wildlife Act 1976 and Wildlife [Amendment] Act 2000**. Government of Ireland.
13. NPWS (2021) Conservation Objectives: Glenasmole Valley SAC 001209. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
14. NPWS (2017) Conservation Objectives: Wicklow Mountains SAC 002122. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
15. Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
16. NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
17. NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
18. NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
19. NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
20. NPWS (2021) Conservation Objectives: Knocksink Wood SAC 000725. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
21. NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
22. NPWS (2013) Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
23. NPWS (2012) Conservation Objectives: Baldoyle Bay SAC 000199. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
24. NPWS (2019) Conservation Objectives: Ballyman Glen SAC 000713. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht.
25. NPWS (2017) Conservation Objectives: Bray Head SAC 000714. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
26. NPWS (2022) Conservation objectives for Dalkey Islands SPA [004172]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
27. NPWS (2022) Conservation objectives for Wicklow Mountains SPA [004040]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
28. NPWS (2022) Conservation objectives for Howth Head Coast SPA [004113]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.
29. NPWS (2022) Conservation objectives for Ireland's Eye SPA [004117]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.

Bat Fauna Survey for the proposed development of an All-Weather Pitch at Oatlands College, Mount Merrion, Blackrock, Co. Dublin.

11th April 2023

Prepared by: Bryan Deegan (MCIEEM) of Altemar Ltd.
On behalf of: Dún Laoghaire Rathdown County Council.

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie
Directors: Bryan Deegan and Sara Corcoran
Company No.427560 VAT No. 9649832U
www.altemar.ie

SUMMARY

Structure:	There are no structures onsite. The site consists of a greenfield serving as an amenity sports pitch for Oatlands College.
Location:	Oatlands College, Mount Merrion, Blackrock, Co. Dublin.
Bat species present:	None Roosting. Minor foraging within the proposed site.
Proposed work:	Development of an All-Weather Pitch.
Impact on bats:	No confirmed bat roosts bat roosts will be lost. No trees of bat roosting potential are noted on site. The proposed development will change the local environment as new structures are to be erected and some of the existing vegetation will be removed. The development is likely to displace bats from foraging at the site during construction. Based on the small number of common species found using the site the displacement from this site it will not have any significant effect on local bat populations, and that any such effect will be only significant at the local level. No bat roosts or high potential bat roosts will be lost due to this development. If any trees that are heavily clad in ivy are to be felled, these will be inspected by a bat ecologist prior to felling. Extensive measures have been implemented to limit light spill from lighting including lighting design and timing of lights. Essentially timing of lights are restricted during the active bat season. The residual impact is considered to be minor adverse/not significant in the short term and low beneficial positive in the long term.
Survey by:	Bryan Deegan MCIEEM
Survey date:	13th September 2022.

Receiving Environment

Background

Dún Laoghaire Rathdown County Council intend to apply for planning permission for the proposed development of an All-Weather Pitch at Oatlands College, Mount Merrion, Blackrock, Co. Dublin.

The proposed all-weather pitch (135m x 86m) shall include third generation synthetic surfacing, floodlighting, fencing, retaining walls, ballstop netting, temporary changing facilities, tree planting and all ancillary works. The site as outlined in red on the site location plan is approximately 1.65 Hectares.

The proposed site outline, location, general arrangement plan, and elevations are demonstrated in Figures 1-3.

Arborist

An Arboricultural Assessment report has been prepared by Arborist Associates Ltd. to accompany this planning application. In relation to tree loss as a result of the proposed development, this report outlines the following:

'*19 individually tagged trees and c.36m of hedging are proposed for removal along the northern boundary mostly from its western end to facilitate the proposed development of this area for a new all-weather pitch.'*

'To help minimize impact on Tree Nos.1714 – 1718 & 17365-1737, it will be necessary to review the construction techniques in this area so as to reduce the encroachment of the works into their root zones. This may need to look at some sort of pile wall or pre-build wall prior to the main excavations occurring within this area so as to reduce the extent of excavation in this area which could be detrimental to these trees.

It will also be necessary to trim Hedge No.2 to incorporate it into the finished development and to tidy it up and it will also be necessary to carry out some trimming of side branches on some trees along this boundary in order to achieve clearance and juxtaposition with the new pitch.

Along the southern side of the school grounds which have been included within this assessment area, an additional 5No. Trees (Nos.1627, 1630, 1654, 1655 & 1666) which have been categorized as 'U' are being recommended for removal as part of management of the school grounds and are not directly affected by the proposed works.

In the design layout, great efforts have been made to retain as much of the perimeter tree vegetation as possible to ensure that this area continues to be screened off from the surrounding areas.

The greatest loss of trees from these grounds is in the north-western corner of the site area and the loss of the above listed tree vegetation is to be mitigated against with the planting of trees, shrub and hedging as part of the landscaping of the completed development which will complement the development and its incorporation into the surrounding area. It will also help to provide good quality and sustainable long-term tree cover, and as this establishes and grows in size, it will be continuously mitigating any negative impacts created with the loss of the existing tree vegetation to facilitate the proposed development.'

The tree constraints plan and tree protection plan are demonstrated in Figures 4 & 5.

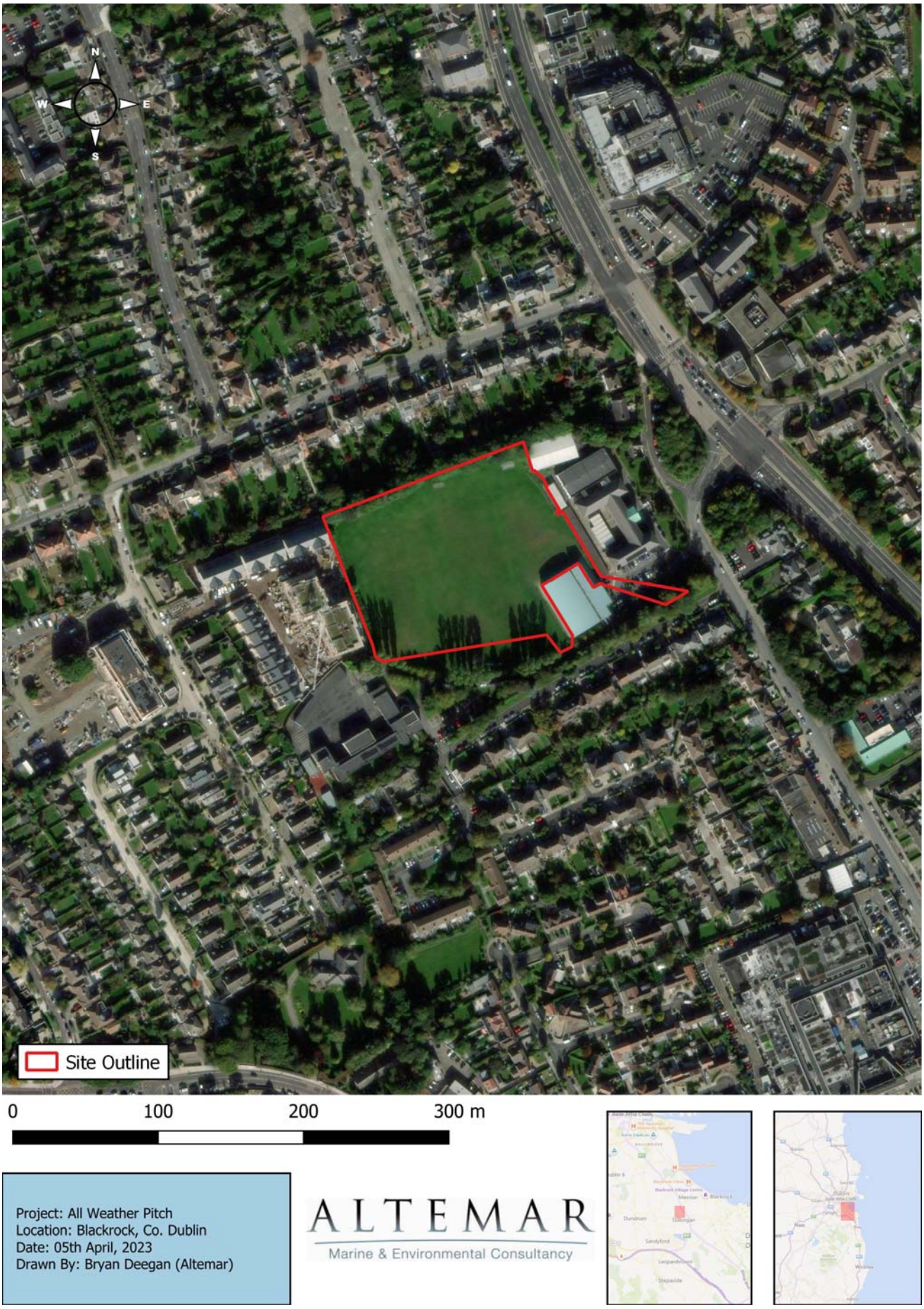


Figure 1. Site outline

Figure 2. General Arrangement Plan

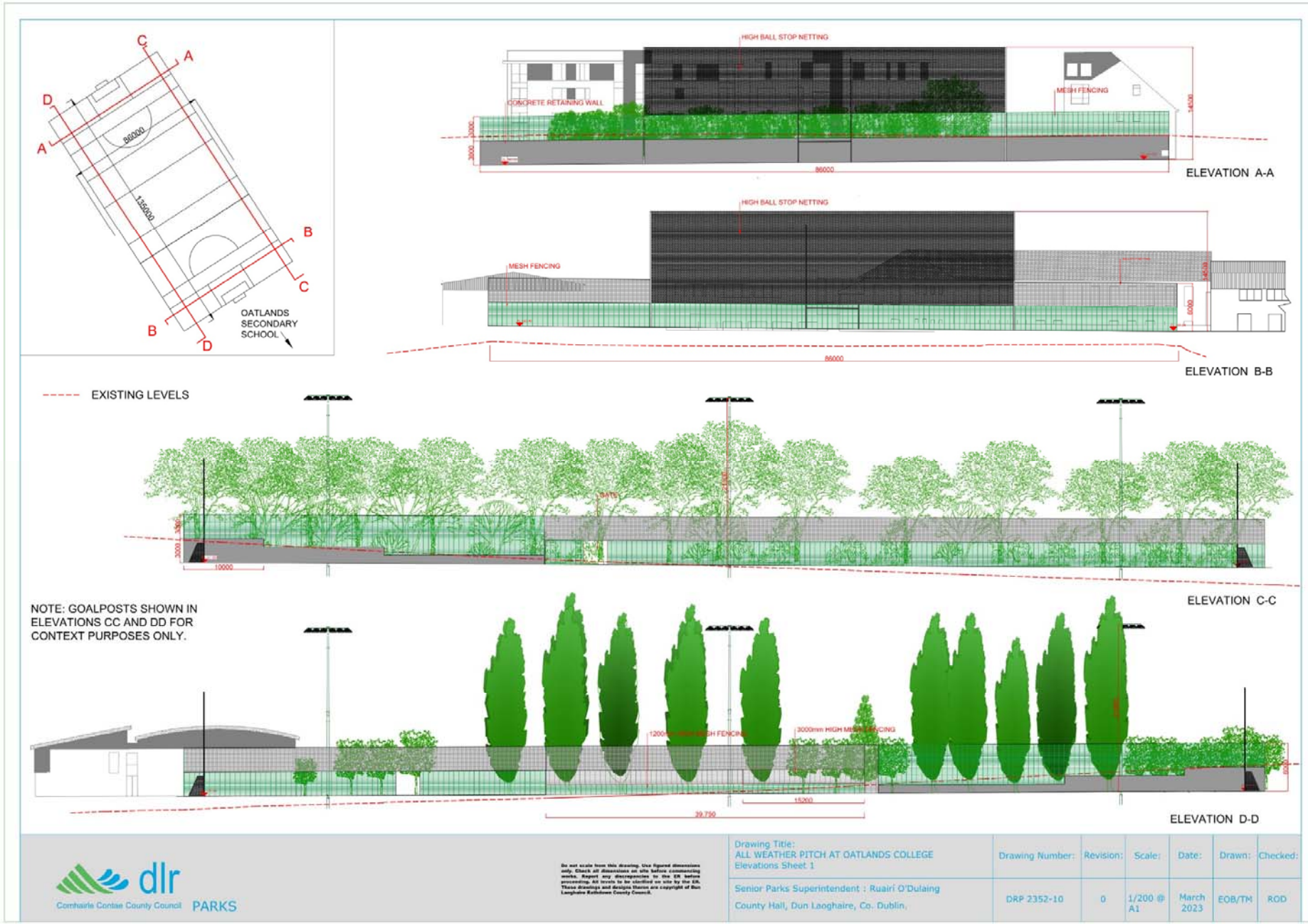


Figure 3. Proposed elevations

Figure 4. Tree constraints plan

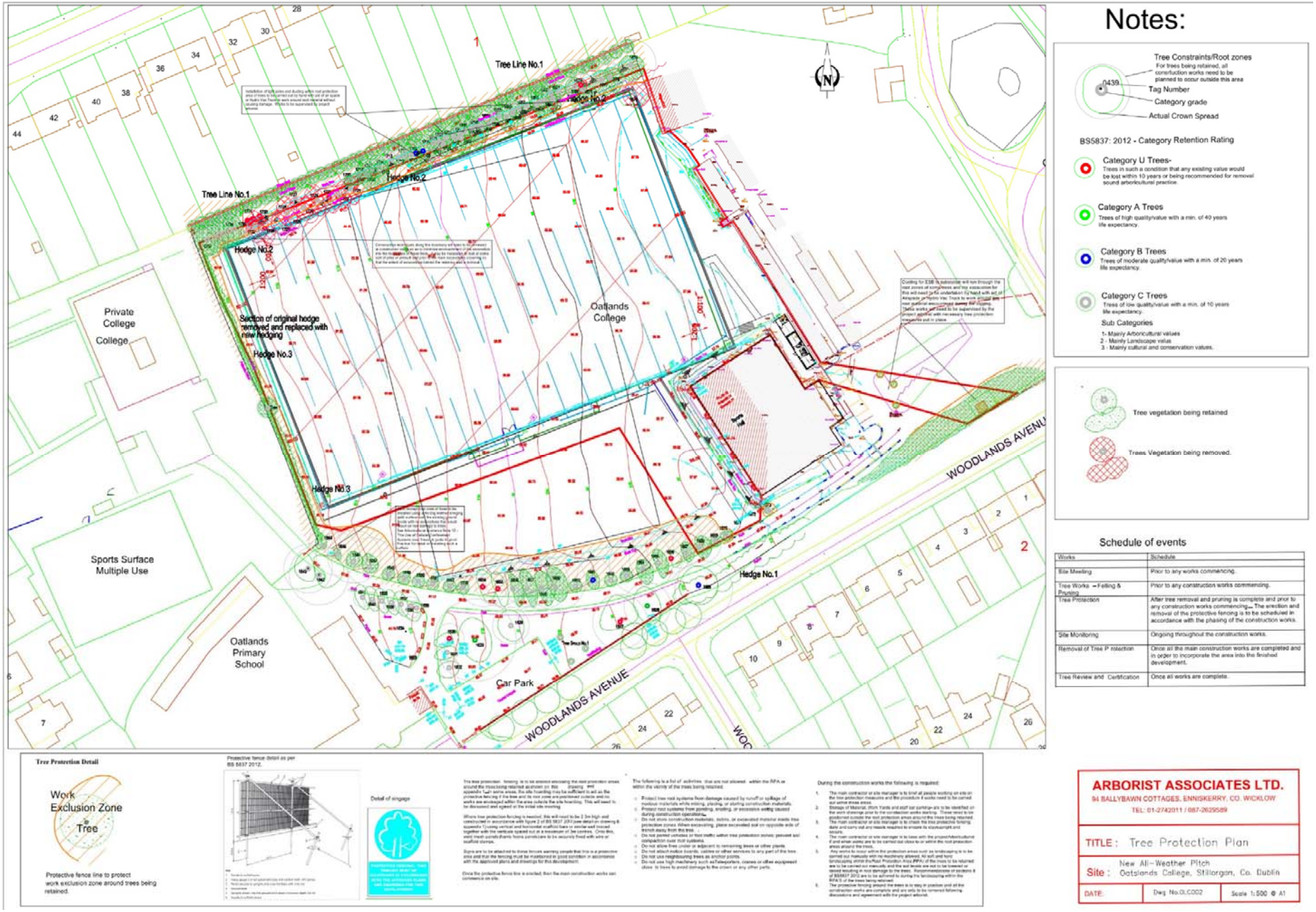


Figure 5. Tree protection plan

Lighting

The lighting strategy for the proposed development has been prepared by Musco Lighting. The proposed lighting system and light level data is outlined below:

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
S1, S3	21.3	21.3	1	TLC-LED-1200	1.17 kW	A
		21.3	5	TLC-LED-1500	7.05 kW	A
S2	21.3	21.3	2	TLC-LED-1200	2.34 kW	A
		21.3	5	TLC-LED-1500	7.05 kW	A
S4, S6	21.3	21.3	6	TLC-LED-1500	8.46 kW	A
S5	21.3	21.3	7	TLC-LED-1500	9.87 kW	A
6			***38***		***52.62 kW***	

Circuit Summary

Circuit	Description	Load	Fixture Qty
A	GAA/Football	52.62 kW	38

Fixture Type Summary

Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1200	LED 5700K - 75 CRI	1170W	150,000	>120,000	>120,000	>120,000	4
TLC-LED-1500	LED 5700K - 75 CRI	1410W	181,000	>120,000	>120,000	>120,000	34

Single Luminaire Amperage Draw Chart

Driver (.90 min power factor)	Line Amperage Per Luminaire					
Single Phase Voltage	220 (50)	230 (50)	240 (50)	380 (50)	400 (50)	415 (50)
TLC-LED-1200	6.5	6.3	6.0	3.8	3.6	3.5
TLC-LED-1500	7.9	7.6	7.3	4.6	4.4	4.2

Light Level Summary

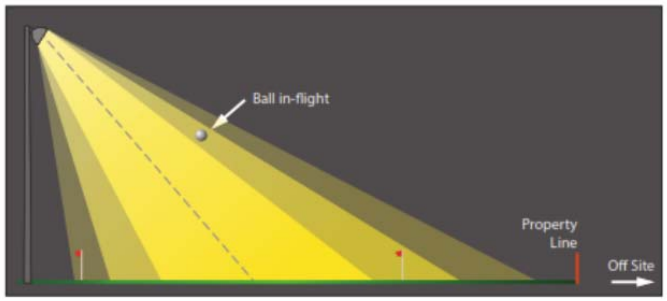
Calculation Grid Summary

Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Min/Max	Min/Ave		
Football	Horizontal Illuminance	513	392	687	0.57	0.76	A	38
GAA Spill	Horizontal Illuminance	22.4	0	389	0.00	0.00	A	38
GAA Spill	True Max Vert Illuminance	23.9	0	407	0.00	0.00	A	38
GAA	Horizontal Illuminance	517	387	702	0.55	0.75	A	38
LTW	Horizontal	0	0	0.05	0.00	0.00	A	38
LTW	True Max Vert Illuminance	0.01	0	0.14	0.00	0.00	A	38

Additionally, the Part 8 Report that accompanies this planning application outlines the following in relation to floodlighting:

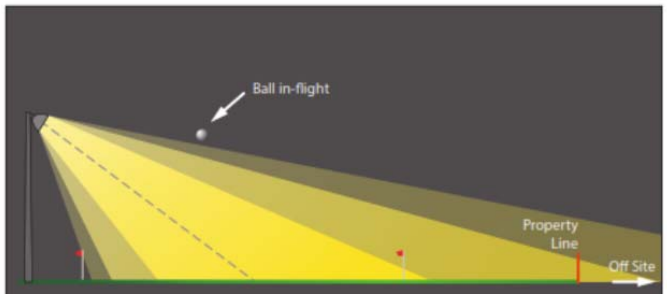
'*The floodlighting design undertaken uses the latest floodlighting design technology to reduce the impact of light spill on adjoining lands, trees and hedgerows. The floodlighting for the pitch has been designed to achieve an average light level of 500 lux which is suitable for competitive hurling. The other potential sporting uses (soccer, gaelic football, rugby) require 250 lux level so this system can be dimmed and this lighting level will be most commonly used. The lighting design uses 6no. 21m high galvanised steel columns similar to those used in the all-weather pitches throughout the county.*

Choosing the appropriate number of columns and column heights is key to the overall quality of the lighting design. Based on the size of the pitch, the sport being played, the competition level, and the application of the floodlighting system (televised or non-televised); column numbers and height requirements must be accurately assessed to ensure the aiming angle of the floodlight onto the pitch is at an appropriate degree to maintain good playability, control glare, and reduce spill light on adjoining properties and roadway. See the diagram below:



Higher Mounting Height

- Optimal control
- Limited spill
- Optimal quality of play



Lower Mounting Height

- Some control
- More spill
- Poor quality of play
- Player safety issue

The luminaires will be LED which are much more energy efficient than the metal halide alternative. Associated civil works (ducting, foundations for columns, installation of mini pillars etc) will be undertaken whilst all electrical controls and switches will be brought to the prefabricated changing rooms. A three-phase power connection and associated ESB substation may be required, and this will be located in close proximity to the sports hall.

The lighting design has been prepared in compliance with the Chartered Institute of Building Services Engineers Lighting Guide 4: Sports Lighting (CIBSE LG4) & the Institute of Lighting Professionals (ILP), Guidance Note for the Reduction of Obtrusive Light GN01:2021 and Guidance Note for Bats and Artificial Lighting in the UK GN08:2018. All lighting has been designed to be bat sensitive. The lights will provide only the amount of light necessary for the task in hand and shield the light given out in order to avoid creating glare or omitting light above the horizontal plane. The lighting design and report has been undertaken by MUSCO Lighting and is included as an appendix to the main Part 8 report (see appendix 8).

The permitted timing for the floodlighting will be from 16:00 until 22:00, Monday to Friday and from 16:00 until 21:00 Saturday and Sunday. The design of the lighting scheme minimises the incidence of light spillage or pollution in the immediate surrounding environment and has due regard to the residential amenity of surrounding areas.'

The proposed lighting equipment layout is demonstrated in Figure 6.

The proposed Horizontal and Vertical illuminance (lux) levels (GAA Spill and LTW) are demonstrated in Figures 7-10.

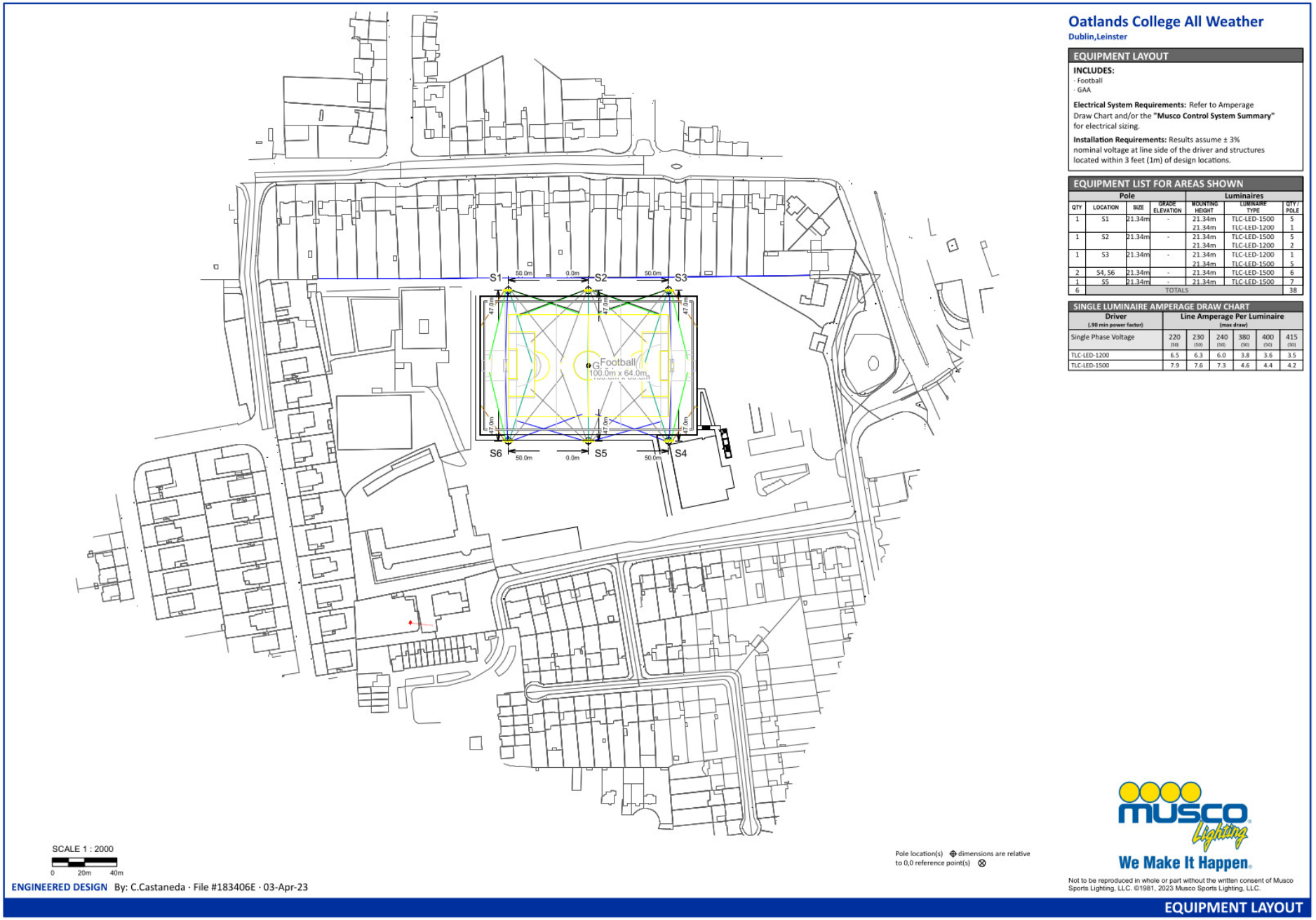


Figure 6. Proposed lighting equipment layout

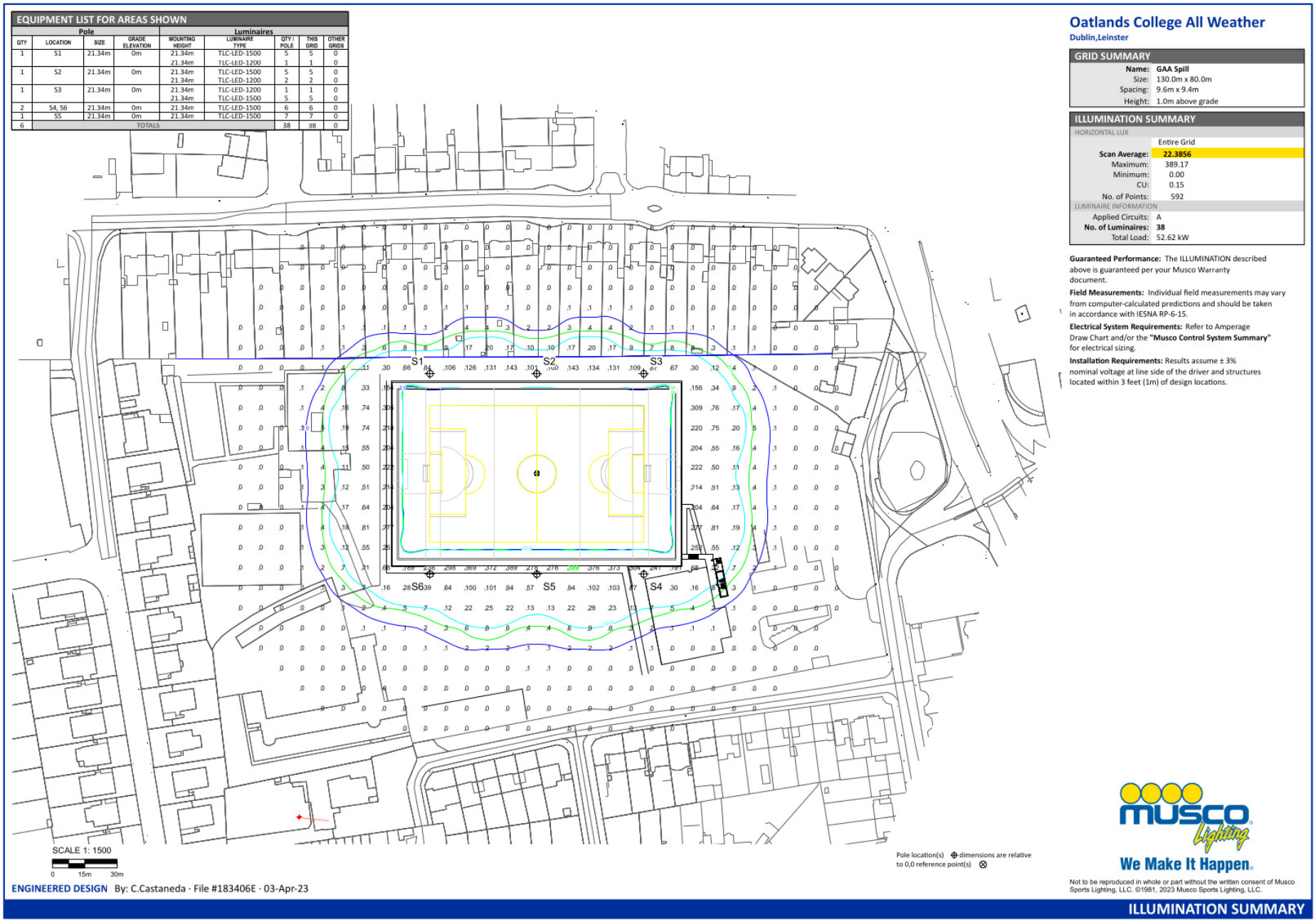


Figure 7. Horizontal lux spill (GAA Spill)

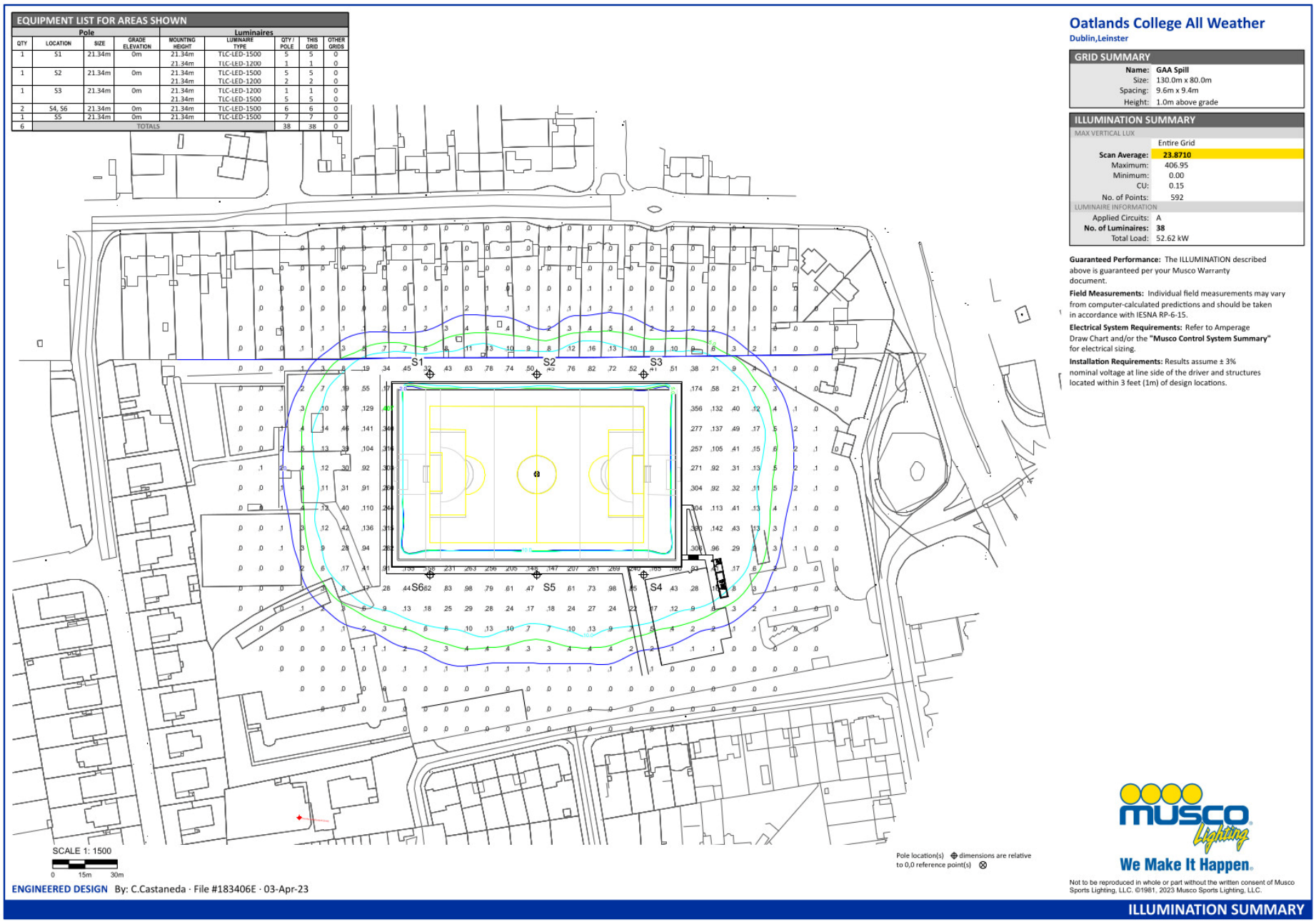


Figure 8. Max vertical lux spill (GAA Spill)

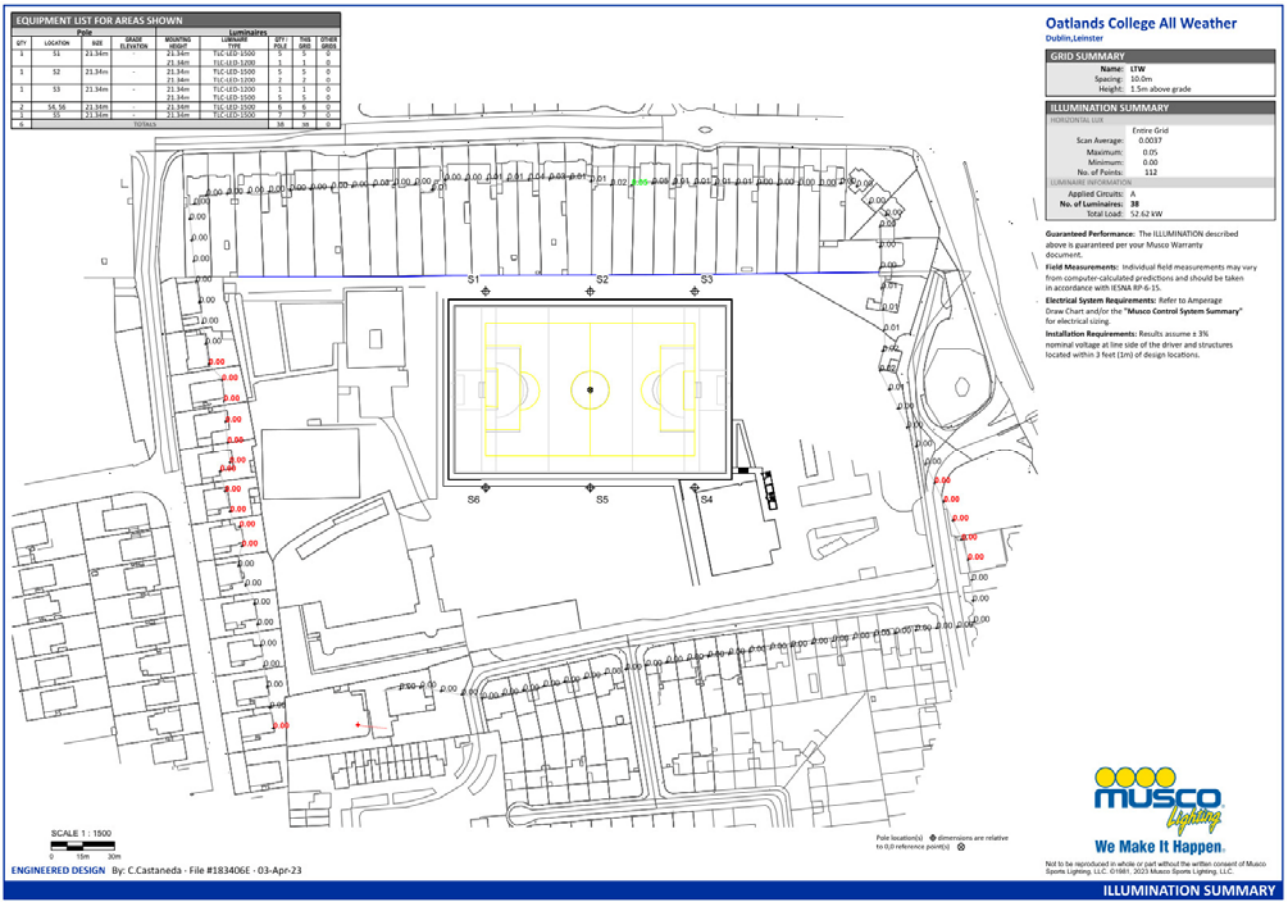


Figure 9. Horizontal lux spill (LTW)

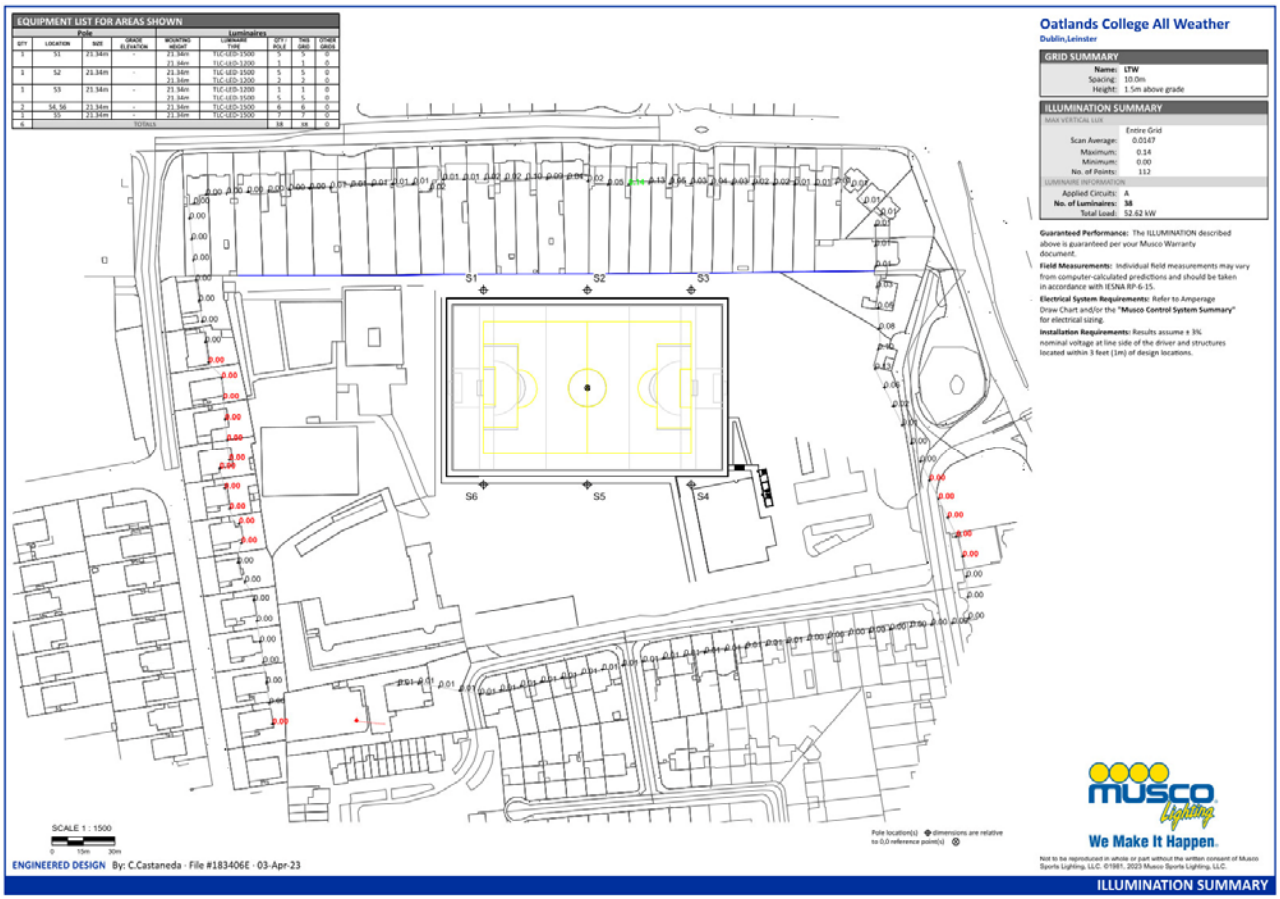


Figure 10. Vertical lux spill (LTW)

Competency of Assessor

This report has been prepared by Bryan Deegan MSc, BSc (MCIEEM). Bryan has over 28 years of experience providing ecological consultancy services in Ireland. He has extensive experience in carrying out a wide range of bat surveys including dusk emergence, dawn re-entry and static detector surveys. He also has extensive experience reducing the potential impact of projects that involve external lighting on Bats. Bryan trained with Conor Kelleher author of the Bat Mitigation Guidelines for Ireland (Kelleher and Marnell (2022)) and Bryan is currently providing bat ecology (impact assessment and enhancement) services to Dun Laoghaire Rathdown County Council primarily on the Shanganagh Park Masterplan. The desk and field surveys were carried out having regard to the guidance: Bat Surveys for Professional Ecologists – Good Practice Guidelines 3rd Edition (Collins, J. (Ed.) 2016) and Marnell, Kelleher and Mullen (2022), Bat Mitigation Guidelines for Ireland V2 (which update and replace the Bat Mitigation Guidelines for Ireland published in 2006).

Legislative Context

Wildlife Act 1976 (as amended by, inter alia, the Wildlife (Amendment) Act 2000).

Bats in Ireland are protected by the Wildlife (Amendment) Act 2000. Based on this legislation it is an offence to wilfully interfere with or destroy the breeding or resting place of any species of bat. Under this legislation it is an offence to "*Intentionally kill, injure or take a bat, possess or control any live or dead specimen or anything derived from a bat, wilfully interfere with any structure or place used for breeding or resting by a bat, wilfully interfere with a bat while it is occupying a structure or place which it uses for that purpose. "*

Habitats Directive- Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora has been transposed into Irish Law, including, via, *inter alia*, the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended). See Art.73 of the 2011 Regulations which revokes the 1997 Regulations.

Annex II of the Council Directive 92/43/EEC 1992 on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) lists animal and plant species of Community interest, the conservation of which requires the designation of Special Areas of Conservation (SACs); Annex IV lists animal and plant species of Community interest in need of strict protection. All bat species in Ireland are listed on Annex IV of the Directive, while the Lesser Horseshoe Bat (*Rhinolophus hipposideros*) is protected under Annex II which related to the designation of Special Areas of Conservation for a species.

Under the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), all bat species are listed under the First Schedule and, pursuant to, *inter alia*, Part 6 and Regulation 51, it is an offence to:

- Deliberately capture or kill a bat;
- Deliberately disturb a bat particularly during the period of breeding, hibernating or migrating;
- Damage or destroy a breeding site or resting place of a bat;
- Keep, sell, transport, exchange, offer for sale or offer for exchange any bat taken in the wild.

Bat survey

This report presents the results of site visit by Bryan Deegan (MCIEEM) on the 13th September 2022. A bat emergent and detector survey was carried out. Trees on site were examined for bat roosting potential.

Survey methodology

As outlined in Marnell et al. 2022 '*The presence of a large maternity roost can normally be determined on a single visit at any time of year, provided that the entire structure is accessible and that any signs of bats have not been removed by others. However, most roosts are less obvious. A visit during the summer or autumn has the advantage that bats may be seen or heard. Buildings (which for this definition exclude cellars and other underground structures) are rarely used for hibernation alone, so droppings deposited by active bats provide the best clues. Roosts of species which habitually enter roof voids are probably the easiest to detect as the droppings will normally be readily visible. Roosts of crevice-dwelling species may require careful searching and, in some situations, the opening up of otherwise inaccessible areas. If this is not possible, best judgement might have to be used and a precautionary approach adopted. Roosts used by a small number of bats, as opposed to large maternity sites, can be particularly difficult to detect and may require extensive searching backed up by bat detector surveys (including static detectors) or emergence counts.'* In relation to the factors influencing survey results the guidelines outlines the following *'During the winter, bats will move around to find sites that present*

the optimum environmental conditions for their age, sex and bodyweight and some species will only be found in underground sites when the weather is particularly cold. During the summer, bats may be reluctant to leave their roost during heavy rain or when the temperature is unseasonably low, so exit counts should record the conditions under which they were made. Similarly, there may be times when females with young do not emerge at all or emerge only briefly and return while other bats are still emerging thus confusing the count. Within roosts, bats will move around according to the temperature and may or may not be visible on any particular visit. Bats also react to disturbance, so a survey the day after a disturbance event, may give a misleading picture of roost usage.'

The survey involved the methodologies outlined in Collins (2016) which included the roost inspection methodologies i.e. external methodology outlined in section 5.2.4.1 and the internal survey outlines in section 5.2.4.2 of the guidelines. In addition, the methodologies for Presence absence surveys (Section 7) was carried out for dust emergent surveys.'

As outlined in Collins (2016) 'The bat active period is generally considered to be between April and October inclusive (although the season is likely to be shorter in northern latitudes). However, because bats wake up during mild conditions, bat activity can also be recorded during winter months.'

Survey Results

Trees as potential bat roosts.

A ground level roost assessment was carried and used to examine the trees on site for features that could form bat roosts. Potential roosting features include heavy ivy growth, broken limbs, areas of decay, vertical or horizontal cracks, cracks in bark etc. None of the trees on site had features that would be considered to be of importance to roosting bats. All trees on site were assessed. No bats, evidence of bats or bat roost were identified in any of the onsite trees. Several trees are heavily clad in ivy and would be considered to be of low bat roosting potential.

Emergent/detector surveys.

Emergent/detector surveys were carried out by Bryan Deegan on the 13th September 2022 (Sunset 19:46) and the 13th September 2022 (Sunset 19:46) (Survey time 17.00-01:00).

The detector surveys were undertaken within the active bat season and the transects covered the entire site multiple times during the night. Weather conditions were good with mild temperatures of 16°C after sunset. Winds were light and there was no rainfall. Insects were observed in flight during both surveys.

As outlined in Collins (2016) in relation to weather conditions '*The aim should be to carry out surveys in conditions that are close to optimal (sunset temperature 10°C or above, no rain or strong wind.), particularly when only one survey is planned…. Where surveys are carried out when the temperature at sunset is below 10°C should be justified by the ecologist and the effect on bat behaviour considered.*' There were no constraints in relation to the surveys carried out. All areas of the site were accessible and weather conditions were optimal for bat assessments.

At dusk, bat detector surveys were carried out onsite using a*n Echo meter touch 2 Pro* detector to determine bat activity. Bats were identified by their ultrasonic calls coupled with behavioural and flight observations.

No bats were noted foraging within the subject site. During the September 2022 survey, a single Common Pipistrelle (*Pipistrellus pipistrellus sensu lato*) was observed foraging along a treeline located to the south of the subject site (Figure 14).

Bat assessment findings

Review of local bat records

The review of existing bat records (sourced from Bat Conservation Ireland's National Bat Records Database) within a 2km^2 grid (Reference grid O12Z) encompassing the study area reveals that one of the nine known Irish species have been observed locally (Table 1). The National Biodiversity Data Centre's online viewer was consulted in order to determine whether there have been recorded bat sightings in the wider area. This is visually represented in Figures 11-13. The following species were noted in the wider area: Daubenton's Bat

(*Myotis daubentonii*), Natterer's Bat (*Myotis nattereri*), Whiskered Bat (*Myotis mystacinus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), and Lesser Noctule (*Nyctalus leisleri*) (Figures 11-13).

Table 1: *Status of bat species within a 2km^2 grid encompassing the subject site (Reference no. O12Z)*

Species name	Record count	Date of last record	Note
Lesser Noctule (*Nyctalus leisleri*)	3	01/04/2001	National Bat Database of Ireland

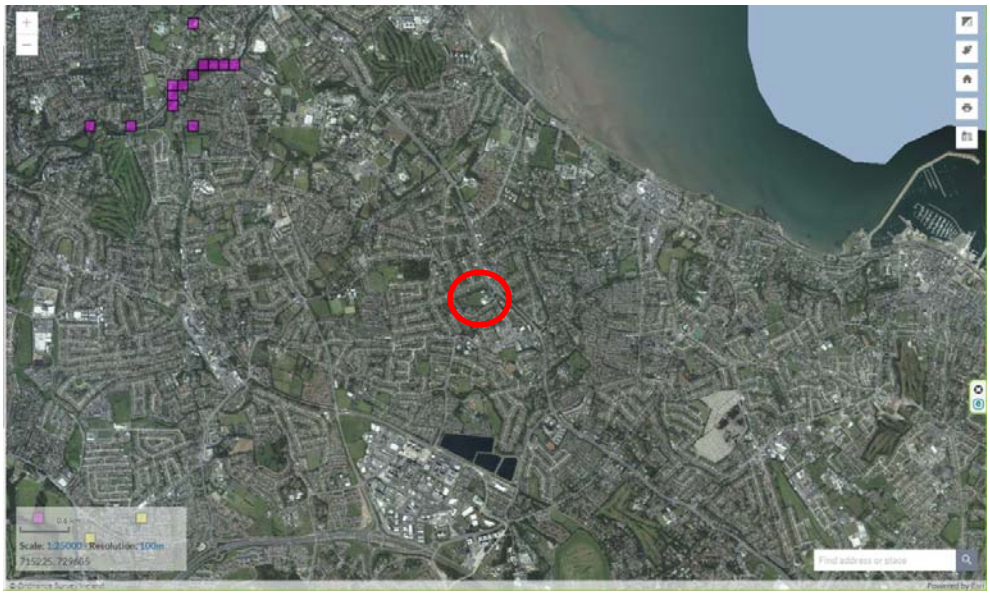


Figure 11. *Daubenton's Bat (Myotis daubentonii) (purple) and Natterer's Bat (Myotis nattereri) (yellow) (Source NBDC) (Site location – red circle)*

Figure 12. *Natterer's Bat (Myotis nattereri) (purple) and Whiskered Bat (Myotis mystacinus) (yellow) (Source NBDC) (Site location – red circle)*

Figure 13. *Lesser Noctule (Nyctalus leisleri) (purple), Soprano Pipistrelle (Pipistrellus pygmaeus) (yellow), and both Soprano Pipistrelle and Lesser Noctule (orange) (Source NBDC) (Site location – red circle)*

Evaluation of Results

The bat surveys comply with bat survey guidance documentation including Marnell et al (2022) and Collins (2016). No bats were observed emerging from trees or buildings on site. Minor bat activity was noted south of the site by a single common pipistrelle bat. The site is of relatively low importance to the local bat population.

Potential Impact of the development on Bats

No trees of high bat roosting potential were noted on site or proximate to the site. Several trees are clad in ivy which may form small interim bat roosts are deemed to be of low bat roosting potential. No buildings of bat roosting potential are on site. Lighting during construction and operation has the potential to impact on foraging of bats on site in the absence of mitigation. Discussions took place between Altemar and Musco Lighting consultants to ensure that the proposed lighting did not significantly impact on foraging bat activity within the grounds and introduce excessive light spill into the surrounding environment. Ball netting will be visible to bat species and would not be expected to cause entanglement problems. Mitigation measures will be required to limit light spill to protect bat foraging areas.

Plate 1. Trees clad in ivy

Mitigation Measures

As outlined in Marnell et al. (2022) "*Mitigation should be proportionate. The level of mitigation required depends on the size and type of impact, and the importance of the population affected*." In addition as outlined in Marnell et. al (2022) '*Mitigation for bats normally comprises the following elements:*

- *Avoidance of deliberate, killing, injury or disturbance – taking all reasonable steps to ensure works do not harm individuals by altering working methods or timing to avoid bats. The seasonal occupation of most roosts provides good opportunities for this*
- *Roost creation, restoration or enhancement – to provide appropriate replacements for roosts to be lost or damaged*
- *Long-term habitat management and maintenance – to ensure the population will persist*
- *Post-development population monitoring – to assess the success of the scheme and to inform management or remedial operations.'*

As no evidence of a bat roost there is no requirement for a *National Parks and Wildlife Service* derogation licence application to allow the planned works. No lighting is foreseen during the construction phase during the months of bat foraging. However, as a precaution, if trees clad in ivy are to be felled these will be insoected and if lighting is required at any stage during construction, all lighting will be done sensitively on site in consultation with a project ecologist, with no direct lighting of the treelin or main bat foraging areas. If any trees that are heavily clad in ivy are to be felled, these will be inspected by a bat ecologist prior to felling. A post construction bat survey and light spill assessment will be carried out to ensure compliance with the lighting plan. Additional planting of native trees will be carried out in consultation with the project ecologist to assist in the ling term control of light spill on site.

Predicted Residual Impact of Planned Development on Bats

The proposed development will change the local environment as new lights are to be erected and some of the existing vegetation will be removed. No bat roosts or potential bat roosts will be lost or impacted due to this development and the species expected to occur onsite will persist. In the absence of mitigation minor loss of foraging areas through the site will be seen when lighting is on. However, mitigation has been placed within the design and operation of the proposed lighting. During operation time restrictions will be in place. The residual impact is considered to be minor adverse/not significant in the long term. However, it should be noted that the planting of additional trees will improve the site for bat foraging and potential bat roosting in the long term.

Figure 14. *Bat foraging. Common Pipistrelle (Pipistrellus pipistrellus sensu lato) (yellow)*

References

Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1

Marnell, F., Kelleher, C. & Mullen, E. (2022). *Bat mitigation guidelines for Ireland V2. Irish Wildlife Manuals, No. 134*. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

Chartered Institute of Ecology and Environmental Management (2021). *Bat Mitigation Guidelines: A guide to impact assessment, mitigation and compensation for developments affecting bats. Beta version.* Chartered Institute of Ecology and Environmental Management, Winchester.

Chartered Institute of Ecology and Environmental Management (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal, and Marine.* Chartered Institute of Ecology and Environmental Management, Winchester.

Institution of Lighting Professionals (2018). *Bats and Artificial Lighting in the UK – Bats and the Built Environment Series: Guidance Note 08/18.* Institution of Lighting Professionals and the Bat Conservation Trust.

Department of Housing, Planning and Local Government (December, 2018). *Urban Development and Building Heights Guidelines for Planning Authorities***.**

Bat Conservation Trust (May 2022). *Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys.* The Bat Conservation Trust, London.

Bat Conservation Ireland 2004 on-going, *National Bat Record Database.* Virginia, Co. Cavan

Boyd, I. and Stebbings, R.E. 1989 Population changes in brown long-eared bats (*Plecotus auritus*) in Bat Boxes at Thetford Forest*. Journal of Applied Ecology* **26**: 101 - 112

Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1982

Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979

EC Directive on The Conservation of Natural habitats and of Wild Fauna and Flora (Habitats Directive) 1992

Jefferies, D.J. 1972 Organochlorine insecticide residues in British bats and their significance. *Journal of Zoology*, London **166**: 245 - 263

Kelleher, C. 2004, Thirty years, six counties, one species – an update on the lesser horseshoe bat *Rhinolophus hipposideros* (Bechstein) in Ireland – *Irish Naturalists' Journal* **27**, No. 10, 387 – 392

Kelleher, C. 2015 *Proposed Residential Development, Church Road, Killiney, Dublin: Bat Fauna Study*. Report prepared for Altemar Marine and Environmental Consultants

Marnell, F., Kingston, N. and Looney, D. 2009 *Ireland Red List No. 3: Terrestrial Mammals.* National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin

Marnell, F., Kelleher, C., & Mullen, E. (2022), BAT MITIGATION GUIDELINES FOR IRELAND – V2 https://www.npws.ie/sites/default/files/publications/pdf/IWM134.pdf

Racey, P.A. and Swift, S.M. 1986 The residual effects of remedial timber treatments on bats. *Biological Conservation* **35**: 205 – 214

Smal, C.M. 1995 *The Badger & Habitat Survey of Ireland.* The Stationery Office, Dublin

Wildlife Act 1976 and Wildlife [Amendment] Act 2000. Government of Ireland.

Appendix II – Wintering Bird Survey

Oatlands College Winter Bird Surveys 2022-2023

Introduction

Between November 2022 and March 2023 10 winter bird surveys (two per month) were undertaken at lands at Oatlands College, in Stillorgan, South County Dublin, by Hugh Delaney, a freelance Ecologist (Birds primarily) having completed work on numerous sites with ecological consultancies over 10+ years. Hugh is local to the Dun Laoghaire-Rathdown area in Dublin and is especially familiar with the bird life and its ecology in the environs going back over 30 years.

Winter Bird Survey Methodology

Winter bird surveys are conducted from soon after sunrise until late in the afternoon, or alternatively started later in the day until sunset, the site is monitored throughout the survey period and all bird species utilizing the site recorded, including species flying through overhead. Checks are also made on suitable habitat nearby or adjacent to the site for comparative purposes and to monitor any interchange of birds between sites. Target species (species of more special interest) utilizing the site will be mapped and estimates of the time these species frequented the site recorded.

Site Location

Fig. 1 Oatlands College site, survey area outlined in red, yellow 'x' primary vantage point position for surveys giving full overview of the site.

Site Description

Site located in urban South County Dublin, site comprising of green playing field area bordered by school buildings to east, tree lines to south and north and apartments to the west.

Specific site survey methodology

Vantage point observations were undertaken primarily at the position marked at the northwest corner of site, giving optimal views of the site area, and also ideally suited to observe species passing over the site, also occasional forays around site made (when not disturbing foraging birds). Early survey visits and later survey visits were made alternatively between surveys to ascertain bird movements early in the day and later in the day. Pitches checked for evidence of Brent Goose scat on each visit.

November 10th, 2022

Sunrise- 07.41hrs/Sunset 16.37hrs. Weather – Wind F4 Southwest, Cloud 7/8, Dry, 14c, Excellent visibility. On-site 07.45hrs – 13.45hrs.

Species recorded – Black-headed Gull, Herring Gull, Oystercatcher, Robin, Wren, Pied Wagtail, Grey Wagtail, Goldcrest, Coal Tit, Long-tailed Tit, Goldfinch, Greenfinch, Bullfinch, Feral Pigeon, Woodpigeon, Jackdaw, Hooded Crow, Magpie.

07.45hrs-12.00hrs – Observing from V.P. from 07.45hrs. Oystercatcher (<1) flew southeast over site (height 20m) at 08.47hrs. Herring Gull (<12) and Black-headed Gull (<15) noted passing over site from 07.50hrs, first birds noted foraging on-site at 10.20hrs with a peak of six Herring Gull foraging on-site at 11.40hrs and two Black-headed Gull foraging on-site from 10.25-11.40hrs. Pied Wagtail (<3) foraging on pitches throughout morning. Grey Wagtail (<2) noted foraging on road bordering south side of site from 11.15hrs-11.25hrs. No other target species recorded.

12.00hrs-13.45hrs – Observing from V.P. from 12.15hrs, Herring Gull (<11) and Black-headed Gull (<2) noted foraging on-site from 12.15-12.25hrs. From 12.25hrs to 13.45hrs pitches in use for school recreational activities. Bullfinch (<2), Greenfinch (<1) and Goldfinch (<6) noted foraging in cover bordering site with small numbers of other passerines. No other target species recorded.

November 26th, 2022

Sunrise- 08.09hrs/Sunset 16.15hrs. Weather – Wind F4 South, Cloud 8/8, Dry, 12c, Excellent visibility. On-site 07.45hrs – 13.45hrs.

Species recorded – Black-headed Gull, Herring Gull, Common Gull, Oystercatcher, Robin, Wren, Pied Wagtail, Long-tailed Tit, Feral Pigeon, Starling, Woodpigeon, Sparrowhawk, Jackdaw, Hooded Crow, Magpie.

10.00hrs-12.00hrs – Observing from V.P. from 10.00hrs, pitches in school recreational use throughout morning, Herring Gull (<15) and Black-headed Gull (<25) noted passing over the site at intervals, no other target species recorded.

12.00hrs-16.00hrs – Observing from V.P. from 12.00hrs, school recreational activities on-site until 13.30hrs, Herring Gulls (<30) and Black-headed Gulls (<18) noted passing over site mainly moving north and east in this period. From 13.45hrs Herring Gull numbers foraging on-site peaked at 34 birds at 15.00hrs (averaging approx. 20 overall on-site at one time), Black-headed Gull (<2) foraging on-site in afternoon from 13.45hrs. Common Gull (<3) foraging on-site from 14.15hrs. Oystercatcher (<1) noted foraging at the east side of site from 14.25hrs to 14.55hrs. A Sparrowhawk passed west over site at 15.34hrs flushing all foraging Gulls off site. No other target species recorded.

December 16th, 2022

Sunrise- 08.35hrs/Sunset 16.06hrs. Weather – Wind F2 Southwest, Cloud 0/8, Dry, 3c, Excellent visibility. On-site 08.30hrs – 14.30hrs.

Species recorded – Black-headed Gull, Herring Gull, Common Gull, Oystercatcher, Robin, Wren, Pied Wagtail, Grey Wagtail, Long-tailed Tit, Blue Tit, Coal Tit, Goldcrest, Blackbird, Mistle Thrush, Redwing, Fieldfare, Song Thrush, Goldfinch, Feral Pigeon, Woodpigeon, Jackdaw, Hooded Crow, Magpie.

08.30hrs-12.00hrs – Observing from V.P. from 08.30hrs, Oystercatcher (<2) foraging in center of site from 10.05-10.40hrs. Herring Gull (<up to 3) and Black-headed Gull (<up to 4) foraging on-site from 09.40-11.50hrs. Pied

Wagtail (<2) and Mistle Thrush (<1) also foraging intermittently on-site. Herring Gull (<20) and Black-headed Gull also noted passing over site (averaging 25m height). No other target species recorded.

12.00hrs-14.30hrs – Observing from V.P. from 12.00hrs, Common Gull (<2) foraging on-site from 12.10-12.50hrs. Oystercatcher (<1) foraging on-site at east end from 12.23-12.42hrs. Redwing (<2) and Fieldfare (<1) noted at north boundary of site at 12.30hrs. Herring Gull (<10) and Black-headed Gull (<4) noted passing over site. No other target species recorded.

December 23rd, 2022

Sunrise- 08.38hrs/Sunset 16.09hrs. Weather – Wind F2 Southeast veering Southwest, Cloud 8/8, Light rain, 7c, Excellent visibility. On-site 10.00hrs – 16.00hrs.

Species recorded – Black-headed Gull, Herring Gull, Common Gull, Oystercatcher, Brent Goose, Robin, Wren, Pied Wagtail, Long-tailed Tit, Blue Tit, Goldcrest, Blackbird, Mistle Thrush, Redwing, Song Thrush, Goldfinch, Chaffinch, Feral Pigeon, Woodpigeon, Jackdaw, Hooded Crow, Magpie.

10.00hrs-12.00hrs – Observing from V.P. from 10.00hrs, Oystercatcher (<5) foraging in center of site from 10.35hrs-11.20hrs, one remaining until 12.15hrs. Brent Geese (<45) were observed moving southwest past site (Off-site) at 10.42hrs, height 25m (it was not established what site these birds are foraging in). Herring Gull (<35) and Black-headed Gull (<20) observed passing over the site. Peak count of five Herring Gull foraging on-site at 11.15hrs and Black-headed Gull (<3) foraging on-site from 11.05-12.20hrs. Redwing (<12 noted foraging on-site from 10.30hrs intermittently into the afternoon.

12.00hrs-16.00hrs – Observing from V.P. from 12.00, Herring Gull peaking at 25 birds foraging on site at 14.10hrs, with Black-headed Gull peaking at 11 foraging on-site at 13.40hrs. Common Gull (<5) foraging on-site intermittently from 13.00-15.15hrs. Oystercatcher (<7) foraging on-site from 12.55hrs-14.20hrs when flushed off-site by dog walkers. Herring Gull (<40) and Black-headed Gull (<25) passing over site during afternoon mainly moving east and north. No other target species recorded.

January 3rd, 2023

Sunrise- 08.40hrs/Sunset 16.19hrs. Weather – Wind F3 South, Cloud 8/8, Showers, 10c, Excellent visibility. On-site 08.30hrs – 14.30hrs.

Species recorded – Herring Gull, Lesser black-backed Gull, Oystercatcher, Brent Goose, Robin, Dunnock, Wren, Pied Wagtail, Long-tailed Tit, Blue Tit, Coal Tit, Goldcrest, Blackbird, Mistle Thrush, Redwing, Song Thrush, Fieldfare, Goldfinch, Linnet, Feral Pigeon, Woodpigeon, Sparrowhawk, Jackdaw, Hooded Crow, Magpie.

08.30hrs-12.00hrs – Observing from V.P. from 10.00hrs. Oystercatcher (<1) arrived on-site at 09.45hrs, joined by 12 more at 10.34hrs, foraging until 10.50hrs when flushed off-site by a Sparrowhawk. Sparrowhawk again over site at 11.11hrs and 11.30hrs. Brent Geese (<35) passed southeast past site at 11.13hrs (off-site), height 25m. Fieldfare (<1) and Redwing (<2) foraging on-site throughout morning. Herring Gull (<15) and Black-headed Gull (<10) noted passing over site, none noted foraging on-site, no other target species recorded.

12.00hrs-14.30hrs – Observing from V.P. from 12.00hrs, at 13.00hrs Brent Geese (<50) passed northeast of site (Off-site – birds appear to be using nearby N11 as a navigational aid), height 25m. At 13.04hrs Oystercatcher (<1) passed south over the site, height 15m. Herring Gull (<4) foraging on-site from 13.15-13.40hrs. Lesser black-backed Gull (<1) over site at 13.08hrs. No other target species recorded.

January 17th, 2023

Sunrise- 08.30hrs/Sunset 16.39hrs. Weather – Wind F1 West, Cloud 5/8, Dry, 1c, Excellent visibility. On-site 10.30hrs – 16.30hrs.

Species recorded – Herring Gull, Black-headed Gull, Common Gull, Oystercatcher, Brent Goose, Robin, Dunnock, Wren, Grey Wagtail, Pied Wagtail, Long-tailed Tit, Blue Tit, Coal Tit, Goldcrest, Blackcap, Blackbird, Mistle Thrush, Redwing, Song Thrush, Bullfinch, Goldfinch, Linnet, Feral Pigeon, Woodpigeon, Sparrowhawk, Jackdaw, Hooded Crow, Magpie.

10.30hrs-12.00hrs – Observing from V.P. from 10.30hrs. Herring Gull (<8) and Black-headed Gull (<5) foraging on-site from 10.45hrs to 11.30hrs when flushed off-site. Oystercatcher (<4) passed southeast over the site at 11.35hrs (height 20m), Redwing (<20) foraging intermittently at the west side of the site from 10.30hrs to 14.00hrs. Grey Wagtail foraging on road at southside of site at 11.00hrs. Blackcap (<1) observed at northwest corner of the site at 11.50hrs. Small numbers of Herring (<10) and Black-headed Gull (<8) noted passing over site, no other target species recorded.

12.00hrs-16.30hrs – Observing from V.P. from 12.00hrs. Oystercatcher (<5) observed foraging on-site from 13.30hrs- 13.55hrs and seven birds from 14.50hrs to 15.20hrs when flushed off-site. Brent Geese were observed passing south off-site (usual flightline east of site) with 15 at 13.10hrs and 40 moving north at 15.40hrs (both 20m). Black-headed Gull foraging intermittently on-site during afternoon with peak counts of 13 at 14.15hrs, peak count of Herring Gull noted foraging on-site were 6 birds at 14.38hrs. Common Gull (<4) noted intermittently foraging on-site. Sparrowhawk noted soaring over site at 13.05hrs. No other target species recorded.

February 2nd, 2023

Sunrise- 08.08hrs/Sunset 17.10hrs. Weather – Wind F5 West, Cloud 8/8, Dry, 10c, Excellent visibility. On-site 10.30hrs – 16.30hrs.

Species recorded – Herring Gull, Black-headed Gull, Great black-backed Gull, Oystercatcher, Robin, Wren, Grey Wagtail, Pied Wagtail, Long-tailed Tit, Blue Tit, Coal Tit, Goldcrest, Blackbird, Mistle Thrush, Redwing, Song Thrush, Greenfinch, Goldfinch, Feral Pigeon, Woodpigeon, Jackdaw, Rook, Hooded Crow, Magpie.

10.45hrs-12.00hrs – Observing from V.P. from 10.45hrs. Oystercatcher (<1) foraging on-site from 11.05hrs-11.45hrs, Redwing (<20) foraging at the north side of site, Herring Gull (<25) and Black-headed Gull (<5) noted passing over site only. No other target species recorded.

12.00hrs-16.45hrs – Observing from V.P. from 12.00hrs. Black-headed Gull (<2) and Herring Gull (<1) noted foraging on-site intermittently during the afternoon. Redwing (<30) foraging throughout the afternoon on the pitches at the north and west side of the site. A Great black-backed Gull passed over site at 12.34hrs with small numbers of Herring (<15) and Black-headed Gull (<10) noted passing over the site. No other target species recorded.

February 20th, 2023

Sunrise- 07.33hrs/Sunset 17.45hrs. Weather – Wind F3 Southwest, Cloud 7/8, Dry, 11c, Excellent visibility. On-site 08.00hrs – 14.00hrs.

Species recorded – Herring Gull, Black-headed Gull, Common Gull, Oystercatcher, Robin, Wren, Grey Wagtail, Pied Wagtail, Long-tailed Tit, Blue Tit, Coal Tit, Goldcrest, Blackbird, Mistle Thrush, Song Thrush, Bullfinch, Goldfinch, Feral Pigeon, Starling, Woodpigeon, Sparrowhawk, Jackdaw, Rook, Hooded Crow, Magpie.

08.00hrs-12.00hrs – Observing from V.P. from 08.00hrs, Black-headed Gull (< up to 8) and Herring Gull (<up to 5) and Common Gull (<2) foraging on-site from 08.25hrs until 10.45hrs when recreational activities flushed birds off-site. Oystercatcher (<3) observed passing southeast over site at 11.25hrs (height 20). Sparrowhawk observed soaring over site at 09.45hrs. Similar profile of foraging passerines in cover surrounding site. No other target species recorded.

12.00hrs-14.00hrs – Observing from V.P. from 12.15hrs, Oystercatcher (<3) recorded foraging on-site mainly at east side from 13.05hrs to 13.40hrs when flushed off-site. Peak counts of Herring Gull foraging on-site were 8 birds at 13.30hrs. Pied Wagtail (<3) and Mistle Thrush (<2) also foraging on-site, no other species noted foraging on-site.

March 4th, 2023

Sunrise- 07.06hrs/Sunset 18.08hrs. Weather – Wind F2 North, Cloud 5/8, Dry, 3c, Excellent visibility. On-site 11.30hrs – 17.30hrs.

Species recorded – Herring Gull, Black-headed Gull, Lesser black-backed Gull, Brent Goose, Robin, Wren, Pied Wagtail, Long-tailed Tit, Blue Tit, Coal Tit, Goldcrest, Blackbird, Mistle Thrush, Goldfinch, Feral Pigeon, Starling, Woodpigeon, Raven, Jackdaw, Rook, Hooded Crow, Magpie.

11.30hrs-17.30hrs – Observing from V.P. from 11.30hrs. Herring Gull foraging on-site intermittently during afternoon with peak count of 11 birds made at 13.40hrs (averaging 4-5 overall). Up to 14 Black-headed Gull noted foraging on-site throughout afternoon (averaging 3-4 birds). Lesser black-backed Gull (<4) noted passing over the site during day. Brent Geese (<12) passed northeast past site (off-site) at 14.18hrs (height 25m), and another flock of 10 passed north (off-site to east of site as usual) at 16.20hrs. Herring Gull (<40) and Black-headed Gull (<20) passing over site during the day. Raven (<1) passed east over the site at 15.00hrs. Mistle Thrush (<4), Blackbird (<3), Starling (<10) and small numbers of the crow species (mainly Magpie) only other species noted foraging on-site during the afternoon, no other target species recorded.

March 21st, 2023

Sunrise- 06.25hrs/Sunset 18.39hrs. Weather – Wind F2 Southwest, Cloud 6/8, Dry, 10c, Excellent visibility. On-site 07.00hrs – 13.00hrs.

Species recorded – Herring Gull, Black-headed Gull, Lesser black-backed Gull, Robin, Wren, Pied Wagtail, Meadow Pipit, Long-tailed Tit, Blue Tit, Goldcrest, Blackbird, Mistle Thrush, Song Thrush, Goldfinch, Feral Pigeon, Starling, Woodpigeon, Sparrowhawk, Jackdaw, Rook, Hooded Crow, Magpie.

07.00hrs-13.00hrs – Observing from V.P. from 07.00hrs. Herring Gull foraging on-site occasionally during afternoon in very small numbers (peak of 6 at 14.45hrs), Black-headed Gull not noted foraging on-site with maximum of 6 birds noted passing over the site. Lesser black-backed Gull (<11) noted passing over the site (Likely migrant birds). Meadow Pipit (<10) noted also passing over the site (also likely migrants). Site otherwise quiet with Mistle Thrush (<2) foraging and observed nest building at the west side of the site. Sparrowhawk (<2) observed soaring over the site at 13.35hrs. Pied Wagtail (<2) and small number of Crow species foraging on-site, no other target species recorded.

Comments and observations on survey results

In total 37 Bird species were recorded overall at the Oatlands College site, at Stillorgan, South Dublin, during 10 surveys over the course of the winter bird survey period 2022-2023. Species recorded that are red listed as a wintering species of conservation concern (Birdwatch Ireland's birds of conservation concern in Ireland 2020-2026) that were recorded on-site were Redwing, recorded in foraging small numbers (recorded in five visits, maximum count of 30 birds in one visit). Of those species of specific interest in the context of the sites habitat type (notable species foraging on maintained grassland in the area) namely Brent Goose, Curlew, Oystercatcher and Black-tailed Godwit, only Oystercatcher was recorded foraging on-site in small numbers (less than 7 on almost all dates with the exception a peak of 13 birds recorded on January 3rd). Brent Geese were recorded passing site only (all flightlines were off-site to the east and south of site area, average flight heights c.25m). Checking for signs of Brent Geese scat on foraging area did not reveal any on all visits. Gulls species recorded foraging on-site were Black-headed Gull, Herring Gull and Common Gull, foraging in small numbers (less than 30 birds with Herring Gull being most regular).

Results suggest that the site is not a significant ex-situ foraging or roosting site for species of qualifying interest from nearby Special protection areas (SPA's). The site is frequently used by the adjacent secondary and primary schools (all week days and often weekends) this was noted as a likely negative in terms of species numbers and diversity foraging on-site and foraging periods unharrassed. A selection of passerines typical of parkland in suburban Dublin were recorded and remained consistent throughout the surveys.