

# ALTEMAR

Marine & Environmental Consultancy

Wildlife Aviation Impact Assessment for a proposed cemetery on the grounds of the Citywest Hotel, Saggart, Dublin 24.



17<sup>th</sup> July 2023

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**On behalf of:** Cape Wrath Hotel Unlimited.

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## Introduction

### Background

Following the submission of a Planning Application for the proposed development (SD22A/0457), a Request for Further Information (RFI) was issued by South Dublin County Council to Tom Phillips + Associates dated on 13<sup>th</sup> February 2023. It should be noted that detailed discussions have taken place within the project team to address the ecological points raised in the RFI.

The following Wildlife Aviation Impact Assessment has been prepared in response to point 13 A of the RFI. As outlined in the RFI in relation to Point 13A:

#### *“Aviation Safety*

*A. Due to the proximity to Casement Aerodrome, the developer should produce a Wildlife Aviation Impact Assessment and implement adequate bird control measures during the construction phase to mitigate the effects of birds on Air Corps flight operations.”* The following Wildlife Aviation Impact Assessment has been prepared by Altemar Ltd. at the request of Cape Wrath Hotel Unlimited.

### 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; aviation, oil & gas; private industry; Local Authorities; EC projects; and, State/semi-State Departments.

Bryan Deegan, prepared this Assessment. He is 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. 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). Bryan has been involved in over 20 projects for daa at Dublin Airport. These projects were both Airside and Landside within daa lands and varied considerably from small brownfield projects to large infrastructural elements including the South Apron project, Runway Overlay project and is currently involved in the daa drainage masterplan project. Bryan has been involved in these projects from initial preliminary design and planning stages to carrying out Ecological Clerk of Works for the completed projects. This included overseeing construction works both airside and landside, and ensuring works complied with daa policies in relation to wildlife management and in particular limiting the risk of wildlife strikes and in particular bird strikes as a result of both airside and landside projects. Bryan liaised with daa engineers and contractors in relation ensuring mitigation measures were carried out.

### Description of the Proposed Project

Cape Wrath Hotel Unlimited intends to apply for planning permission for a proposed cemetery on the grounds of the Citywest Hotel, Saggart, Dublin 24.

The development will consist of a cemetery including: 8,047 No. traditional burial plots; Columbarium walls; 1 No. single storey reception building (214.7m<sup>2</sup> Gross Floor Area (GFA)) comprising a reception, 1 No. office, 1 No. reception store, WC, kitchenette with photovoltaic (PV) solar panels at roof level; and the provision of an ancillary maintenance shed, bin and battery storage structures.

The development includes a new vehicular access road from Garters lane, with 2 No. vehicular access points serving the proposed cemetery; 66 No. car parking spaces (23 No. spaces to the east of the reception building and 43 No. within overflow car park areas to the south of the development); 8 No. bicycle parking stands; and all associated hard and soft landscape and boundary treatment works including the reshaping of an existing lake and provision of a footbridge; provision of SUDS measures, associated lighting, associated signage, site services (foul and surface water drainage and water supply); and all other associated site excavation, infrastructural and site development works above and below ground. The previously proposed vehicular access to the M7/N7 has been omitted from the proposed development.

The proposed development is approximately 500m from Casement Aerodrome. The Air Corps is the air component of the Permanent Defence Forces and is based at Casement Aerodrome, Baldonnel, Co. Dublin.



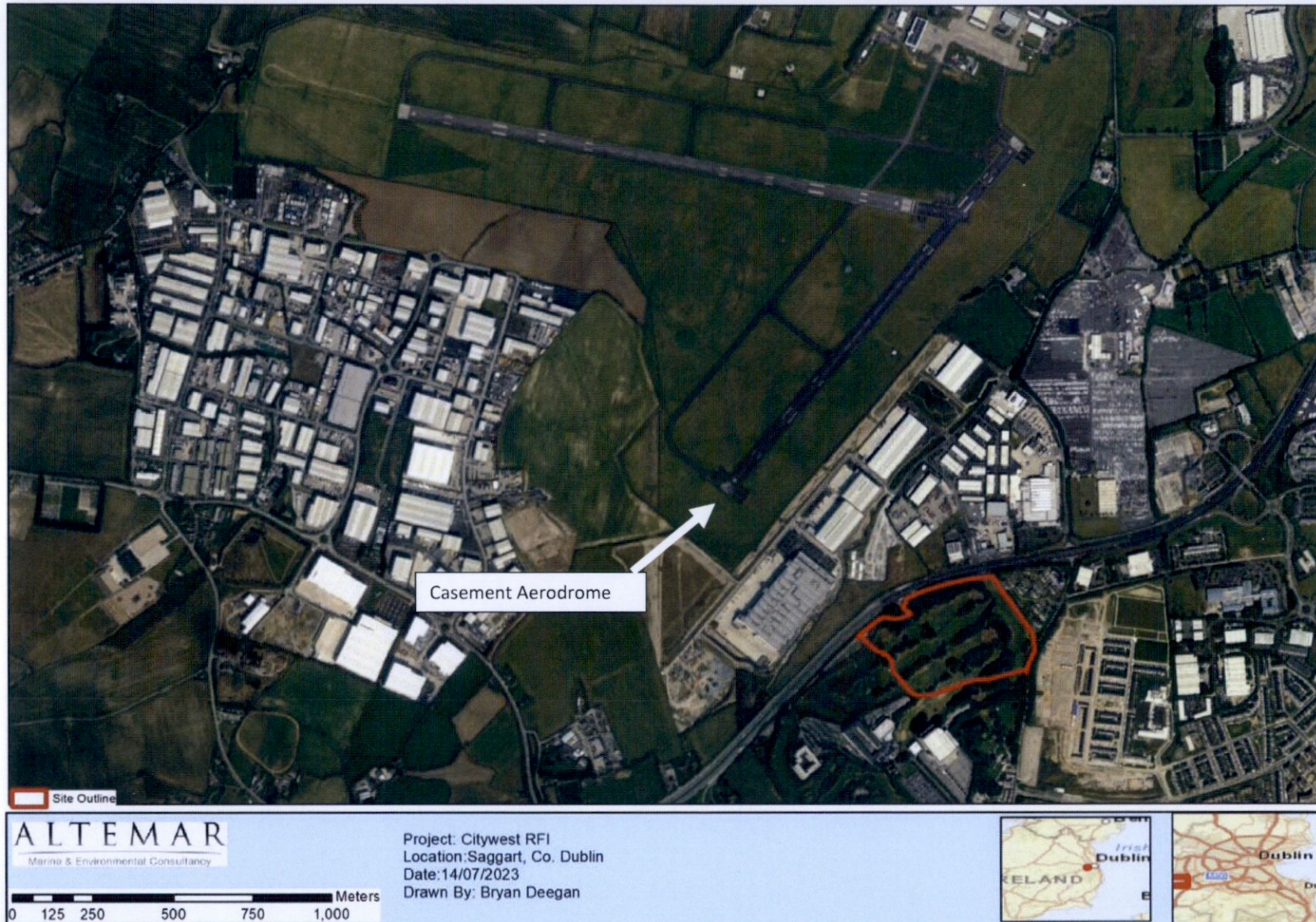


Figure 1. Site outline



## Caseement Aerodrome

Caseement Aerodrome or Baldonnell Aerodrome is a military airbase to the southwest of Dublin, Ireland situated off the N7 main road route to the south and south west. It is the headquarters and the sole airfield of the Irish Air Corps, and is also used for other government purposes. The airport is the property of the Irish Department of Defence. Baldonnell Aerodrome is also the home of the Garda Air Support Unit. Airport & runway details are seen in the following tables and flightlines in relation to the proposed development site are seen in Figure 1.

Airport ICAO Code:	EIME
Longitude/Latitude:	W 006° 27' 04.80"/N 53° 18' 06.00"-6.451333/53.301667
Elevation:	319 ft / 97.23 m
Location:	Baldonnell, Ireland
Magnetic Variation:	W 4°47.9' (2008-04)

### Runway Information

#### Runway 05/23

Dimension:	4800 x 150 ft / 1463.0 x 45.7 m	
Surface:	Asphalt, asphaltic concrete, tar macadam, or bitumen bound macadam.	
	<b>Runway 05</b>	<b>Runway 23</b>
Longitude:	-6.453536 / W 006° 27' 12.73"	-6.439183 / W 006° 26' 21.06"
Latitude:	53.293033 / N 53° 17' 34.92"	53.302997 / N 53° 18' 10.79"
End Elevation:	319.0 ft	305.0 ft
Alignment:	047.0	227.0
Slope:	-0.3	0.3
Touchdown Zone Elev.:	319.0	315.0
Lighting System 1:	High Intensity Runway Lights	High Intensity Runway Lights
Lighting System 2:		SALS or SALSF
Lighting System 3:		VASI - Visual Approach Slope Indicator
Lighting System 4:		PAPI - Precision Approach Path Indicator

#### Runway 11/29

Dimension:	6001 x 150 ft / 1829.1 x 45.7 m	
Surface:	Asphalt, asphaltic concrete, tar macadam, or bitumen bound macadam.	
	<b>Runway 11</b>	<b>Runway 29</b>
Longitude:	-6.470278 / W 006° 28' 13.00"	-6.444133 / W 006° 26' 38.88"
Latitude:	53.306944 / N 53° 18' 25.00"	53.301960 / N 53° 18' 07.06"
End Elevation:	284.0 ft	315.0 ft
Alignment:	113.0	293.0
Slope:	0.5	-0.5
Touchdown Zone Elev.:	290.0	315.0
Displaced Threshold:	0 ft	601 ft
Lighting System 1:	High Intensity Runway Lights	High Intensity Runway Lights
Lighting System 2:	Runway End Identifier Lights	Runway End Identifier Lights
Lighting System 3:	SALS or SALSF	SALS or SALSF
Lighting System 4:	PAPI - Precision Approach Path Indicator	PAPI - Precision Approach Path Indicator





<p><b>ALTEMAR</b> Marine &amp; Environmental Consultancy</p>	<p>Project: Citywest RFI Location: Saggart, Co. Dublin Date: 14/07/2023 Drawn By: Bryan Deegan</p>		
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Figure 1. Casement Aerodrome flight paths and site location.



## Landscape

A Landscape Architect's Report & Green Infrastructure Plan RFI Stage SDCC Reg. Ref. SD22A/0457 has been prepared by Murray and Associates Landscape Architecture to accompany this planning application. The report outlines the following:

The Development Plan considers Green Spaces with a High level of Sensitivity the following:

- *"Larger areas of parkland that function as both ecological refuge and green space for the urbanised lowlands. These can comprise former demesnes as in the case of Corkagh Demesne or Tymon Park or the green space associated with rivers such as the Dodder Valley Park.*
- *Key characteristics are variety of habitats, some include formal amenity space such as pitches and playgrounds, other spaces are more naturalistic and comprise a variety of habitats including water courses, ponds, woodlands."*

The area, being a former Golf course, can easily be inserted in the description above and so, the "Principles for Development" for Green spaces with High level of Sensitivity are the following:

*"Plan to enhance connections between areas of open space to former continuous networks of open space.*

- *In addition to enhancing ecological corridors and recreational experiences, such a plan would integrate fragmented developments.*

- *Consider the multi-functional potential of these spaces.*
- *Retention and enhancement of variety of habitats.*
- *Key component of green and blue infrastructure network frequently functions as a buffer for rivers.*
- *Opportunities to enhance wildlife and ecological value through appropriate planting and management informed by ecological surveys.*
- *Balance needs of informal and formal recreation.*
- *Lighting effects should be carefully considered and designed to avoid adverse effects on wildlife."*

*"The proposed use as a woodland, natural and mixed cemetery will create an attractive natural landscape. The Cemetery will be managed by a private operator and will be open for visitors and for passive recreation by the wider community."*

### Landscape Design Rationale

*"In response to the RFI Request from SDCC, a portion of the proposed perimeter access road has been removed from the application, with a consequent reduction in site area from 13.45 hectares to 12.8 hectares. The design concept aims to conserve the existing woodland landscape and redevelop the previous golf course fairways into a series of connected parkland spaces.*

*The visitor to the Cemetery, whether to attend a funeral, visit a memorial or grave, sit and reflect or to enjoy the woodlands, will understand the space firstly as a parkland with magnificent clear views and secondly as a burial/interment memorial space.*

*To this end, the golf course layout was redesigned, in the least invasive way possible, preserving the existing and retaining all of the woodland canopy. On that account, the site is divided into traditional burial, columbarium walls and a reflection space, with the site having a reception building with car parking, a road for the hearses and pathways across the site.*

*The traditional burial spaces will be located in what were the fairways, with traditional grave markers designated to pay tribute while marking the burial place. As per the ash urns, these will be located in columbarium walls. The columbarium walls punctuate the landscape, creating a sense of place and adding definition within the park. These are mostly placed in the woodland areas to reduce the visual impact while integrating them with the existing landscape.*

*The main road will be both vehicular and pedestrian and provide access to the grave plots before and after the ceremonies, as well as for ongoing maintenance of the cemetery. Each fairway includes a secondary pedestrian path that will allow easier access to the burial areas. The proposed paths have organic shapes that are adapted to the existing vegetation and will direct the visitors through the site.*



*The building will be mainly used for as a reception building for services with toilets; as well provide office for management purposes. A memorial forest with a water feature is proposed at the entrance to the reception building. This space is a reflection and mourning area, as well as an appropriately designed place where visitors can get together before and after the ceremonies.*

*The path leading from the memorial forest and reception building provides views to specimen tree at the centre of the lake, as well as views through the landscaped cemetery. The lake where the building is nestled on the eastern side is based on the reshaped existing pond and it creates a nice setting."*

*"Although the entire Cemetery reads as a managed woodland with open spaces, there are several different spaces within this, each with their own character. These are defined through form, mounding, planting and topography.*

*The traditional burials, columbarium walls and the reflection areas have a native and biodiverse plant palette, creating a sense of place. This will add to the character of the burial areas and visual interest of the landscape cemetery. The following descriptions broadly describe the types of burial/interment areas found within the memorial proposed cemetery."*

The proposed landscape strategy would be expected to reduce the potential for large flocks of birds to be seen on site and alter the site to a more wooded and enclosed habitat. This would result un more of a garden/woodland typology of smaller bird species more resident bird species which would pose a less aviation risk that the current open grassland habitat.





Figure 2. Proposed landscape masterplan





Figure 3. Proposed road layout



## **Landscape Architect's Report & Green Infrastructure Plan**

As outlined in the Landscape Architect's Report & Green Infrastructure Plan:

*'The topography of the site is primarily gentle sloping throughout, with fairways somewhat recessed from the woodland areas that are settled on subtle mounds. There are groups of mature trees that are mostly native tree species creating an established planted landscape area interspersed by open fields. The site is primarily grassland with the boundaries comprised of hedgerows and treelines.'*

### Retention of trees

*'The majority of the trees and shrubs are to be retained, woodland management and pruning is proposed where necessary. There are proposed trees throughout the site that will strengthen the existing green infrastructure by creating stronger mini corridors. A small number of shrubs will be removed to accommodate the entrance road. These shrubs will be replaced by more appropriate and suitable pollinator friendly tree planting in the development.'*

### Ecology

*'The native ecology of the park environs is considered in the design. Most of the proposed planting is composed of native species, the treelines in the park are retained as far as possible, with minimal impact where necessary, allowing the local and existing biodiversity to be managed and to flourish. The existing tree planting and the proposed tree planting cater to the bats as needed. It is also proposed to leave a large amount of any trimming etc on the floor of the woodland to enhance the biodiversity of these areas.'*

*These existing areas are strengthened within the design through additional planting and maintenance to existing tree plantations.'*

### **Planting Proposals Summary**

*'Extensive new planting is proposed to enhance the amenity value of the area, to improve visual quality, to enhance biodiversity and to provide screening of the Cemetery.'*

*The cemetery proposes an additional 395 No. trees. Native species are proposed in the majority of these spaces, with non-native species proposed in limited quantities for ornamental purposes.'*

*The burial areas are themed with a varied plant palette, creating a sense of place. This will add to the character of the burial spaces and visual interest of the Cemetery. Each plant character area will include an assortment of plant size and species to avoid monocultures and add diversity within the site.'*

*The avenue road, that leads the visitors towards the reception building, will be lined on both sides with Small Leaved Lime tree.'*

*Turkish Hazel with its elegant pyramidal crown is proposed at the memorial forest.'*

*Next to the building, around the lake area, there will be specimens of Bald Cypress with the variety 'Cascade Falls', which will give an interesting look to the whole area with its weeping structure and leaves turning yellow / copper red in autumn. It is proposed to utilise swamp cypress as the focal point in the middle of the lake.'*

*These tree cultivars are best known for their ability to withstand waterlogging, so suitable in this lake location.'*

*The site is edge by established trees. Some areas of existing trees will be bolstered by new complementary native planting, including Oak, Birch and Pinus species.'*

*All tree proposals follow the 30:20:10 rule. No more than 30% of trees from any one family, 20% from a single genus or 10% from a single species.'*



## Drainage

### Engineering Services Report

An Engineering Services Report has been prepared by CS Consulting Engineers to accompany this planning application. This report outlines the following drainage strategy for the proposed development:

#### **Foul Drainage**

##### *Existing Foul Drainage Infrastructure*

South Dublin County Council's drainage records indicate an existing 225mm diameter foul sewer traversing the subject lands from west to east. This sewer connects into an existing sewer flowing south to north. It is proposed to divert a section of the existing 225mm foul sewer, which is currently not live.

##### *Proposed Foul Drainage Arrangements*

All foul effluent generated from the proposed development shall be collected in separate foul pipes and flow under gravity, to the existing 225mm diameter foul sewer on the subject lands.

The drainage network for the development shall be in accordance with Part H of the Building Regulations and to the requirements and specifications of Irish Water.

#### **Stormwater Drainage**

##### *Existing Stormwater Drainage Infrastructure*

Following receipt of SDCC drainage records there is no storm water sewer crossing the subject lands. As noted above the current sites use as a golf course means that an artificial storm water system, of ditches and ponds, crosses the site before existing to the east.

There is a pumped stormwater system from the northern apartment block (Westpark Apartments), which outfalls an attenuated storm water flow into an existing water feature on the golf course. It is proposed to re-route this outfall.

##### *Proposed Stormwater Drainage Arrangements*

In accordance with the requirements of the SDCC Drainage Divisions all new developments are to incorporate the principles of Sustainable Urban Drainage Systems, (SuDS). The SuDS principles require a two-fold approach to address storm water management on new developments.

The first aspect is to reduce any post development run-off to pre-development discharge rates. The development is to retain storm water volumes predicted to be experienced during extreme rainfall events. This is defined as the volume of storm water generated during a 1-in-100-year storm event increased by 20% for predicted climate change factors.

To ensure an accurate calculation of the required attenuation for the site Met Eireann was contacted to provide:

- a) The SAAR (Standard Annual Average Rainfall) for the area: 731mm/year
- b) The sliding duration table for the site indicating the 1:100-year rainwater intensities to be used.

The proposed site, where hard standing is to be introduced will be attenuated to 2.0l/sec/Ha. The majority of the site will use infiltration systems to allow storm water generated on site to infiltrate the subsoil. The proposed building located close to the existing pond will require storm water attenuation. The volume required for the 1-in-100-year event (increased by 20%) is 163m<sup>3</sup>. This volume will be provided in the re-engineered pond. The current pond serves as part of the golf course and will be redeveloped as a water feature for the development.

The second aspect is the policy of the Local Authority is to include Sustainable Urban Drainage Systems, SuDS, for all new applications, as such it is proposed to use a range of SuDS devices for the scheme they are listed below:

SuDS proposal are as follows;

- Permeable paving to all new parking spaces,
- Waterbutts for local irrigation and washing down areas,
- Attenuation tank with flow control device, sized to contain a 1-in-100-year storm event and increased by 20% for the predicted climate change to limit the surface water discharge from the site during extreme rainfall events,
- Proposed roads areas will be drained via infiltration drains,
- As the vast majority of the site will be grass/porous surfaces the scheme will fully allow storm water generated on site to drain into the subsoil.'



In response to the SDCC RFI CS Consulting outlines:

### **Sustainable Urban Drainage Systems**

The proposed scheme has taken the position of incorporating a full suite of sustainable drainage systems.

Notably:

- i) The proposed roads will have a drain at either side to allow storm water generated on the roads surface to percolate back into the subsoil and to allow for groundwater recharging.
- ii) The local access internal roads will have a porous surface to allow rainwater generated on the road to percolate through the surface and recharge the groundwater table.
- iii) Carparking areas within the proposed developed will have permeable paving type surfacing. This will allow surface water generated to drain directly into the subsoils and again to aid in the re-charge of the ground water table.
- iv) The limited hard surfacing located around the main building will drain into the existing lined pond. From here a limited discharge rate, set at 2.0l/sec, will allow storm water to drain into the existing surface water course running through the site.
- v) The relatively small building footprint means that it is not practical to incorporate a green roof system into the current scheme.

### **Outline Construction and Environmental Management Plan**

An Outline Construction and Environmental Management Plan (CEMP) for the Proposed Cemetery Development was prepared by CS Consulting Engineers.

As outlined in the CEMP:

#### **"7.0 PROVISIONS FOR CONSTRUCTION**

##### **7.1 Hoarding, Set-up of Site, and Access/Egress Points**

The site area will be enclosed with hoarding, details of which are to be agreed with SDCC. Hoarding panels will be maintained and kept clean for the duration of the project.

##### **7.2 Removal of Services**

Prior to any works a utility survey will be carried out to identify existing services. All services on site will be disconnected, diverted or removed as agreed with service providers.

##### **7.3 Excavation**

This development will involve excavation and removal of material from site. It is not envisaged that rock will be encountered during the excavation works.

The appointed Contractor will engage with the project archaeologist prior to the commencement of excavation on site. Excavation will be carried out under the supervision of the project archaeologist.

The Contractor must prepare a Construction Waste Management Plan in accordance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (Department of Environment, Heritage and Local Government, 2006). The Contractor must also outline detailed proposals within the Construction & Environmental Management Plan to accommodate construction traffic.

##### **7.4 Site Service Installations**

Drainage, power, and water service connections will be installed to serve the proposed development."





Figure 4. Proposed Suds layout



## Flood Risk Assessment

A Site-Specific Flood Risk Assessment has been prepared by CS Consultants to accompany this planning application. This report concludes with the following:

### **'Fluvial Flooding**

*A review of the Office of Public Works flooding records database ([www.floodmaps.ie](http://www.floodmaps.ie)) for the area does not indicate historical flooding at the site.*

*Flood mapping developed as part of the recently adopted Development Plan, 2022 – 2028. Gives predicted flood mapping for fluvial events. The mapping does not indicate the subject lands are located within a fluvial flood zone.*

### **Tidal Flooding**

*The site's location is such that it is not affected by tidal waterbodies and as such tidal flooding is negligible.*

### **Pluvial Flooding**

*Pluvial flooding is flooding which has originated from overland flow resulting from high intensity rain fall. From a review of the OPW flood maps there are no records of flood events due to high rainfall events in the area. However, mapping prepared for the current Development Plan does indicate part of the subject lands, located around the existing artificial pond may experience pluvial flooding. This is due to the current topography of the site as the current pond is part of a local 'water feature' for the current golf course. Post development this pond will have the capacity to contain any excess water generated locally, thereby containing any pluvial rainfall.*

### **Potential for Proposed Development to Contribute to Off-Site Flooding**

*The proposed development will require attenuation to be provided. Attenuation will be sized for a 1-in-100-year extreme storm event increased by 20% for the predicated effects of climate change. The attenuation will release storm water in a controlled manner after the peak storm duration has passed. By restricting the flow, the likelihood of the proposed development adversely affecting the public drainage system or contributing to downstream flooding is mitigated. Please refer to the engineering services report.*

### **Existing Off-Site Drainage**

*It is the understanding of CS Consulting that at present there are no issues with the local drainage arrangements. The subject lands will only discharge a restricted low flow into the public system thereby reducing the hydraulic pressure on the public network during extreme rainfall events. Notwithstanding this, the development site shall be super-elevated above to the adjacent lands to prevent the egress of off-site drainage onto the site.*

### **Groundwater Flooding**

*According to the Geological Survey of Ireland, GSI, interactive maps, the subject site is underlain with Dark Limestone & Shale. The area is listed as overlaying a locally important aquifer which has bedrock which is moderately productive only in local zones. The groundwater in the area is high. The GSI data base does not indicate that the subject lands would be susceptible to groundwater flooding.*

*The likelihood of onsite flooding from the hydrological ground conditions is deemed to be minor and within acceptable levels.'*

## Mitigation Measures & Monitoring

Standard construction and operational controls will be incorporated into the proposed development project to minimise the potential negative impacts on the biodiversity within the Zone of Influence (Zoi) including the stream that leads to the Camac River.

### **Construction Phase Mitigation**

A robust series of construction phase mitigation measures are outlined in table 10 in order to help mitigate the potential impacts of the proposed development. These measures will be followed and overseen by the project ecologist.



Sensitive Receptors	Potential Impacts	Designed-in Mitigation
Camac River	<ul style="list-style-type: none"> <li>• Habitat degradation</li> <li>• Dust deposition</li> <li>• Pollution</li> <li>• Silt ingress from site runoff</li> <li>• Downstream impacts</li> <li>• Negative impacts on aquatic and bird fauna</li> </ul>	<ul style="list-style-type: none"> <li>• A project ecologist will be appointed to oversee works on site.</li> <li>• Staging of project will be carried out to the approval of the project ecologist, to reduce risks to watercourses from contamination.</li> <li>• Draining of the pond on site (if required) will be outside the bird nesting season and associated works will be overseen and carried out to the satisfaction of the project ecologist.</li> <li>• Mitigation including silt barriers will be in place.</li> <li>• Local watercourses must be protected from dust, silt and surface water throughout the works.</li> <li>• Local silt traps established throughout site.</li> <li>• Mitigation measures on site include dust control, stockpiling away from watercourse and drains</li> <li>• Stockpiling of loose materials (if required) will be kept to a minimum of 20m from watercourses and drains.</li> <li>• Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses.</li> <li>• Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, ditches or the watercourse, excavations and other locations where it may cause pollution.</li> <li>• Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations, including the attenuation tank during construction, that require pumping will not directly discharge to the stream. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality.</li> <li>• Staging of project to initially stabilise, isolate, fence off watercourse</li> <li>• Mitigation measures on site include dust control, stockpiling away from watercourses and drains</li> <li>• Stockpiling of loose materials will be kept away from watercourses and drains. A risk based approach will be taken.</li> <li>• Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses.</li> <li>• Fuel, oil and chemical storage will be sited within a bunded area.</li> <li>• Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination.</li> <li>• During the construction works silt traps will be put in place in the vicinity of all runoff channels the stream to prevent sediment entering the watercourse.</li> <li>• Petrochemical interception and bunds in refuelling area</li> <li>• On-site inspections to be carried out by project ecologist.</li> <li>• Maintenance of any drainage structures (e.g. de-silting operations) must not result in the release of contaminated water to the surface water network.</li> <li>• No entry of solids to the associated stream or drainage network during the connection of pipework to the public water system</li> <li>• No discharges will be to the watercourse during works</li> <li>• Silt traps established throughout site including a double silt fence between the site and the watercourse.</li> <li>• Sufficient onsite cleaning of vehicles prior to leaving the site and on nearby roads, will be carried out, particularly during groundworks.</li> </ul>



Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• A project ecologist will be appointed and be consulted in relation to all onsite drainage during construction works. Consultation with the project ecologist will not involve the formulation of new mitigation measures for the purposes of protecting any European Site, and relate only to the implementation of those mitigation measures already stated in the submission or the formulation of mitigation for other purposes.</li> <li>• Dewatering of excavations may be necessary. Appropriate monitoring of groundwater levels during site works will be undertaken. Standard construction phase filtering of surface water for suspended solids will be carried out. Unfiltered surface water discharges or runoff are not permitted from the site into the watercourse during the works. Trenched double silt fencing shall be put in place along boundary of the proposed development site and the stream. This fencing must be in place as one of the first stages on site and prior to the full site clearance. The silt fencing will act as a temporary sediment control device to protect the watercourse from sediment and potential site water runoff. The fencing will be inspected twice daily, based on site and weather conditions, for any signs of contamination or excessive silt deposits.</li> <li>• 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 and drainage ditches.</li> <li>• Abstraction of water from watercourses is not to be permitted.</li> <li>• 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.</li> <li>• All site personnel will be trained in the importance of good environmental practices including reporting to the site manager when pollution, or the potential for pollution, is suspected. All persons working on-site will receive work specific induction in relation to surface water management and run off controls.</li> </ul> <p><b>Air &amp; Dust</b></p> <p>Dust may enter the watercourse 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 the stream. The main activities that may give rise to dust emissions during construction include the following:</p> <ul style="list-style-type: none"> <li>• Excavation of material;</li> <li>• Materials handling and storage;</li> <li>• Movement of vehicles (particularly HGV's) and mobile plant.</li> <li>• Contaminated surface runoff</li> </ul> <p><i>Mitigation measures to be in place:</i></p> <ul style="list-style-type: none"> <li>• Consultation will be carried with an ecologist throughout the construction phase;</li> <li>• Trucks leaving the site with excavated material will be covered so as to avoid dust emissions along the haulage routes.</li> <li>• Speed limits on site (15kmh) to reduce dust generation and mobilisation.</li> <li>• The stream is to be protected from dust on site. This may require additional measures in the vicinity of the building during demolition e.g. placing of terram/protective material over the stream.</li> </ul>



Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		<p><i>Site Management</i></p> <ul style="list-style-type: none"> <li>• Regular inspections of the site and boundary should be carried out to monitor dust, records and notes on these inspections should be logged.</li> <li>• 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.</li> <li>• Make the complaints log available to the local authority when asked.</li> <li>• 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.</li> </ul> <p><i>Monitoring</i></p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> <p><i>Preparing and Maintaining the Site</i></p> <ul style="list-style-type: none"> <li>• Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.</li> <li>• Fully enclose specific operations where there is a high potential for dust production and the site is active for an extensive period.</li> <li>• Avoid site runoff of water or mud.</li> <li>• Keep site fencing, barriers and scaffolding clean using wet methods.</li> <li>• 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.</li> <li>• Cover, seed or fence stockpiles to prevent wind whipping.</li> <li>• 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.</li> <li>• Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions.</li> <li>• Maintain a vegetated strip and vehicle exclusion zone between the works and the stream in consultation with the project ecologist.</li> </ul> <p><i>Operations</i></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.</li> <li>• Use enclosed chutes and conveyors and covered skips.</li> <li>• Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.</li> </ul>



Sensitive Receptors	Potential Impacts	Designed-in Mitigation
		<ul style="list-style-type: none"> <li>• 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.</li> </ul> <p><i>Waste</i></p> <ul style="list-style-type: none"> <li>• Avoid bonfires and burning of waste materials.</li> </ul> <p><i>Measures Specific to Earthworks</i></p> <ul style="list-style-type: none"> <li>• Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.</li> <li>• Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.</li> <li>• Only remove the cover in small areas during work and not all at once.</li> <li>• 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.</li> <li>• Due to the proximity of the watercourse an ecologist will oversee works in particular the excavation of material from the perimeter of the site.</li> <li>• 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.</li> </ul> <p><i>Storage/Use of Materials, Plant &amp; Equipment</i></p> <ul style="list-style-type: none"> <li>• Materials, plant and equipment shall be stored in the proposed site compound location;</li> <li>• Plant and equipment will not be parked within 50m of the watercourse at the end of the working day;</li> <li>• Hazardous liquid materials or materials with potential to generate run-off shall not be stored within 50m of the watercourse.</li> <li>• 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;</li> <li>• 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;</li> <li>• 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. They will not be stored within 50m of the watercourse;</li> <li>• Drip trays will be turned upside down if not in use to prevent the collection of rainwater;</li> <li>• Waters collected in drip trays must be assessed prior to discharge. If classified as contaminated, they shall be disposed by a permitted waste contractor in accordance with current waste management legal and regulatory requirements;</li> <li>• 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;</li> <li>• No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction;</li> <li>• Re-fuelling of machinery, plant or equipment will be carried out in the site compound as per the appointed Construction Contractor re-fuelling controls;</li> <li>• The appointed Construction Contractor EERP will be implemented in the event of a material spillage;</li> </ul>



Sensitive Receptors	Potential Impacts	Designed-in Mitigation
<b>Birds (National Protection)</b>	<ul style="list-style-type: none"> <li>• Removal nesting habitat.</li> <li>• Removal foraging habitat.</li> <li>• Destruction and/or disturbance to nests (injury/death).</li> <li>• Predation .</li> </ul>	<ul style="list-style-type: none"> <li>• All persons working will receive work specific induction in relation to material storage arrangements and actions to be taken in the event of an accidental spillage. Daily environmental toolbox talks / briefing sessions will be conducted for all persons working to outline the relevant environmental control measures and to identify any environment risk areas/works.</li> <li>• Tree protection measures will be in place the protect retained trees. This will be inspected by an arborist prior to construction/clearance commencing on site.</li> <li>• "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.</li> <li>• Removal of/impacts on potential nesting habitats (including ponds) will be outside of bird breeding season (March to August inclusive). Should this not be possible, a pre-works check by a qualified ecologist should be undertaken to ensure nesting birds are absent.</li> <li>• Ecological supervision will be on site.</li> </ul>
<b>Bats (International Protection)</b>	<ul style="list-style-type: none"> <li>• Removal roosting/foraging habitat.</li> <li>• Lighting Impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Pre Construction survey for bats of trees to be felled and in particular tree 772, including acquisition of derogation licences if required.</li> <li>• Retain hedgerows and ivy cover on trees where possible.</li> <li>• Lighting at all stages should be done sensitively on site with no direct lighting of hedgerows and treelines.</li> <li>• Lighting of the site will be as per bat lighting guidance and approves by SDCC heritage officer and project ecologist.</li> <li>• Revised landscaping will introduce unlit foraging corridors on to the site.</li> </ul> <p>As an enhancement measure 8 x 1FF Schwegler Bat Box will be placed on site as directed by the project ecologist.</p>
<b>Woodland (Local importance)</b>	<ul style="list-style-type: none"> <li>• Loss of commuting habitat.</li> </ul>	<ul style="list-style-type: none"> <li>• Tree protection measures will be in place the protect retained trees. This will be inspected by an arborist prior to construction/clearance commencing on site.</li> </ul>
<b>Ponds</b>	<ul style="list-style-type: none"> <li>• Loss of frog habitat</li> </ul>	<ul style="list-style-type: none"> <li>• A pre-construction amphibian assessment will be carried out. The pond will be fenced off to allow for biodiversity to be undisturbed. Fencing will allow the movement of mammals to and from the pond habitat.</li> </ul>



## Wildlife Aviation Impact Assessment Conclusions

In relation to the proposed development the following should be noted:

- 1) The proposed development is not on the flight paths to the runways at Casement Aerodrome.
- 2) No significant reprofiling is required on site. The graveyard will be using the existing topography and reprofiling will be associated with the pond redevelopment and building development. Site clearance will be in the vicinity of roads, buildings and ponds. As a result, the development would not be expected to attract flock of birds during works as no significant reseeding works are proposed that would attract birds on site.
- 3) The proposed landscaping will retain and enhance the woodlands on site while also reducing the areas of open grassland. The birds noted on site are seen in Appendix II. As outlined in Appendix II "Thirty-six Bird species were recorded at the Citywest site over three breeding bird surveys in June and July 2022. Of these species recorded twelve species were proven breeding on-site these being – Coot, Mallard, Little Grebe, Moorhen, Robin, Goldcrest, Blue Tit, Coal Tit, Long-tailed Tit, Chaffinch, Willow Warbler and Wren. The species range was quite typical of Dublin parkland habitat in an urban context, the two ponds on-site being a noteworthy focal point on the site with waterbird species such as Coot, Little Grebe, Moorhen, Mallard and also Willow Warbler breeding. Breeding species recorded on-site that are amber-listed on Birdwatch Ireland's Bird of conservation concern in Ireland 2020-2026 were Coot, Mallard, Willow Warbler and Goldcrest." The proposed works would enhance the local woodland bird population which would consist of primarily of small passerines which would not pose a risk to aircraft. The landscape strategy, including the graveyard, woodland planting and islands on the pond, will reduce the likelihood of larger flocks of birds on site this reducing the risk to flights in the vicinity of the airport. Mitigation measures will be in place on site including ecological supervision.
- 4) Drainage on site will be primarily passive to ground. The existing pond will receive surface water from the building on site. There will be no increase in water features that would attract birds to the site.

### Conclusion

A Wildlife Aviation Impact Assessment for a proposed cemetery on the grounds of the Citywest Hotel, Saggart, Dublin 24. The proposed development is not beneath the flightlines of Casement Aerodrome. The proposed development will reduce the potential wildlife risk to Casement Aerodrome. No significant reprofiling is required on site during construction. The proposed landscaping and graveyard proposal will increase the areas of woodland while reducing the areas of grassland on site. The pond on site will be reprofiled with islands and planted with supplementary trees. This will reduce the risk of bird flocks and larger bird species utilising the site.

The proposed project will reduce the risk to Casement Aerodrome from wildlife utilising the site.



#### Appendix I. Habitats and Species noted on site.

A site assessment was carried out on the 4<sup>th</sup> & 28<sup>th</sup> September 2020 and 24<sup>th</sup> September 2022. Habitats within the proposed site were classified according to Fossitt (2000) (Figure 18) based on the 24<sup>th</sup> September 2022 field survey.

##### A) GA2- Amenity grassland

The site is a managed golf course and contains approximately 50%-60% well maintained amenity grassland. It should be noted that as seen in Plate 1 the grassland extends beneath tree canopies on site. This habitat has poor species diversity and herbicide use was evident. Species in the area include creeping buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), daisy (*Bellis perennis*), plantains (*Plantago spp.*), dandelion (*Taraxacum spp.*), thistles (*Cirsium sp.*) and docks (*Rumex spp.*). Frogs (*Rana temporaria*) were noted in this habitat, in the south east corner of the site proximate to the stream. A grey heron (*Ardea cinerea*) was observed foraging on frogs in this area.



**Plate 1:** Amenity grassland primarily well managed golf fairways.



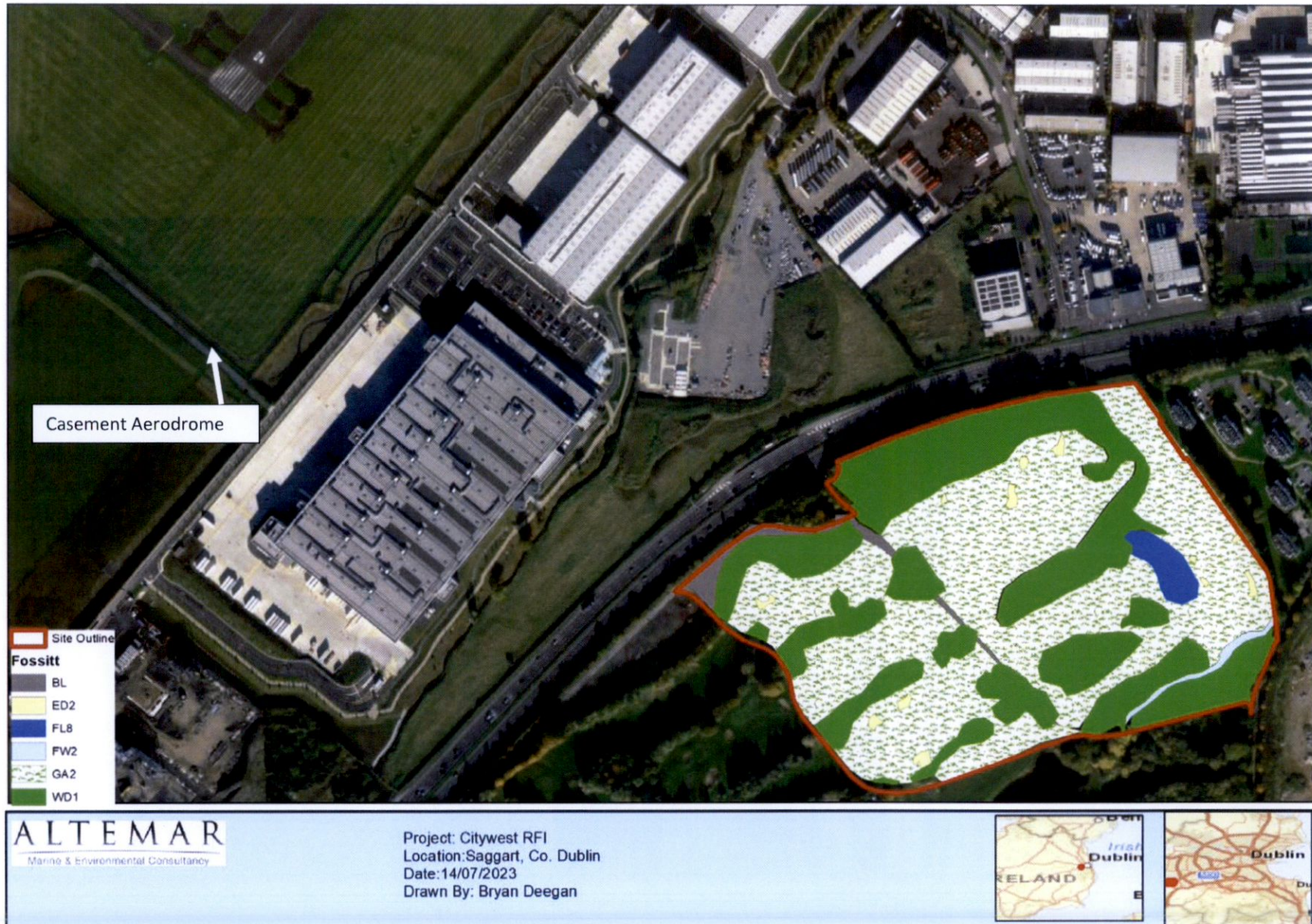


Figure 18. Fossitt Habitat Map.



## B) WD1 (Mixed) broadleaved woodland

The vast majority of the remainder of the site consists of (Mixed) broadleaved woodland. Although narrow in parts, as the trees run parallel to the fairways, the width of the tree lines are greater than 4m which is the limit for treelines (WL2) within the Fossitt classification. Also, several areas of this woodland habitat may be considered WD5 (Scattered trees and Parkland). However, the trees are within clusters and it was considered that an overall habitat of (Mixed) broadleaved woodland was appropriate, even though mown grass is beneath a portion of the habitat. It should also be noted that the northern boundary of the site is adjacent to the N7 Dual carriageway and the background noise of the road in this area was significant. The understory of flora proximate to the fairways was limited as the site is maintained as a golf course and herbicide use was evident. Further away from the fairways the understory was allowed to develop. However, tree planting in these areas was dense and light hitting the floor of the woodland was limited. As a result a thick understory was not prevalent and many of the trees grew tall and thin, limiting their potential for bat use. Flora in this area included bramble (*Rubus fruticosus* agg.), dog-rose (*Rosa caninacantha*), hedge bindweed (*Calystegia sepium*), dandelion (*Taraxacum* spp.), rosebay willowherb (*Epilobium angustifolium*), thistles (*Cirsium arvense* & *C. vulgare*), cat's-ear (*Hypochaeris radicata*), ivy (*Hedera helix*), honeysuckle (*Lonicera periclymenum*), cleavers (*Galium aparine*), cherry laurel (*Prunus laurocerasus*), rosebay willowherb (*Epilobium angustifolium*), hoary willowherb (*Epilobium parviflorum*), hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*), ivy (*Hedera helix*), honeysuckle (*Lonicera periclymenum*), and traveller's-joy (*Clematis vitalba*). Trees include common oak (*Quercus robur*), beech (*Fagus sylvatica*), Austrian pine (*Pinus nigra*), silver birch (*Betula pendula*), blue cedar (*Cedrus atlantica* 'Glauca'), Black Poplar (*Populus X canadensis*), Scots pine (*Pinus sylvestris*), Norway maple (*Acer platanoides*), horse chestnut (*Aesculus hippocastanum*), sycamore (*Acer pseudoplatanus*), sweet chestnut (*Castanea sativa*), larch (*Larix* sp.), Laburnum (*Laburnum anagyroides*), rowan (*Sorbus aucuparia*), field maple (*Acer campestre*), turkey oak (*Quercus cerris*), common lime (*Tilia X europaea*), alder (*Alnus glutinosa*), douglas fir (*Pseudotsuga menziesii*), lawson cypress (*Chamaecyparis lawsoniana*), goat willow (*Salix caprea*) and copper beech (*Fagus sylvatica* 'Purpurea'). It should be noted that no active borrows or setts were noted on site. However, several trees of bat roosting potential were noted on site (Appendix I). The woodland provides a significant nesting resource for birds that utilise the site.



Plate 2. Woodland proximate to fairway . Clearing in woodland away from fairways (inset).



**C) FL8 Other artificial lakes and ponds**

A single large artificial pond is located on the eastern portion of the site. It is proposed to remove this pond. There is also a smaller pond on the southern portion of the redline and it is proposed to partially infill this pond. The prominent species recorded were common bullrush (*Typha latifolia*), sedges (*Carex* sp.), rushes (*Juncus* sp.), broad leaved pondweed (*Potamogeton natans*) and the submerged Eurasian watermilfoil (*Myriophyllum spicatum*), bistort (*Persicaria amphibia*), water forget-me-not (*Myosotis scorpioides*), common duckweed (*Lemna minor*), yellow flag (*Iris pseudacorus*), water-cress (*Rorippa nasturtium-aquatica*), water mint (*Mentha aquatica*), willows (*salix* sp.). A pair of coot (*Fulica atra*) (amber status) were noted in the pond. Common frog (*Rana temporaria*) was not noted but would be expected in this habitat.



**Plate 3.** Large Pond

**BL Built Land.**

Areas of built land on site primarily consist of active roads and an existing gate lodge. Herbicide use was evident. Species in these areas included nettle (*Urtica dioica*), dandelion (*Taraxacum* spp.), bramble (*Rubus fruticosus* agg.), pineapple weed (*Matricaria discoidea*) creeping buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), daisy (*Bellis perennis*), plantains (*Plantago* spp.), thistles (*Cirsium arvense* & *C. vulgare*), docks (*Rumex* spp.) and scarlet pimpernel (*Anagallis arvensis*). The Gate Lodge was inhabited and no bats were noted emerging from the building during the bat survey. It should be noted that this building is proximate to the N7 dual carriageway, with very high traffic noise levels.





**Plate 4.** Built Land.

#### Evaluation of Habitats

The proposed development site is comprised of the grounds of a large maintained golf course, where the grassland habitat and the majority of the understory of the woodland are maintained and are of poor importance to biodiversity. However, the woodland on site, through the provision of mature large native trees, including large mature oaks, forms a locally important biodiversity resource, primarily for nesting birds, insects and foraging corridors for bats (away from the noise of the N7). Several trees of bat roosting potential were also noted. Due to the presence of frogs on the grassland in the vicinity of the stream and pond area, it would be expected that frogs would utilise the pond area in addition to the coot (amber listed) bird.

#### Evaluation of Species

##### **Plant Species**

The plant species encountered at the various locations on site are detailed above. No rare or plant species of conservation value were noted during the field assessment. Records of rare and threatened species from NPWS were examined and the National Biodiversity Data centre. No rare or threatened plant species were recorded in the immediate vicinity of the proposed site at a fine resolution.

##### **Amphibians**

The common frog (*Rana temporaria*) was observed on site and there are several water features/ponds/drainage ditches or streams on site that would act as areas where frogs could be found.

##### **Bats**

A bat fauna study was carried out (Appendix I). As outlined in Appendix I due to the high noise levels on site as a result of the proximity to the N7 dual carriageway bat activity in the northern portion of the site may be limited. However, it appears that as noise levels decreased towards the mid and southern sections of the site bat activity significantly increased and was primarily focused along the fairways which acted as foraging routes for bat species. Within the dense forest areas the trees have been planted densely and are tall and of limited use to bats. However, the larger and more mature trees in small isolated groups away from the N7 would be of greater importance to roosting and foraging.

As outlined in Appendix I, no specific bat roost was identified in any of the onsite trees. However, as a number of bats are active onsite and mature trees onsite have potential for bat use mitigation measures to safeguard these animals are needed during vegetation clearance and tree removal. A single tree of bat roosting potential is to be



removed (Tree 772). As outlined in Appendix I, a derogation licence is not required to fell the trees of roosting potential as no actual bat roosts were observed. However, it recommended that a pre-construction survey is carried out and in particular on tree 772.

### **Terrestrial Mammals**

The initial field surveys were carried out in September. This is a poor time to observe terrestrial mammal activity. However, given the nature of the highly maintained environment and the limited undergrowth within the forested areas this is not seen as a constraint as all areas of the site were accessible. No protected mammals or, their resting or breeding places were noted on site. However, given the lack of human activity on site since the survey due to the Covid 19 pandemic, it is recommended that a pre-construction survey is carried out. No mammal species were recorded by the NPWS rare and threatened species database in the immediate vicinity of the proposed site at a fine resolution.

### **Birds**

During the site visit a record were kept of the bird species observed on site. The following bird species were noted during the site visit (Appendix II).

#### **June 5<sup>th</sup>, 2022**

Sunrise- 05.01hrs/Sunset- 21.47hrs. Weather – Wind F2 East, Cloud 8/8, Dry, 12c, Excellent visibility. On-site 07.15hrs – 10.15 hrs.

**Species recorded** – Coot, Tufted Duck, Mallard, Little Grebe, Mute Swan, Moorhen, Grey Heron, Herring Gull, Coal Tit, Blue Tit, Bullfinch, Goldfinch, Chaffinch, Swallow, Chiffchaff, Willow Warbler, Blackcap, Goldcrest, Robin, Dunnock, Wren, Woodpigeon, Hooded Crow, Jackdaw, Magpie, Treecreeper, Blackbird, Mistle Thrush, Song Thrush, Buzzard.

**Species proved breeding** – Coot, Mallard, Blue Tit, Goldcrest, Wren.

#### **June 19<sup>th</sup>, 2022**

Sunrise- 04.56hrs/Sunset- 21.56hrs. Weather – Wind F1 East, Cloud 4/8, Dry, 13c, Excellent visibility. On-site 07.15hrs – 10.30 hrs.

**Species recorded** – Coot, Tufted Duck, Mallard, Little Grebe, Mute Swan, Moorhen, Grey Heron, Herring Gull, Coal Tit, Blue Tit, Great Tit, Long-tailed Tit, Bullfinch, Goldfinch, Chaffinch, Swallow, Chiffchaff, Willow Warbler, Blackcap, Goldcrest, Robin, Dunnock, Wren, Woodpigeon, Hooded Crow, Jackdaw, Magpie, Treecreeper, Blackbird, Mistle Thrush, Song Thrush, Buzzard.

**Species proved breeding** – Coot, Mallard, Little Grebe, Moorhen, Coal Tit, Blue Tit, Long-tailed Tit, Chaffinch, Robin.

#### **July 9<sup>th</sup>, 2022**

Sunrise- 05.09hrs/Sunset- 21.51hrs. Weather – Wind F1 Southwest, Cloud 7/8, Dry, 18c, Excellent visibility. On-site 07.00hrs – 10.00hrs.

**Species recorded** – Coot, Tufted Duck, Mallard, Little Grebe, Mute Swan, Moorhen, Grey Heron, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Coal Tit, Blue Tit, Bullfinch, Goldfinch, Chaffinch, Linnet, Swallow, House Martin, Chiffchaff, Willow Warbler, Blackcap, Goldcrest, Robin, Dunnock, Wren, Woodpigeon, Hooded Crow, Jackdaw, Magpie, Treecreeper, Blackbird, Mistle Thrush, Song Thrush, Buzzard.

**Species proved breeding** – Coot, Little Grebe, Moorhen, Willow Warbler, Goldcrest, Robin, Wren.

Breeding species recorded on-site that are amber-listed on Birdwatch Ireland's Bird of conservation concern in Ireland 2020-2026 were Coot, Mallard, Willow Warbler and Goldcrest.



## Appendix II. Breeding Bird Surveys 2022 for a proposed cemetery on the grounds of the Citywest Hotel, Saggart, Dublin 24.

### Introduction

In June and July 2022 breeding bird surveys were conducted at lands at Citywest, Saggart, in County Dublin. Three breeding bird surveys were completed in all by Hugh Delaney, a freelance Ecologist (Birds primarily) who has extensive surveying experience on numerous sites with ecological consultancies over 12+ years. Hugh, a lifelong birder, 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.

### Breeding Bird Survey Methodology

Breeding bird surveys are conducted from soon after sunrise or as early as so possible, taking several hours or longer depending on site size. They are conducted then in order to detect as many singing species as possible and birds that are generally more active early in the day. All species on site, singing, foraging, and passing through site are recorded, and any evidence of breeding recorded. Optimal weather conditions are chosen, if possible, in order to gather the most data.

### Site Location



**Fig. 1 Citywest site**

Site is situated at Saggart, Co Dublin, site concerns the area north of the Citywest convention center complex, bordered to the west and north by the Naas Road and to the east by Garters Lane.

### Site Description

Site (bordered in red) comprises of a former golf course with linear strips of fairways stretching the length of the site, these are bordered by tree corridors of mature trees (Mixed with deciduous species and some Pines) with interspersed understory cover throughout. Greens maintained with shorter areas of grass and longer grass areas bordering same. Significant features on-site are two ponds (bordered in yellow), a larger pond nearest the convention referred to as Pond (1) in the notes and to the north pond (2), these are bordered with smaller tree species such as birch and have well established pond edge plant habitat (Yellow flag etc.).

### Specific site survey methodology



Site traversed from east side to west side and then repeated in reverse during the breeding bird survey.

## **Survey Results**

### **June 5<sup>th</sup>, 2022**

Sunrise- 05.01hrs/Sunset- 21.47hrs. Weather – Wind F2 East, Cloud 8/8, Dry, 12c, Excellent visibility. On-site 07.15hrs – 10.15 hrs.

**Species recorded** – Coot, Tufted Duck, Mallard, Little Grebe, Mute Swan, Moorhen, Grey Heron, Herring Gull, Coal Tit, Blue Tit, Bullfinch, Goldfinch, Chaffinch, Swallow, Chiffchaff, Willow Warbler, Blackcap, Goldcrest, Robin, Dunnock, Wren, Woodpigeon, Hooded Crow, Jackdaw, Magpie, Treecreeper, Blackbird, Mistle Thrush, Song Thrush, Buzzard.

**Coot** (x11) At pond 1, Ten noted, one bird incubating at the north end of pond on a nest platform, also in same area five well-grown juveniles noted feeding and four adult birds noted around the rest of the pond area. One adult bird noted present on Pond 2.

**Tufted Duck** (x8) Eight adults noted present on Pond 1.

**Mallard** (x9) Six adult birds and three well-grown juveniles noted present in Pond 1.

**Little Grebe** (x5) Four adult birds present in Pond 1 and one adult bird present in Pond 2.

**Mute Swan** (x1) One adult present in Pond 1 at the north end.

**Moorhen** (x2) Two adult birds noted present in Pond 1.

**Grey Heron** (x1) One noted present foraging at Pond 2 at 08.10hrs.

**Herring Gull** (x10) Birds (<10 minimum) noted passing over the site, no birds observed foraging on-site.

**Coal Tit** (x5) One bird noted in song at the west side of the site at 08.35hrs.

**Blue Tit** (x18) Minimum of three pairs noted provisioning food to recently fledged young, two pairs at the west side of the site and one pair at the north end of the site.

**Bullfinch** (x1) One noted foraging in the center of the site at 07.36hrs.

**Goldfinch** (x4) Three birds noted foraging at the north end of the site and one in song at the south end of the site.

**Chaffinch** (x3) One noted in song at the west side of the site and two noted foraging at the north end of the site.

**Swallow** (x1) One observed foraging over Pond 1 at 07.45hrs.

**Chiffchaff** (x1) One in song at the east side of Pond 1 at 08.44hrs.

**Willow Warbler** (x2) One in song at Pond 1 and one in song at Pond 2 throughout the morning.

**Blackcap** (x3) Three noted in song on-site, one each at Pond 1 and Pond 2 and one at the west side of the site.

**Goldcrest** (x8) Pair noted provisioning food to recently fledged young at the west side of the site at 08.03hrs and one noted in song at the north end of the site at 08.21hrs

**Robin** (x4) Adults noted provisioning food to recently fledged young in the center of the site at 07.55hrs and one noted in song at the north end of the site.

**Dunnock** (2) Two noted in song, one at the west side of the site at 08.05hrs and one at the north end of the site at 08.31hrs.

**Wren** (x7) Four birds noted in song on-site and three recently fledged juveniles noted in center of site at 08.44hrs.



**Woodpigeon** (x8) One in song at the west side of the site at 08.45hrs and 7 noted foraging on-site.

**Hooded Crow** (x5) Five adults noted foraging on-site.

**Jackdaw** (x15) Minimum count of birds foraging on-site mainly at south end.

**Magpie** (x10) Minimum count of birds noted foraging on-site.

**Treecreeper** (x1) One in song midway along the west side of the site at 08.12hrs.

**Blackbird** (x7) Five noted foraging around the site and one in song at the west side of the site and at center of site.

**Mistle Thrush** (x1) One foraging at the north end of the site at 08.20hrs.

**Song Thrush** (x3) One in song at west side of site at 08.50hrs and two others noted foraging on-site.

**Buzzard** (x1) One calling from trees at northeast corner of site at 08.38hrs.

**Species proved breeding** – Coot, Mallard, Blue Tit, Goldcrest, Wren.

#### June 19<sup>th</sup>, 2022

Sunrise- 04.56hrs/Sunset- 21.56hrs. Weather – Wind F1 East, Cloud 4/8, Dry, 13c, Excellent visibility. On-site 07.15hrs – 10.30 hrs.

**Species recorded** – Coot, Tufted Duck, Mallard, Little Grebe, Mute Swan, Moorhen, Grey Heron, Herring Gull, Coal Tit, Blue Tit, Great Tit, Long-tailed Tit, Bullfinch, Goldfinch, Chaffinch, Swallow, Chiffchaff, Willow Warbler, Blackcap, Goldcrest, Robin, Dunnock, Wren, Woodpigeon, Hooded Crow, Jackdaw, Magpie, Treecreeper, Blackbird, Mistle Thrush, Song Thrush, Buzzard.

**Coot** (x13) At pond 1, eleven noted, one bird incubating at the north end of Pond and one on another nest platform at the south end of site, remaining birds adults and two fledged juveniles. Pair noted present at Pond 2.

**Tufted Duck** (x10) Ten adults noted present on Pond 1.

**Mallard** (x14) Ten adult birds and four well-grown juveniles noted present in Pond 1.

**Little Grebe** (x4) Pair noted tending nest platform at north end of Pond 1 and a pair also noted present at Pond 2, displaying signs of nesting behaviour (carrying nesting material).

**Mute Swan** (x1) One adult present in Pond 1 at the north end.

**Moorhen** (x8) Pair with four very recently fledged young present at Pond 1 and two other adult birds present.

**Grey Heron** (x1) One noted present foraging at Pond 1 at 07.15hrs.

**Herring Gull** (x15) Birds (<15 minimum) noted passing over the site, no birds observed foraging on-site.

**Coal Tit** (x6) Pair noted provisioning food to a minimum of four young at the west side of the site at 08.30hrs.

**Blue Tit** (x15) Minimum of two pairs noted provisioning food to recently fledged young, one pair at the west side of the site and one pair at the east side of the site.

**Great Tit** (x3) Three noted foraging on-site.

**Long-tailed Tit** (x10) Pair provisioning food to recently fledged young noted at the northwest corner of the site at 09.10hrs.

**Goldfinch** (x10) Three in song, two at the north end and one at the south end, others foraging on-site.

**Chaffinch** (x8) Pair observed provisioning food to three young at the west side of the site at 08.10hrs with others observed foraging on-site.



**Swallow** (x8) Four observed foraging over Pond 1 at 07.30hrs, others observed foraging around the site.

**Chiffchaff** (x1) One in song at the east side of Pond 1 throughout morning and another also in song at Pond 2.

**Willow Warbler** (x2) One in song at Pond 1 and two in song at Pond 2 throughout the morning.

**Blackcap** (x5) Five noted in song on-site, two at Pond 1 and one at Pond 2 and two at the west side of the site.

**Goldcrest** (x3) Three noted in song on-site, one at the north end and two at the west side of the site.

**Robin** (11) Two pairs noted provisioning food to recently fledged young on-site, both at the west side, with a few others foraging on-site.

**Dunnock** (3) Three noted in song, one at the west side of the site and two at the east side of the site.

**Wren** (x6) Minimum number of birds noted singing across the site.

**Woodpigeon** (x12) Three in song at the west side of the site at 08.45hrs and others noted foraging on-site.

**Hooded Crow** (x6) Minimum number of adults noted foraging on-site.

**Jackdaw** (x12) Minimum count of birds foraging on-site mainly at south end.

**Magpie** (x8) Minimum count of birds noted foraging on-site.

**Treecreeper** (x1) One in song midway along the west side of the site at 08.45hrs.

**Blackbird** (x9) Three in song on-site and others noted foraging around the site.

**Song Thrush** (x3) One in song at west side of site at 08.50hrs and two others noted foraging on-site.

**Buzzard** (x2) Pair calling from trees at east of site intermittently during the morning (possible breeding indication).

**Species proved breeding** – Coot, Mallard, Little Grebe, Moorhen, Coal Tit, Blue Tit, Long-tailed Tit, Chaffinch, Robin.

### July 9<sup>th</sup>, 2022

Sunrise- 05.09hrs/Sunset- 21.51hrs. Weather – Wind F1 Southwest, Cloud 7/8, Dry, 18c, Excellent visibility. On-site 07.00hrs – 10.00hrs.

**Species recorded** – Coot, Tufted Duck, Mallard, Little Grebe, Mute Swan, Moorhen, Grey Heron, Herring Gull, Lesser black-backed Gull, Black-headed Gull, Coal Tit, Blue Tit, Bullfinch, Goldfinch, Chaffinch, Linnet, Swallow, House Martin, Chiffchaff, Willow Warbler, Blackcap, Goldcrest, Robin, Dunnock, Wren, Woodpigeon, Hooded Crow, Jackdaw, Magpie, Treecreeper, Blackbird, Mistle Thrush, Song Thrush, Buzzard.

**Coot** (x26) At pond 1, three pairs present with young, two pairs with recently fledged young (4 young each to respective pairs being provisioned by parents) and a pair with 2 older young, and at Pond 2 one pair present with six fledged young.

**Tufted Duck** (x6) Six adults noted present on Pond 1.

**Mallard** (x21) Twenty-one birds present at Pond 1, nine at south end and twelve at north end.

**Little Grebe** (x7) Pair with two fledged juveniles at Pond 1 and a pair with one fledged juvenile at Pond 2.

**Mute Swan** (x1) One adult still present at the north end of Pond 1.

**Moorhen** (x7) Pair with two well developed young at Pond 1 with five adults also present.

**Grey Heron** (x1) One noted foraging at the north end of Pond 1 at 08.20hrs.

**Herring Gull** (x8) Birds (<8 minimum) noted passing over the site, no birds observed foraging on-site.



**Lesser black-backed Gull** (x1) One passed east over Pond 1 at 09.23hrs.

**Black-headed Gull** (x5) Minimum number of birds noted passing over the site, none observed foraging on-site.

**Coal Tit** (x5) Two observed foraging at the north end of the site at 07.50hrs.

**Blue Tit** (x6) Minimum of six observed foraging around the site, mainly at west side of site.

**Goldfinch** (x8) Eight birds noted foraging at the north end of the site at 07.35hrs.

**Chaffinch** (x4) Four birds noted foraging on-site.

**Linnet** (x2) Two passed east over the site at 08.35hrs.

**Swallow** (x5) Three observed foraging over Pond 1 at 08.10hrs and two at north end at 09.40hrs.

**House Martin** (x6) Minimum number noted foraging over the site during the morning.

**Chiffchaff** (x2) One in song at Pond 2 throughout morning and one observed foraging at Pond 1 at 08.15hrs.

**Willow Warbler** (x4) Pair noted provisioning food to two recently fledged young at Pond 1 at 07.55hrs.

**Blackcap** (x2) One in song at Pond 2 throughout morning and one noted foraging at the west side of the site at 09.00hrs.

**Goldcrest** (x7) Pair provisioning food to five young at the northeast corner of the site at 09.30hrs.

**Robin** (x5) Two in song, one at the north end and one at the center of the site, three juveniles calling at the west side of site at 07.35hrs.

**Dunnock** (4) One in song at east side of site at 07.25hrs and three others noted foraging on-site.

**Wren** (x10) Juveniles (minimum 6) heard calling at three locations on site, and adults noted foraging.

**Woodpigeon** (x17) Two in song at the west side of the site at and minimum 15 noted foraging on-site.

**Hooded Crow** (x8) Five adults noted foraging on-site.

**Jackdaw** (x12) Minimum count of birds foraging on-site mainly at south end.

**Magpie** (x14) Minimum count of birds noted foraging on-site.

**Treecreeper** (x1) One foraging at north end of site at 09.30hrs.

**Blackbird** (x6) Five noted foraging around the site and one in song at the east side of the site.

**Mistle Thrush** (x1) One foraging at the north end of the site at 08.20hrs.

**Song Thrush** (x4) One in song at west side of site at 08.45hrs and three others noted foraging on-site.

**Buzzard** (x2) Two noted soaring over center of site at 09.50hrs.

**Species proved breeding** – Coot, Little Grebe, Moorhen, Willow Warbler, Goldcrest, Robin, Wren.

### **Summary of Breeding Bird Survey observations at Citywest, Saggart June-July 2022**

Thirty-six Bird species were recorded at the Citywest site over three breeding bird surveys in June and July 2022. Of these species recorded twelve species were proven breeding on-site these being – Coot, Mallard, Little Grebe, Moorhen, Robin, Goldcrest, Blue Tit, Coal Tit, Long-tailed Tit, Chaffinch, Willow Warbler and Wren. The species range was quite typical of Dublin parkland habitat in an urban context, the two ponds on-site being a noteworthy focal point on the site with waterbird species such as Coot, Little Grebe, Moorhen, Mallard and also Willow Warbler breeding. Breeding species recorded on-site that are amber-listed on Birdwatch Ireland's Bird of conservation concern in Ireland 2020-2026 were Coot, Mallard, Willow Warbler and Goldcrest.