

Ó Ceallaigh Ecology

Appropriate Assessment Screening Report

Proposed Development “the provision of a lawn cemetery which will cater for grave plots, urn plots memorial garden (which will include an area for cremated remains), access roads, junction provision, parking, staff welfare building, machinery shed, boundary treatment, signage, surface water drainage, structure for the internment of cremated remains, headstone foundations and appropriate landscaping throughout the site to minimise the visual impact of the proposed development on the adjoining properties.”

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1 INTRODUCTION

1.1 BACKGROUND

Ó Ceallaigh Ecology has been requested to carry out an Appropriate Assessment (AA) Screening Report for Tobin Consulting Engineers in respect to the *Proposed Development* - “the provision of a lawn cemetery which will cater for grave plots, urn plots memorial garden (which will include an area for cremated remains), access roads, junction provision, parking, staff welfare building, machinery shed, boundary treatment, signage, surface water drainage, structure for the internment of cremated remains, headstone foundations and appropriate landscaping throughout the site to minimise the visual impact of the proposed development on the adjoining properties” in Galway city. Article 6 of the EU Habitat’s Directive (Council Directive 92/43/EEC) requires that all plans and projects are screened for potential impacts upon Special Areas of Conservation (SACs) and/or Special Protection Areas (SPAs). The aim of this report is to establish whether or not a full AA of the Proposed Development is required.

1.2 NATURA 2000 SITES

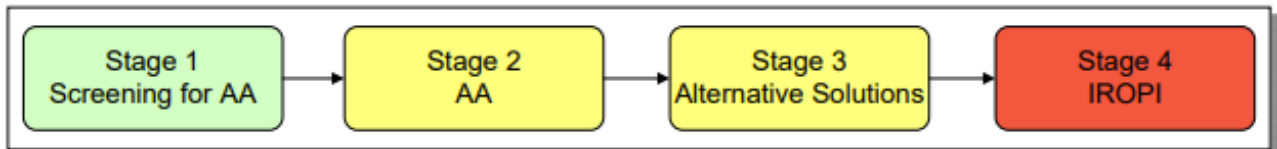
Natura 2000 sites comprise Special Area of Conservation (SAC) and Special Protection Area (SPA) designations. Natura 2000 sites are designated under European legislation; the European Union (EU) Habitats Directive 92/43/EEC and the EU Birds Directive 79/409/EEC (as amended). The EU Habitats Directive designates SACs for the protection of habitats, flora and fauna, while the EU Birds Directive designates SPAs for the protection of bird species. Collectively SACs and SPAs make up the Natura 2000 network, a network of European protected areas throughout the EU. Natura 2000 sites may also be referred to as European sites. They will hereafter be referred to as **Natura Sites** throughout this report (for short).

Annex I of the Habitats Directive lists habitats which require designation (e.g. active blanket bog, heaths, salt marsh etc.). ‘Priority’ habitats, which are considered in danger of disappearing, require a greater level of protection. Annex II of the Habitats Directive covers species (e.g. otter *Lutra lutra*, freshwater pearl mussel *Margaritifera margaritifera*, Killarney fern *Trichomanes speciosum*, slender naiad *Najas flexilis*) which require the designation of their habitats as SACs.

Annex I of the Birds Directive lists endangered and migratory bird species which require the designation of SPAs.

1.3 APPROPRIATE ASSESSMENT (AA) PROCESS

European Commission methodological guidance (EC, 2002) promotes a four-stage process in the completion of an AA, and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required. The four stages are summarised diagrammatically below.



1.3.1 Appropriate Assessment Screening (stage 1)

At this step of the process the likely potential impacts of a project or plan, alone or in-combination with other projects/plans, upon a Natura 2000 site(s) is examined to determine whether it can be considered significant. If it is determined that no significant impacts are anticipated, then a 'finding of a no significant effects' (FONSE) statement can be issued to the competent authority. If this cannot be ascertained, then an Appropriate Assessment (AA) is required.

1.3.2 Appropriate Assessment (stage 2)

Where it cannot be ascertained beyond reasonable scientific doubt, that a proposed plan or project, individually or in combination with other plans or projects, would not have a significant effect on the conservation objectives of a European site, an AA is required.

Where an Appropriate Assessment is required, the Competent Authority may require a Natura Impact Statement (NIS) to accompany the planning application.

1.3.3 Assessment of alternative solutions (stage 3)

At this stage alternative solutions are examined that could allow the project or plan to proceed without having adverse effects on integrity of a Natura 2000 site. The process must then return to stage 2 as alternatives will require appropriate assessment in order to proceed. Demonstrating that all reasonable alternatives have been considered and assessed, and that the least damaging option has been selected, is necessary to progress to Stage 4.

1.3.4 Imperative Reasons of Overriding Public Interest (IROPI) (stage 4)

This stage is the main derogation process of Article 6(4) which examines if there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that is determined to have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exist. The extra protection measures for Annex I priority habitats come into effect when making the IROPI case¹. Compensatory measures must be proposed and assessed. The Commission must be informed of the compensatory measures. Compensatory measures must be practical, implementable, likely to succeed, proportionate and enforceable, and they must be approved by the Minister.

¹ IROPI reasons that may be raised for Natura sites hosting priority habitats are those relating to human health, public safety or beneficial consequences of primary importance to the environment. In the case of other IROPI, the opinion of the Commission is necessary and should be included in the AA.

2 METHODOLOGY

2.1 STATEMENT OF AUTHORITY

An AA screening exercise of the Proposed Development Site (shown by red line boundary in Figure 1) was carried out by Cian Ó Ceallaigh (BSc (Hons), MSc) in April 2023. Cian is an Associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM) who has extensive botanical and habitat knowledge (FISC Level 4, 2018) and has worked as a professional ecologist in Ireland and Britain since 2017. Cian is the author of this report and has experience undertaking AA Screening, Natura Impact Statement (NIS) and ecological assessment reports in Ireland as well as Preliminary Ecological Appraisals (PEAs) and other species-specific survey reports in Britain.

2.2 GUIDANCE DOCUMENTS

This report has been prepared in accordance with the following documents:

- Department of the Environment, Heritage and Local Government (2010) Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities.
- Directive 92/43/EEC, Office for Official Publications of the European Communities Luxembourg. European Commission
- European Commission (2021) Assessment of plans and projects in relation to Natura 2000 sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Brussels, 28.9.2021C (2021) 6913 Final;
- European Commission (2007) Guidance Document on Article 6(4) of the ‘Habitats Directive’ 92/43/EEC - Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. European Commission.
- European Commission (2019) Managing Natura 2000 Sites: The provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC. (2019/C 33/01);
- Office of the Planning Regulator PN01 (2021) - Appropriate Assessment Screening for Development Management.
- European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No.477 of 2011);
- National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.

- Office of the Planning Regulator (2021) Appropriate Assessment Screening for Development Management. OPR Practice Note PN01. March 2021

2.3 ASSESSMENT METHODOLOGY

A likely Zone of Influence (ZOI) upon Natura Sites was defined around the Proposed Development using a source-pathway-receptor approach (OPR, 2021). The ZOI was therefore considered to include Natura Sites around the Proposed Development which could potentially be affected through this chain of connection (source-pathway-receptor). An assessment of the potential for likely significant impacts as a result of the Proposed Development was carried out upon the Qualifying Interests (QIs)/Special Conservation Interests (SCIs) of each Natura Site identified. This considered direct, indirect, cumulative and in-combination impacts (in-combination with other plans and projects).

The conservation objectives relating to each Natura site and its QIs/SCIs are cited generally for SACs as *“to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or Annex II species for which the SAC has been selected”*, and for SPAs *“to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA”*. As defined in the Habitat’s Directive, the favourable conservation status of a habitat is achieved when:

- *Its natural range and area it covers within that range is stable or increasing; and*
- *The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future*

The favourable conservation status of a species is achieved when:

- *The population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;*
- *The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future;*
- *There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis; and*
- *Where site-specific conservation objectives (SSCOs) have been prepared for a European site, these include a series of specific attributes and targets against which effects on conservation*

condition, or integrity, can be measured. Where potential significant effects are identified, then these SSCOs should be considered in detail.

2.4 SITE SURVEY

A walkover of the Site was carried out on the 13th of April 2023. Conditions were dry, warm (12 degrees Celsius) and sunny with a light breeze and relatively clear sky (3/8 oktas).

Habitats were described and mapped following the standard scheme for classifying habitats in Ireland (Fossitt, 2000) (see Figure 2) The dominant plant species were recorded, and habitats are classified according to their vegetation types. Where appropriate consideration was given to whether habitats qualify, or could qualify, as corresponding Annex 1 habitats. Relative plant species abundance was estimated using the DAFOR scale². The scientific names for plant species use nomenclature given in An Irish Flora (Parnell, J. & Curtis, T., 2012).

2.5 NOTES AND LIMITATIONS

The survey was undertaken outside of the optimal period for surveying flowering plants (May – October inclusive). Therefore, it is likely some species will not have been recorded during the survey for this reason. However, the detail collected is considered sufficient as the habitats on site are not considered likely to be very diverse and the surveyor is also competent in vegetative identification of vascular plants.

The survey was undertaken over the course of a few hours in a single day. This means species identified and recorded are limited to those that were visible and/or audible over the course of this period.

Additionally, where observed and identifiable by the surveyor, taxonomic groups such as bryophytes and invertebrates have been recorded. It should be noted that any lists provided within this report are not exhaustive (i.e. bryophytes listed likely only represent a small proportion of those present on).

2.6 DESK STUDY & OTHER INFORMATION SOURCES

A desktop study was undertaken to review existing ecological baseline information available in the public domain. Freely downloadable datasets (available from the National Parks and Wildlife Service) were consulted for information regarding European statutory designated sites (i.e. SACs and SPAs) within the Site and the ZOI. In addition to these other data sources were checked, these included:

² The DAFOR scale has been used to estimate the frequency and cover of the different plant species as follows: Dominant (D) - >75% cover, Abundant (A) – 51-75% cover, Frequent (F) – 26-50% cover, Occasional (O) – 11-25% cover, Rare (R) – 1-10% cover., The term 'Locally' (L) is also used where the frequency and distribution of a species are patchy and 'Edge' (E) is also used where a species only occurs on the edge of a habitat type.

- Environmental Protection Agency (EPA) – in relation to water features and quality data;
- Geological Survey of Ireland (GSI) – in relation to soils and bedrock;
- Galway City Council – Information on planning history in the area for the assessment of cumulative impacts.
- Myplan.ie – for other projects within the area;
- National Biodiversity Data Centre (NBDC) – in relation to nearby notable/protected plant and animal species records; and
- Tobin Consulting Engineers – provided information on the Proposed Development

3.1 SITE LOCATION

The Site is located on the R338 old Dublin road in Galway city at grid reference M 31798 26022. As it is within the city boundary it is not within any townlands. The Site currently comprises amenity grassland which is used for sports and recreation (soccer goals present within the Site) with a flat topography at an elevation of circa 19m OD. Residential properties form the boundary on its western and northern extents, and it is bounded by the Connacht hotel and the Dublin Road on its eastern and southern boundaries, respectively. The Renmore Waste Water Plant (pumping station) is located on the south west corner of the site. The pitch is currently accessed from the junction entrance to the Connacht Hotel. There is a known water extraction well on the eastern boundary of the site (see Target note (TN)08, Figure 2 for location). The wider area is largely developed land (housing and industrial) with some green spaces (parks, sports grounds and green field sites).

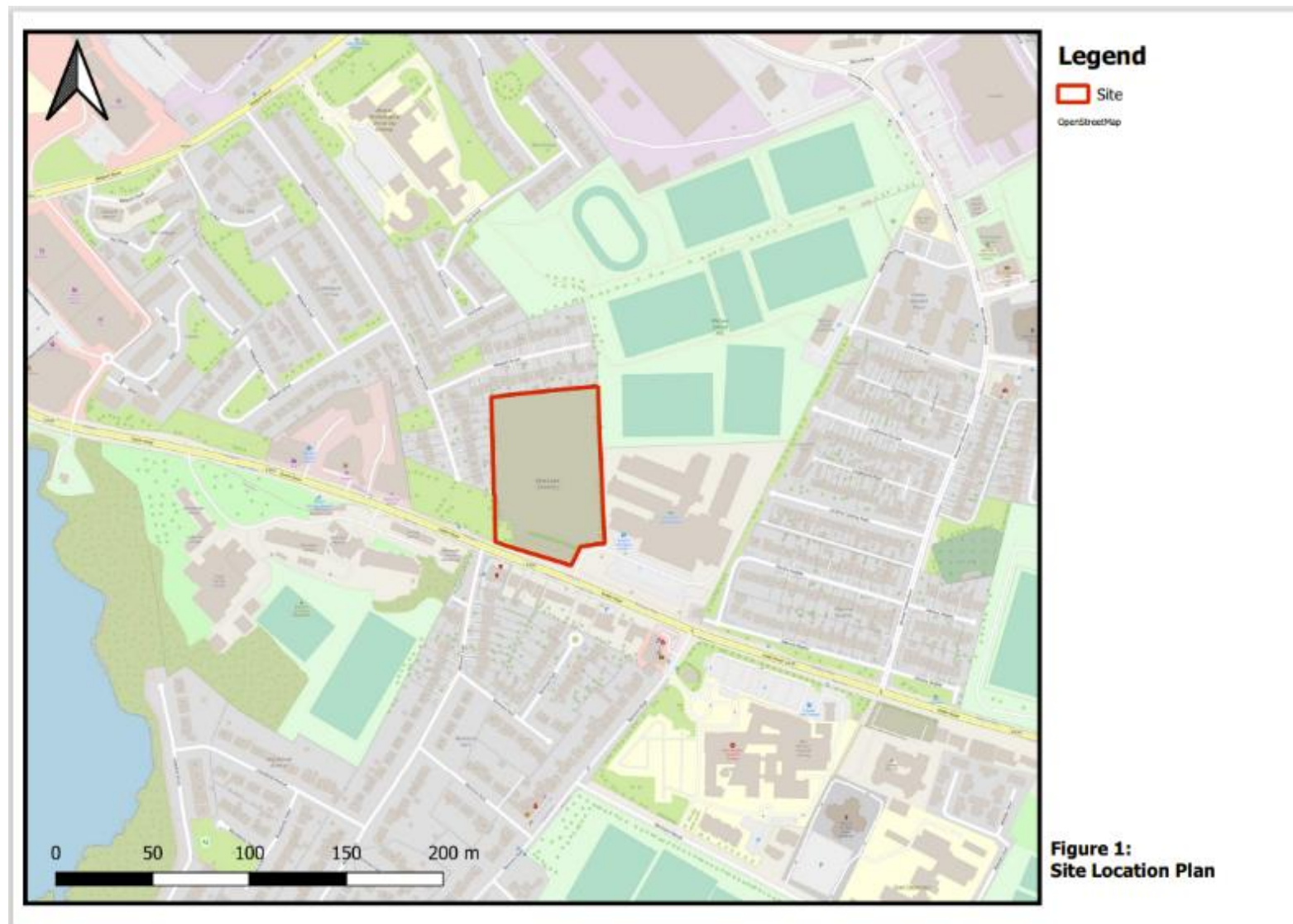


Figure 1 Site Location Plan

3.2 DEVELOPMENT DESCRIPTION

The Proposed Development comprises the construction of a 1.7-hectare (approximately) cemetery at new lawn cemetery on Old Dublin Road Galway.

The development will include the provision of a lawn cemetery which will cater for grave plots, urn plots (accommodating 1800 – 2000 burial plots) memorial garden (which will include an area for cremated remains), access roads, junction provision, parking, staff welfare building, machinery shed, boundary treatment, signage, surface water drainage, structure for the interment of cremated remains, headstone foundations and appropriate landscaping throughout the site to minimise the visual impact of the proposed development on the adjoining properties.



Plate 1 Elevated view from the south of the site of Proposed Development upon completion

Water

Water for the Proposed Development will likely be sourced from a connection to the mains.

3.2.1 Proposed Construction Phase Activities

The works will require a cut and fill exercise across the site to ensure that a minimum of 1m permeable unsaturated subsoils is permanently present between the base of each grave (i.e. below 2.65mbgl) and the water table or bedrock (whichever is shallower). The design of the burial plots shall be in accordance with the Burial Regulations 1888 and subsequent amendments. Each burial plot shall accommodate three burial layers, where ground/ground water conditions permit.

No wastewater will be discharged from site during the construction phase and a Portaloo and welfare facilities will be provided on Site.

3.2.2 Proposed Operational Phase Activities (taken from Planning Report (Tobin, 2023))

“Once the initial groundworks and buildings have been construction and the cemetery is formally opened, it is anticipated that graves will be designated, dug and utilised in a systematic process.”

“It is intended that graves will be excavated utilising mini digger and small site dumper. Under no circumstances will workers enter the excavation without appropriate trench shoring and training. Graves are not to be left open for an extended period of time and all openings should be supervised to ensure protection to the public and staff. Should concerns arise over the stability of the opening, shoring should be installed for the duration of the funeral. Excess soil material will be temporarily stored onsite where it will be regularly removed and recycled.”

“It is proposed that 24hr access to the cemetery for pedestrians however, vehicular access will be limited to daylight hours each day. It is proposed that security level lighting will be provided and operate at night.”

“Galway City Council will maintain all elements of the site to a level of their discretion, including but not limited, the management of waste, the maintenance of roads, paths and lawn areas of graves, the management of weeds and vegetation, the maintenance of the buildings and toilet, the excavation and backfilling of graves”

“Some smaller bins may be provided should such need arise during the operational period.”

No further detail was available on the operational period at the time of writing this report. It is understood any water necessary for the operation of the cemetery will be sourced from the mains.

3.3 ECOLOGICAL WALKOVER RESULTS

Habitats

The following habitats were identified during the survey:

BL1 Stone walls and other stonework

A double dry-stone limestone wall marks the Sites southern boundary separating the Site from the old Dublin road. It appears to be in decent condition although is collapsing at the southeastern corner by the entrance to the Site. It connects with an access gate and pedestrian access route.



Plate 2 dry stone wall with signs of deterioration

BL3 Buildings and artificial surfaces

Immediately north of the dry-stone wall on Site is a small area of hard standing comprising tarmacadam and gravel. It has become vegetated with rare willow *Salix* sp. scrub and ruderal species such as annual meadow grass *Poa annua*, dandelion *Taraxacum officinale* agg., creeping cinquefoil *Potentilla reptans*, ribwort plantain *Plantago lanceolata*, white clover *Trifolium repens* and ragwort *Senecio jacobaea*. The moss *Brachythecium rutabulum* is frequent. Much of the ground is bare otherwise.



Plate 3 hard standing area in the south of Site

GA2 Amenity grassland

The majority of the Site comprises shortly mown amenity grassland which is used as a soccer pitch and recreation (dog walking etc.). Sward height is less than 5cm due to management and as a result species diversity is low and comprises mainly grasses with dominant perennial rye grass *Lolium perenne* and occasional annual meadow grass with the forbs frequent daisy *Bellis perennis*, occasional dandelion, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, and white clover, with rare selfheal *Prunella vulgaris*. The bryophyte *Brachythecium rutabulum* was occasional in the habitat.



Plate 4 Amenity grassland on Site

GS2 - Dry meadows and grassy verges

Swards of tussocky, species-poor, rank grassland are present locally throughout the Site. There are localised areas of this habitat along the southern boundary of the Site and also fringing the amenity grassland around the Sites boundary, but this strip was considered too narrow to map. It comprised similar species to GA2 described above but has abundant cock's foot *Dactylis glomerata* and occasional false oat grass *Arrhenatherum elatius* with occasional meadow buttercup *Ranunculus acris* and common hogweed *Heracleum sphondylium*. These are all species typical of verges that are rarely cut. The habitat is particularly species-poor.

WL2 Treelines

A treeline comprising dominant beech *Fagus sylvatica* with occasional sycamore *Acer pseudoplatanus* is present along the Sites eastern boundary. The beech trees are over 15m tall and mature specimens. Along part of the Sites western boundary a small line of semi-mature Norway maple *Acer platanoides* and sycamore trees are present before the habitat transitions into scrub.



Plate 5 treeline along eastern boundary

WS1 Scrub

Along the majority of the Sites western and northern a section of scrub a couple of metres wide exists. The habitat is mainly dominated by bramble *Rubus fruticosus* agg. but has taller scrubby species such as hawthorn *Crataegus monogyna*, *Griselinia littoralis*, cotoneaster spp., sycamore and butterfly-bush *Buddleja davidii* scattered throughout the habitat. An area of taller scrub is mapped in the southwestern corner of the Site where the wastewater pumping station is present on Site. Species in this part include hawthorn, willow, hazel *Corylus avellana*, and ornamental dogwood species *Cornus* sp. with a field layer of bramble and ivy *Hedera helix*.

WS4 Ornamental/non-native shrub

A section of ornamental shrubbery is present separating the amenity grassland from the hard standing area. It is dominated by ornamental dogwood species, with occasional immature Scots pine *Pinus sylvestris* and a field maple (suspected cultivar) *Acer campestre* throughout. As the shrubs are densely planted a field layer is nearly non-existent.



Plate 6 ornamental scrub on Site

None of the habitats within the Site/Proposed Works area correspond with Annex I habitats listed on the EU Habitats Directive.

Birds

A number of bird species were recorded on Site. This included sightings of mistle thrush, hooded crows, magpies and greater black backed gulls. In the case of the greater black backed gulls the birds were seen flying westwards over Site rather than inhabiting the Site. No active bird nests were recorded though are likely to be present within woody vegetation. One old birds' nest, suspected to be wood pigeon, was recorded in a hawthorn along the Sites western boundary (TN02, Figure 2).

Other incidental recordings/Target notes

Undesirable non-native species were recorded on Site. These included montbretia *Crocasmia x crocosmiiflora* (TN01, TN07, & TN09, Figure 2), *Cotoneaster franchetii* (suspected) (TN03), *Cotoneaster integrifolius* (suspected) (TN04), Spanish bluebell (TN05 & TN06), butterfly-bush and *Griselinia littoralis* (which weren't target noted as they are large/obvious and scattered throughout the scrub habitat.



Plate 7 Montbretia (TN01)



Plate 8 Cotoneaster franchetii (suspected), TN03



Plate 9 *Grisilenia littoralis* (throughout scrub)



Plate 10 *Cotoneaster integrifolius* (suspected) TN04



Plate 11 Spanish bluebell



Plate 12 butterfly bush



Figure 2 Site walkover results

3.4 DESK STUDY RESULTS

3.4.1 EPA Water Features and Quality Data

The Proposed Development is located within Galway Bay Southeast Hydrometric Area (29) and Catchment (30), the CARROWMONEASH [Oranmore]_SC_010 Sub-Catchment (30_3) and the CARROWMONEASH (Oranmore)_010 Sub-Basin. The EPA Ground Waterbody WFD Latest Status was reviewed for Clarinbridge was assessed as Good and had a risk status of Moderate.

No streams, river, lakes or aquatic features are present within the vicinity of the Site.

3.4.2 Geological Survey of Ireland (GSI) Soils and Geology Data

The local bedrock where the Proposed Development is located is pale grey clean skeletal limestone of the Burren formation.

The groundwater vulnerability given for the area the Proposed Development lies within is Low (approximately a third of the Site, in southern section) and Moderate (majority of Site, in northern portion)

Soils within the Proposed Development area are predominantly (BminDW) Deep well drained mineral (Mainly basic) soils.

3.4.3 Protected Species

The National Biodiversity Data Centre's (NBDC) database was searched for records of protected and/or notable species within the six 100m grid squares that the Proposed Development is located. The following records were returned;

- Emperor Dragonfly *Anax imperator* was listed in 100m grid squares M317261

3.4.4 Designated Natura Sites within Zone of Influence of Proposed Development

As per the 'Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities' guidance document all Natura 2000 Sites within the ZOI of the Proposed Development were considered within this assessment. The following Natura 2000 Sites were identified within the Proposed Developments potential ZOI:

Table 1 Natura Sites within the potential ZOI

Natura 2000 site	Distance & orientation	Potential effects
Galway Bay Complex SAC (000268)	380m west - southwest	Due to the proximity of this Natura Site to the Proposed Development potential significant effects will be considered further below.
Inner Galway Bay SPA (004031)	380m west - southwest	Due to the proximity of this Natura Site to the Proposed Development potential significant effects will be considered further below.
Lough Corrib SAC (000297)	1.9km west	Due to the distance of the Proposed Development from this Natura Site, as well as the absence of hydrological connectivity, significant effects upon the QIs of this Natura Site can be ruled out at this stage.
Lough Corrib SPA (004042)	4.1km northwest	Due to the distance of the Proposed Development from this Natura Site, as well as the absence of hydrological connectivity, significant effects upon the QIs of this Natura Site can be ruled out at this stage.
Creganna Marsh SPA (004142)	6.6km southeast	Due to the distance of the Proposed Development from this Natura Site, as well as the absence of hydrological connectivity, significant effects upon the QIs of this Natura Site can be ruled out at this stage.
Lough Fingall Complex SAC (000606)	13km southeast	Due to the distance of the Proposed Development from this Natura Site, as well as the absence of hydrological connectivity, significant effects upon the QIs of this Natura Site can be ruled out at this stage.

Connemara Bog Complex SAC (002034)	15km west - northwest	Due to the distance of the Proposed Development from this Natura Site, as well as the absence of hydrological connectivity, significant effects upon the QIs of this Natura Site can be ruled out at this stage.
East Burren Complex SAC (001926)	15km south	Due to the distance of the Proposed Development from this Natura Site, as well as the absence of hydrological connectivity, significant effects upon the QIs of this Natura Site can be ruled out at this stage.

Their context in relation to the Proposed Development is shown in Figure 4 and 5 below.



Figure 3 Proposed Development & Natura Sites within potential ZOI

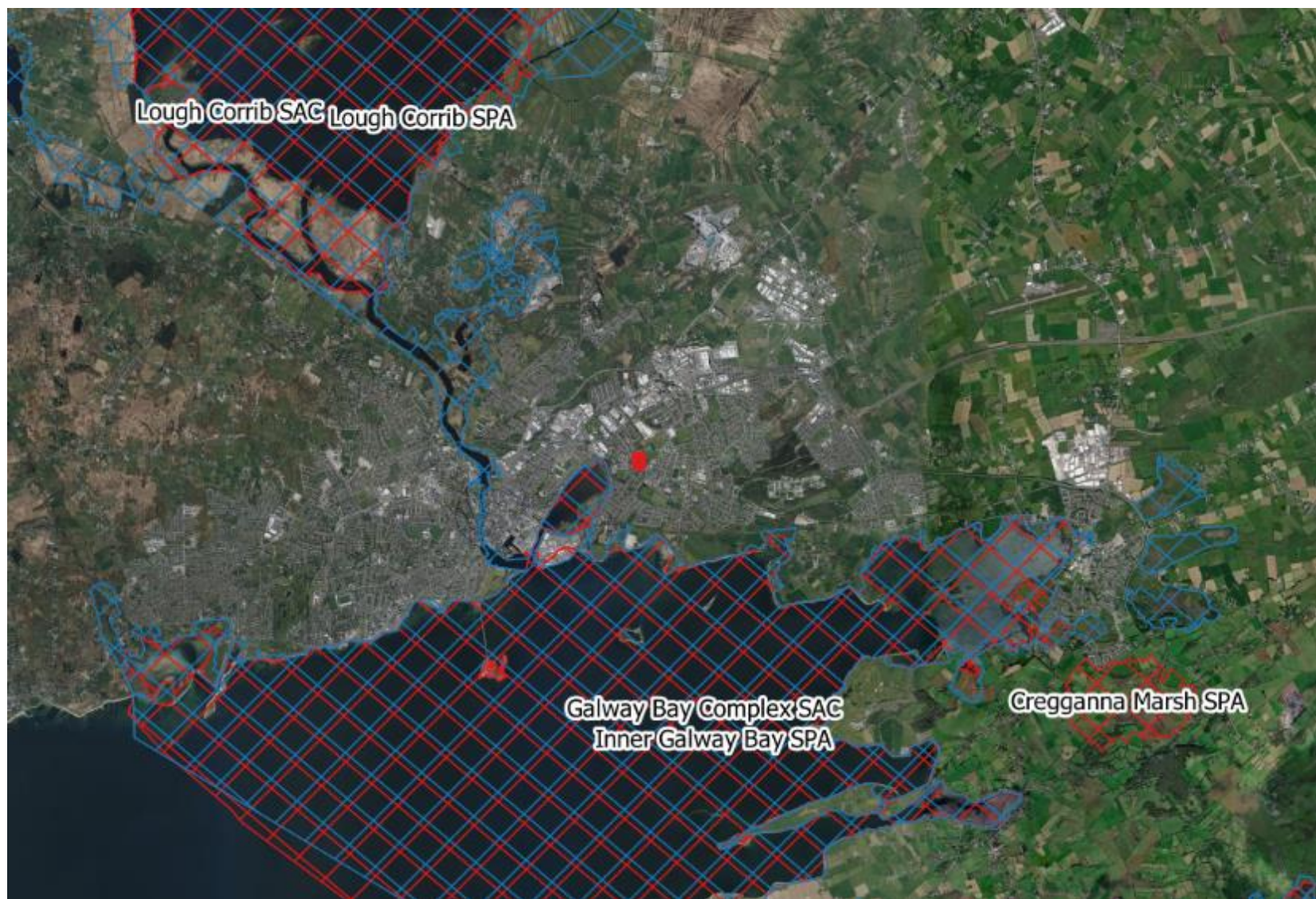


Figure 4 Proposed Development & nearby Natura Sites

3.5 ZONE OF INFLUENCE

Potential impacts from the Proposed Development have been assessed within a defined 'zone of influence' (ZOI). The potential ZOI includes any Natura Sites considered relevant through the source-pathway-receptor model and includes water dependent receptors which could be connected by hydrological links, and ecological receptors which could be impacted by noise and light etc.

Given the location of the Proposed Development (Galway city), its nature (cutting and filling of a largely amenity grassland to a maximum depth of 3650mm) only the following Natura Sites will be further considered;

- Galway Bay Complex SAC (000268) (380m west – southwest of Site); and
- Inner Galway Bay SPA (004031) (380m west – southwest of Site)

The rest (listed within Table 1 above) are scoped out of from the ZOI due to their distance and nature of the Proposed Development.

3.6 DESCRIPTION OF THE NATURA 2000 SITES

The Habitats Directive states "*Any plan or project not directly connected or necessary to the management of the (Natura) site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implication for the (Natura) site in view of the (Natura) sites conservation objectives ... the competent national authorities shall agree to the plan or project only having ascertained that it will not adversely affect the integrity of the (Natura) site ...*".

The conservation objectives form the basis of the Appropriate Assessment as it is against these objectives that the assessment is made.

Conservation objectives of Natura 2000 Sites:

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network. European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The

Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these Natura sites. A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that Natura site. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, are stable or increasing;
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future; and
- The conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

Population dynamics data on the species concerned indicate that it is term basis as a viable component of its natural habitats;

- The natural range of the species is neither being reduced nor is likely foreseeable future; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Objective 1: To maintain the Qualifying Interests for which the SAC has been selected at favourable conservation status (see Table 2 & 3):

Site Qualifying Interests (QIs) of Natura 2000 Sites (* indicates priority habitat under Habitats Directive):

3.6.1 Galway Bay Complex SAC

Table 2 QIs of Galway Bay Complex SAC

Code	Species	Conservation Objective
1140	Mudflats and sandflats not covered by seawater at low tide	To restore the favourable conservation condition

1150	Coastal lagoons* 1160 Large shallow inlets and bays	To maintain the favourable conservation condition
1170	Reefs 1220 Perennial vegetation of stony banks	
1310	Salicornia and other annuals colonising mud and sand	
1330	Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)	To restore the favourable conservation condition
1410	Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	
3180	Turloughs*	To maintain the favourable conservation condition
5130	<i>Juniperus communis</i> formations on heaths or calcareous grasslands	To restore the favourable conservation condition
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>)(*important orchid sites)	To maintain the favourable conservation condition
7210	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> *	
7230	Alkaline fens	
1355	Otter <i>Lutra lutra</i>	To restore the favourable conservation condition

1365	Harbour seal <i>Phoca vitulina</i>	To maintain the favourable conservation condition
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3.6.2 Inner Galway Bay SPA

Table 3 QIs of Inner Galway Bay SPA

Code	Species	Conservation Objective
A003	Great Northern Diver <i>Gavia immer</i>	To maintain the favourable conservation condition
A017	Cormorant <i>Phalacrocorax carbo</i>	
A028	Grey Heron <i>Ardea cinerea</i>	
A046	Brent Goose <i>Branta bernicla hrota</i>	
A050	Wigeon <i>Anas penelope</i>	
A052	Teal <i>Anas crecca</i>	
A056	Shoveler <i>Anas clypeata</i>	
A069	Red-breasted Merganser <i>Mergus serrator</i>	
A137	Ringed Plover <i>Charadrius hiaticula</i>	
A140	Golden Plover <i>Pluvialis apricaria</i>	
A142	Lapwing <i>Vanellus vanellus</i>	
A149	Dunlin <i>Calidris alpina alpina</i>	
A157	Bar-tailed Godwit <i>Limosa lapponica</i>	
A160	Curlew <i>Numenius arquata</i>	
A162	Redshank <i>Tringa totanus</i>	
A169	Turnstone <i>Arenaria interpres</i>	

A179	Black-headed Gull <i>Chroicocephalus ridibundus</i>	
A182	Common Gull <i>Larus canus</i>	
A191	Sandwich Tern <i>Sterna sandvicensis</i>	
A193	Common Tern <i>Sterna hirundo</i>	
A999	Wetlands	To maintain the favourable conservation condition

3.7 POTENTIAL EFFECTS UPON NATURA SITES QIs

3.7.1 Galway Bay Complex SAC (000268) - 380m west – southwest of Site

The Proposed Developments potential significant effects upon the Galway Bay Complex SAC has been considered in light of the Natura Sites QIs and site-specific conservation objectives (see table 3 above) for the coastal habitats (Annex codes 1140, 1150, 1170, 1310, 1330 and 1410) and species otter and harbour seal. The distance of the Proposed Development from this Natura Site means that no habitat loss or fragmentation will arise as a result of the Proposed Development. Additionally, there are no watercourses within or adjacent to the Proposed Development and as such no direct source – pathway – receptor linkages between the Proposed Development and the Natura Site. None of the habitats/species recorded within the Site are Annex habitats/species related to the QIs listed for the Natura Site. The nature of the Proposed works comprises – cutting and filling to 3650mm, provision of a lawn cemetery which will cater for grave plots, urn plots, memorial garden (which will include an area for cremated remains), access roads, junction provision, parking, staff welfare building, machinery shed, boundary treatment, signage, surface water drainage, structure for the internment of cremated remains, headstone foundations and appropriate landscaping. These works will be buffered by a largely urbanised area which means there is little/no ecological connectivity between the Site and this Natura Site. It can therefore be concluded that the Proposed Development construction and operational phase will have no significant affects upon the QIs of the Galway Bay Complex SAC.

3.7.2 Inner Galway Bay SPA (004031) - 380m west – southwest of Site

The Proposed Developments potential significant effects upon the Inner Galway Bay SPA has been considered in light of the Natura Sites QIs and site-specific conservation objectives (see table 4 above). The distance of the Proposed Development from this Natura Site means that no habitat loss or fragmentation will arise as a result of the Proposed Development. Additionally, there are no watercourses within or adjacent to the Proposed Development and as such no direct source – pathway – receptor linkages between the Proposed Development and the Natura Site. None of the species recorded within the Site are Annex species listed as QIs for the Natura Site. Due to the nature of the Site at present (heavily managed/used amenity grassland) it is extremely unlikely that the Site, in its current state, is regularly used by breeding and wintering birds for which the Natura Site is designated. The nature of the Proposed works comprises – cutting and filling to 3650mm, provision of a lawn cemetery which will cater for grave plots, urn plots, memorial garden (which will include an area for cremated remains), access roads, junction provision, parking, staff welfare building, machinery shed, boundary treatment, signage, surface water drainage, structure for the internment of cremated remains, headstone foundations and appropriate landscaping. These works will be buffered by a largely urbanised area which means there is little/no ecological connectivity between the Site and this Natura Site. It can therefore be concluded that the Proposed Development construction and operational phase will have no significant affects upon the QIs of the Galway Bay Complex SAC.

3.8 OTHER PLANS & PROJECTS

As part of the screening for AA other plans and projects relevant to the area must be considered in order to determine if there are ‘in combination’ or cumulative effects that would arise from the Proposed Development on the nearby Natura Sites. Plans and Projects are outlined below:

Table 4 Other plans which may affect the Natura 2000 Site(s)

Plan	Relevant aims, objectives and measures to Natura 2000 network	Potential cumulative or in-combination effects on the Natura 2000 network

Galway City Development Plan 2023 - 2029	Policies (include): 5.2.2 - (to) <i>“Ensure that all plans or projects within the Plan area will only be authorised and/or supported after the competent authority has ascertained based on scientific evidence, screening for appropriate assessment and /or a Habitats Directive Assessment that:</i> <i>i. The plan or project will not give rise to an adverse direct, indirect or secondary effect on the integrity of any European site (either individually or in combination with other plans or projects); or</i> <i>ii. The plan or project will have an adverse effect on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or</i> <i>iii. The plan or project will have an adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory</i>	Positive impact
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	<i>measures necessary to ensure the protection of the overall coherence of Natura 2000.”</i> 5.2.10 – (to) “Protect and conserve rare and threatened habitats and their key habitats, (wherever they occur) listed on Annex I and Annex IV of the EU Habitats Directive (92/43EEC) and listed for protection under the Wildlife Acts 1976-2000 and plant species listed in the Flora Protection Order 2015.” and 5.2.11 - (to) “<i>Ensure that plans and projects with the potential to have a significant impact on European sites (SAC or SPA) whether directly, indirectly or in combination with other plans or projects are subject to Appropriate Assessment, under Article 6 of the Habitats Directive (92/43EEC) and associated legislation and guidelines, to inform decision making.</i>”	
River Basin Management Plan for Ireland 2021	The river basin management plan for Ireland sets out a number of objectives and measures for all national water bodies which aim to: - Prevent deterioration of water bodies and to protect, enhance and restore them with the aim of achieving at least a good status; and - To achieve compliance with the requirements for designated protected areas.	Positive impact

On the 12/09/2024 the online planning system for Galway City Council was checked for projects within the local vicinity of the Site, with a particular focus on those adjacent to the Site. In the last five years the following planning applications listed below were identified adjacent to the Sites boundary.

Numerous other applications exist in the wider area (within 500m) of the Site. These include both residential and commercial scaled developments.

Table 5 Planning applications from the last five years adjacent to the site

Ref. number	Status	Details	Description	Date received	Decision due
19306	APPLICATION FINALISED	Galwegians RFC Crowley Park Glenina Dublin Road, Galway	Planning permission to install 6 no. antennas, 1 no. dish and 6 no. RRU's on an existing 18.6m (to top of floodlights) high floodlight pole together with cabinets and all associated site development works	01/11/2019	04/01/2020
236012 6	APPLICATION FINALISED	64 Wellpark Grove Galway Co. Galway H91 P82F	Permission for development which consists of a single storey rear extension comprising garden room	23/11/2023	26/01/2024



Plate 13 Planning applications in the vicinity of the Site

3.9 IMPACT ASSESSMENT

Ecological impacts - direct
Land-take The Proposed Development will not result in the loss of land from within the Natura 2000 network. It is located outside of the Natura 2000 Sites listed above. Distance from Natura 2000 site or key features of the site The nearest Natura 2000 Site is located 380m west of the Proposed Development. Due to the nature of the Proposed Development no direct impacts are anticipated on QIs within the Natura 2000 network.
Indirect Ecological Impacts
Water It is considered that there is little hydrological connectivity between the Proposed Development and the nearby Natura Sites. The operational phase only consists of monitoring and maintenance works (if necessary) so will not have any indirect impact in this regard. Resource requirements (including water abstraction): The Proposed Development will not require the abstraction of water from a Natura 2000 Site. Emissions: Emissions from the Proposed Development works are not considered likely to be significant in the context of the urbanised environment in which the Site is currently located.
Describe any likely changes arising as a result of the following;
Reduction of Habitat The Proposed Development is outside of the Natura network and therefore will not result in the loss of Annex I habitats. Disturbance to Key Species

Due to the distance of the Proposed Development (ca. 400m east of nearby Natura Sites), its location (within Galway city and having limited ecological connectivity to the Natura Sites), and its current land use and management making it very unlikely to be used by Annex species listed for the Galway Bay Complex SAC or Inner Galway Bay SPA, the Proposed development will not result in disturbance to the species.

Habitat or Species Fragmentation

The Proposed Development will not result in any habitat fragmentation. Due to the distance of the Proposed Development (ca. 400m east of nearby Natura Sites), its location (within Galway city and having limited ecological connectivity to the Natura Sites), and its current land use and management making it very unlikely to be used by Annex species listed for the Galway Bay Complex SAC or Inner Galway Bay SPA, the Proposed development will not result in any fragmentation to species listed as QIs for the Natura Sites.

Reduction in species density

The Proposed Development will not result in a reduction of species density.

Changes in key indicators of conservation value

The Proposed Development will not result in any deterioration to indicators of conservation value such as surface or groundwater quality.

Change to key elements of the Natura 2000 Sites

None expected.

Cumulative/in-combination assessment

The Galway City Development Plan and River Basin Management Plan for Ireland are considered to have a positive impact on the Natura 2000 network.

Two finalised planning applications are located adjacent the Proposed Developments boundary. Numerous others are located in the wider area (see Plate 13 above). These are considered to have a neutral impact on the Natura 2000 network, considering their distance from nearby Natura 2000 sites. As such, no cumulative and/or in-combination impacts are predicted on the Natura 2000 network.

4 CONCLUSION

The Proposed Development for *Tobin Consulting Engineers* comprises the “*provision of a lawn cemetery which will cater for grave plots, urn plots memorial garden (which will include an area for cremated remains), access roads, junction provision, parking, staff welfare building, machinery shed, boundary treatment, signage, surface water drainage, structure for the internment of cremated remains, headstone foundations and appropriate landscaping throughout the site to minimise the visual impact of the proposed development on the adjoining properties.*”

The following Natura 2000 Sites are located as listed in respect to the Proposed Development; Galway Bay Complex SAC (000268) and Inner Galway Bay SPA (004031) both 380m west of the Proposed Development site. All other Natura Sites are not considered to be within the potential ZOI as no pathways for impact were identified. As such, only the Galway Bay Complex SAC (000268) and Inner Galway Bay SPA (004031) were considered in terms of the potential impact as a result of the Proposed Development.

The AASR provides information to enable the competent authority to carry out the AA.

At this stage of the process, it is the responsibility of the competent authority (Galway city council) to make the determination with the information which has been provided within this report

The conclusion of this screening exercise is that no significant effects are expected on the qualifying interests or conservation objectives of the Galway Bay Complex SAC (000268) and Inner Galway Bay SPA (004031), as a result of the Proposed Development, alone or in combination with the other plans and projects in the area, and therefore a Natura Impact Statement is not required. This report is therefore issued as a ‘Finding of No Significant Effects’ (FONSE) statement.

5 FURTHER ECOLOGICAL RECOMMENDATIONS

No woody material such as scrub (native or ornamental), tree lines and trees are to be cut during the **nesting bird season (1st March – 31st August) as this is an offence under the Wildlife Act (1976)** and disturbance within these areas (though digging, vibration, sound, etc.) should be kept to a minimum. If any bird nests are encountered or suspected during works advise from the ecologist should be sought.

Invasive species – where undesirable non-native species were recorded within the Site (see Ecological Walkover Results section) measures should be taken to prevent their spread and treatment/control on Site should be considered. For montbretia/Spanish bluebell it is recommended that (where present) the excavation of soil within 1m of the plant should be avoided to avoid causing its spread. These locations should be demarcated and avoided. See locations on survey results figure. For *Griselenia littoralis*, *Cotoneaster* spp., and butterfly bush it is recommended that these are cut and treated with herbicide by a trained/qualified contractor and that cuttings are left to rot on Site. Although none of these species are not listed on **the Invasive Alien Species of Union concern listed under the EU IAS Regulation [1143/2014] or Line 49. Part 6 of the S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011** they are widely considered as a negative non-native species by ecologists and botanists.

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7 NATURA 2000 – SITE SYNOPSIS

Site Name: Galway Bay Complex SAC Site Code: 000268

Situated on the west coast of Ireland, this site comprises the inner, shallow part of a large bay which is partially sheltered by the Aran Islands. The Burren karstic limestone fringes the southern sides and extends into the sublittoral. West of Galway city the bedrock geology is granite. There are numerous shallow and intertidal inlets on the eastern and southern sides, notably Muckinish, Auginish and Kinvarra Bays. A number of small islands composed of glacial deposits are located along the eastern side. These include Eddy Island, Deer Island and Tawin Island. A diverse range of marine, coastal and terrestrial habitats, including several listed on Annex I of the E.U. Habitats Directive, occur within the site, making the area of high scientific importance.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[1140] Tidal Mudflats and Sandflats

[1150] Coastal Lagoons*

[1160] Large Shallow Inlets and Bays

[1170] Reefs

[1220] Perennial Vegetation of Stony Banks

[1230] Vegetated sea cliffs of the Atlantic and Baltic coasts

[1310] Salicornia Mud

[1330] Atlantic Salt Meadows

[1410] Mediterranean Salt Meadows

[3180] Turloughs*

[5130] Juniper Scrub

[6210] Orchid-rich Calcareous Grassland*

[7210] Cladium Fens*

[7230] Alkaline Fens

[8240] Limestone Pavement*

[1355] Otter (*Lutra lutra*)

[1365] Common (Harbour) Seal (*Phoca vitulina*)

Galway Bay South holds a very high number of littoral communities (12). They range from rocky terraces, to sandy beaches with rock or sand dunes behind. The intertidal sediments of Galway Bay support good examples of communities that are moderately exposed to wave action. A well-defined talitrid amphipod zone in the upper shore gives way to an intertidal, mid shore zone with sparse epifauna or infauna. On the lower, flat part of the shore, the tubes of the deposit-feeding terebellid worm, *Lanice conchilega*, are common on the surface. Nereid and cirratulid polychaete worms (*Hediste diversicolor*, *Arenicola marina*), small crustaceans and bivalves (*Angulus tenuis*, *Cerastoderma edule* and *Macoma balthica*) are present. The area has the country's only recorded example of the littoral community characterized by *Fucus serratus* with sponges, ascidians and red seaweeds on tide-swept lower eulittoral mixed substrata. This community has very high species richness (85 species), as do the sublittoral fringe communities on the Finavarra reef (88 species). The rare Purple Sea Urchin *Paracentrotus lividus* and the foliose red alga *Phyllophora sicula* are present at Finavarra, whereas the red alga *Rhodomenia delicatula* and the rare brown alga, *Ascophyllum nodosum* var. *mackii*, occur in Kinvarra and Muckinish Bays. Sublittorally, the area has a number of distinctive and important communities. Of particular note is that Ireland's only reported piddock (bivalve mollusc) bed thrives in the shallows of Aughinish Bay. The rare sponge, *Mycale contarenii*, is also found here. There is further interest in an extensive maerl bed of *Phymatolithon calcareum* which occurs in the strong tidal currents of Muckinish Bay. There is also maerl off Finavarra Point and in Kinvarra Bay (*Lithothamnion corallioides*, *Lithophyllum dentatum* and *Lithophyllum fasciculatum*). An oyster bed in Kinvarra Bay and seagrass (*Zostera* spp.) beds off Finavarra Point are also important features. Other significant habitats which occur include secondary maerl beds and communities strongly influenced by tidal streams.

Saltmarshes are frequent within this extensive coastal site, with both E.U. Habitats Directive types, 'Atlantic Salt Meadow' and 'Mediterranean Salt Meadow' well represented. Most of the saltmarshes are classified as the bay type, with the substrate being mud or mud/sand. There is one lagoon type and one estuary type. Lagoon saltmarshes are the rarest type found in Ireland. The best examples of saltmarsh

are located in inner Galway bay, east of a line running between Galway city and Kinvarra. In this area the coastline is highly indented, thus providing the sheltered conditions necessary for extensive saltmarsh development. Common saltmarsh species include Thrift (*Armeria maritima*), Red Fescue (*Festuca rubra*), Common Scurvygrass (*Cochlearia officinalis*), Lax-flowered Sea-lavender (*Limonium humile*), Common Saltmarsh-grass (*Puccinellia maritima*), Saltmarsh Rush (*Juncus gerardi*) and Sea Rush (*Juncus maritimus*). On the lower levels of the saltmarshes and within pans there occurs Glasswort (*Salicornia europaea* agg.). A noteworthy feature of the saltmarsh habitat within this site is the presence of dwarfed brown seaweeds in the vegetation. These are also known as “turf fucoids” and typical species include *Fucus* spp., *Ascophyllum nodosum* and *Pelvetia canaliculata*. A number of locally rare vascular plant species also grow in saltmarsh areas within the site. These include Reflexed Saltmarsh-grass (*Puccinellia distans*) and Sea-purslane (*Halimione portulacoides*), which are both relatively rare in the western half of the country.

Shingle and stony beaches can be found throughout the site, with the best examples along the more exposed shores to the south and west of Galway city and to the north and east of Finavarra, Co. Clare. In general, these shingle shorelines are sparsely vegetated and frequently occur interspersed with areas of sandy beach and/or bedrock shore. The associated flora is dominated by plant species of frequently disturbed maritime habitats. To the south and west of Galway city, typical plants include Curled Dock (*Rumex crispus*), Common Couch (*Elymus repens*), Sea Sandwort (*Honkenya peploides*), Sea Beet (*Beta vulgaris* subsp. *maritima*), Sea Mayweed (*Matricaria maritima*), Silverweed (*Potentilla anserina*) and Oraches (*Atriplex* spp.). Two rare plant species are associated with the habitat: Henbane (*Hyoscyamus niger*), a threatened species listed in the Irish Red Data Book, grows on shingle beach to the south of Lough Atalia; there are also old records for the threatened plant species Seakale (*Crambe maritima*).

Soft coastal cliffs reaching heights in excess of 10m occur at Rusheen. These support coastal grassland with very sparse vegetation cover. Species recorded include Sea Plantain (*Plantago maritima*), Creeping Bent (*Agrostis stolonifera*), False Oat-grass (*Arrhenatherum elatius*), Cock's Foot (*Dactylis glomerata*), Red Fescue, Common Bird'sfoot-trefoil (*Lotus corniculatus*), and the lichens *Ramalina* sp. and *Xanthoria parietina*. They are considered highly representative of the rarer soft type of sea cliffs in Ireland.

An excellent range of lagoons of different types, sizes and salinities occurs within the site. This habitat is given priority status on Annex I of the E.U. Habitats Directive. One unusual type of lagoon, karstic rock lagoon, is particularly well represented. This type of lagoon is common on the Aran Islands, but on mainland Ireland, all but one are confined to this site. Additionally, the best example of all karstic lagoons

in the country, Lough Murree, is found at this site. The flora of the habitat is rich and diverse, reflecting the range of salinities in the different lagoons. It is typically brackish, with two species of Tasselweed (*Ruppia* spp.), two Red Data charophytes *Chara canescens* and *Lamprothamnion papulosum*, and *Chaetomorpha linum*, an alga (all lagoonal specialists). The fauna of the lagoon is also rich, diverse and lagoonal. At least 10 lagoonal specialist species were recorded in 1996 and 1998 from the combined habitat of all the lagoons, which is one of the highest number for any lagoonal habitat in the country. Many of the species appear to be rare. The lagoons within this site are excellent examples of the habitat type and of high conservation importance.

Other terrestrial habitats within this site which are of conservation importance include Great Fen-sedge (*Cladium mariscus*)-dominated fen and Black Bog-rush (*Schoenus nigricans*)-dominated alkaline fen at Oranmore, a turlough of moderate size at Ballinacourty, limestone pavement at Ballyconry, Gleninagh North and Newquay, dry calcareous grassland with orchids (best examples occurring west of Salthill), Juniper (*Juniperus communis*) scrub formations at Oranmore, wet grassland and an area of deciduous woodland at Barna. The orchid-rich grassland occurs on a series of small drumlin hills found to the west of Galway City, and is largely confined to the sides of the hills. Calcicole species such as Kidney Vetch (*Anthyllis vulneraria*), Harebell (*Campanula rotundifolia*), Spring Gentian (*Gentiana verna*), Common Spottedorchid (*Dactylorhiza fuchsii*), Lesser Twayblade (*Listera ovata*), Pyramidal Orchid (*Anacamptis pyramidalis*), Yellow-wort (*Blackstonia perfoliata*) and Greater Knapweed (*Centaurea scabiosa*) are found here, among others. Juniper is also found in this area.

Areas of alkaline and *Cladium* fen as best represented near Oranmore, and species such as Great Fen-sedge, Common Reed (*Phragmites australis*), Purple Moor-grass (*Molinia caerulea*), Bogbean (*Menyanthes trifoliata*) and Long-stalked Yellow-sedge (*Carex lepidocarpa*) are found along with the usually dominant, Black Bog-rush. The turlough at Ballinacourty floods to about 25 ha in winter, and has vegetation with a typical zonation. Wetland species such as Amphibious Bistort (*Polygonum amphibium*), Common Marsh-bedstraw (*Galium palustre*) and Marsh Cinquefoil (*Potentilla palustris*) are found near the swallow-hole, with species of wet grassland close to the flood limit (e.g. Silverweed, *Potentilla anserina*, Water Mint, *Mentha aquatica* and Creeping Bent, *Agrostis stolonifera*). Sedges (*Carex* spp.) dominate in between.

Inner Galway Bay provides extensive good quality habitat for Common Seal (maximum count of 317 in the all-Ireland survey of 2003). This species is listed on Annex II of the E.U. Habitats Directive. The seals use a range of haul-out sites distributed through the bay - these include inner Oranmore Bay, Rabbit

Island, St. Brendan's Island, Tawin Island, Kinvarra Bay, Aughinish Bay and Ballyvaughan. The site provides optimum habitat for Otter, also an Annex II-listed species.

Galway Bay is a very important ornithological site. The shallow waters provide excellent habitat for Great Northern Divers (35), Black-throated Divers (28), Scaup (39), Long-tailed Duck (27) and Red-breasted Merganser (232). (Figures given are peak average maxima over the 3 winters 1994/95 to 1996/97). All of these populations are of national importance. The intertidal areas and shoreline provides feeding and roosting habitat for wintering waterfowl, with Brent Goose (517) having a population of international importance and a further 11 species having populations of national importance. Four of the regular wintering species are listed on Annex I of the E.U. Birds Directive - Golden Plover, Bar-tailed Godwit and the two diver species. Breeding birds are also of importance, with significant populations of Sandwich Terns (81 pairs in 1995) and Common Terns (99 pairs in 1995), both also being listed on Annex I of the E.U. Birds Directive. A large Cormorant colony (approx. 300 pairs in 1989) occurs on Deer Island.

Fishing and aquaculture are the main commercial activities within the site. A concern is that sewage effluent and detritus of the aquaculture industry could be deleterious to benthic communities. Reef and sediment communities are vulnerable to disturbance or compaction from tractors accessing oyster trestles. The *Paracentrotus lividus* populations have been shown to be vulnerable to over-fishing. Extraction of maerl in Galway Bay is a threat. Owing to the proximity of Galway city, shoreline and terrestrial habitats are under pressure from urban expansion and recreational activities. Eutrophication is probably affecting some of the lagoons and is a continued threat. Drainage is a general threat to the turlough and fen habitats. Bird populations may be disturbed by aquaculture activities.

This large coastal site is of immense conservation importance, with many habitats listed on Annex I of the E.U. Habitats Directive, four of which have priority status (lagoon, Cladium fen, turlough and orchid-rich calcareous grassland). The examples of shallow bays, reefs, lagoons and saltmarshes found within this site are amongst the best in the country. The site supports an important Common Seal colony and a breeding Otter population (Annex II species), and six regular Annex I E.U. Birds Directive species. The site also has four Red Data Book plant species, plus a host of rare or scarce marine and lagoonal animal and plant species.

SITE NAME: INNER GALWAY BAY SPA SITE CODE: 004031

Inner Galway Bay SPA is a very large, marine-dominated site situated on the west coast of Ireland. The inner bay is protected from exposure to Atlantic swells by the Aran Islands and Black Head. Subsidiary bays and inlets (e.g. Poul-na-clough, Aughinish and Kinvarra Bays) add texture to the patterns of water

movement and sediment deposition, which lends variety to the marine habitats and communities. The terraced Carboniferous (Viséan) limestone platform of the Burren sweeps down to the shore and into the sublittoral. The long shoreline is noted for its diversity, and comprises complex mixtures of bedrock shore, shingle beach, sandy beach and fringing salt marshes. Intertidal sand and mud flats occur around much of the shoreline, with the largest areas being found on the sheltered eastern coast between Oranmore Bay and Kinvarra Bay. A number of small islands and rocky islets in the Bay are included within the site.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Black-throated Diver, Great Northern Diver, Cormorant, Grey Heron, Light-bellied Brent Goose, Wigeon, Teal, Redbreasted Merganser, Ringed Plover, Golden Plover, Lapwing, Dunlin, Bar-tailed Godwit, Curlew, Redshank, Turnstone, Black-headed Gull, Common Gull, Sandwich Tern and Common Tern. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

Inner Galway Bay supports an excellent diversity of wintering wetland birds, with divers, grebes, cormorants, dabbling duck, sea duck and waders all well represented. There are internationally important wintering populations of Great Northern Diver (88) and Light-Bellied Brent Goose (676) and nationally important wintering populations of an additional sixteen species i.e. Black-throated Diver (36), Cormorant (266), Grey Heron (102), Wigeon (1,168), Teal (700), Red-breasted Merganser (249), Ringed Plover (335), Golden Plover (2,030), Lapwing (3,969), Dunlin (2,155), Bartailed Godwit (447), Curlew (697), Redshank (505), Turnstone (182), Black-headed Gull (1,941) and Common Gull (1,066) - all figures given are five year mean peaks for the seasons 1995/96 to 1999/2000. Of note is that the populations of Red-breasted Merganser and Ringed Plover represent 6.8% and 2.3% of the respective all-Ireland totals. Other species which occur in notable numbers include Little Grebe (35), Longtailed Duck (21), Scaup (44) and Herring Gull (216). In addition, the following species also use the site: Great Crested Grebe (16), Mallard (200), Common Scoter (87), Oystercatcher (576), Grey Plover (60), Black-tailed Godwit (46), Mute Swan (150) and Great Black-backed Gull (129). The site provides both feeding and roost sites for most of the species. Little Egret, a species which has recently colonised Ireland, also occurs at this site.

The site has several important populations of breeding birds, most notably colonies of Sandwich Tern (81 pairs in 1995) and Common Tern (98 pairs in 1995 on Green Island and 46 pairs in 2001 on Mutton Island). A large Cormorant colony occurs on Deer Island - this had 200 pairs in 1985 and 300 pairs in 1989.

Inner Galway Bay SPA is of high ornithological importance with two wintering species having populations of international importance and a further sixteen wintering species having populations of national importance. The breeding colonies of Sandwich Tern, Common Tern and Cormorant are also of national importance. Also of note is that six of the regularly occurring species are listed on Annex I of the E.U. Birds Directive, i.e. Black-throated Diver, Great Northern Diver, Golden Plover, Bartailed Godwit, Sandwich Tern and Common Tern. Inner Galway Bay is a Ramsar Convention site and part of the Inner Galway Bay SPA is a Wildfowl Sanctuary.