ASTER ENVIRONMENTAL CONSULTANTS LTD

Remedial Natura Impact Statement

George Melville Ballinaboy Mannin

Co. Galway

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Qualifications and Experience

This report was prepared and written by Marie Louise Heffernan CEnv, MCIEEM, MSc (Env Sci). The author has 30 years experience working on Natura 2000 sites. She has written conservation plans for 35 Natura 2000 and carried out boundary and habitat surveys with NPWS. She has worked on Appropriate Assessments since 2009. Marie Louise holds an MSc in Environmental Science from TCD (1995), and is a chartered environmentalist with the Society of the Environment (UK) as well as a full member of the Chartered Institute of Ecology and Environmental Management.

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1.0 Introduction

Aster Environmental Consultants has been engaged to prepare this Remedial Natura Impact Statement (NIS) in respect of development works carried out at Ballinaboy, Mannin, Co. Galway by Mr. George Melville. These works include the refurbishment of an existing dwelling and upgrades to the wastewater treatment system. The development is now the subject of enforcement proceedings. Substitute Consent is therefore being sought under the Planning and Development Act 2000 (as amended). This report provides a full retrospective Appropriate Assessment to determine whether the works have adversely affected the integrity of any nearby Natura 2000 site and, if so, to propose appropriate remedial measures.

1.1 Site Survey

The original site survey was carried out on the 2nd December 2019 , on the 17th January 2022 and on the 6th June 2025.

1.2 Natura 2000 Sites

Natura 2000 is a European network of protected sites established under two key EU Directives: the Habitats Directive (Council Directive 92/43/EEC) and the Birds Directive (Directive 2009/147/EC, codifying the earlier Directive 79/409/EEC). These directives aim to conserve natural habitats and the wild flora and fauna of European importance.

There are two types of Natura 2000 site designations:

Special Areas of Conservation (SACs), designated under the Habitats Directive for the protection of habitats and species listed in Annexes I and II; and

Special Protection Areas (SPAs), designated under the Birds Directive for the conservation of bird species and their habitats.

Annex I of the Habitats Directive lists priority and non-priority habitats in need of protection, such as raised bogs, blanket bogs, lagoons, heaths, turloughs, and certain freshwater and coastal systems. Annex II lists species whose habitats must be protected, including species like the Lesser Horseshoe Bat, Otter, Salmon, and White-clawed Crayfish. Similarly, Annex I of the Birds Directive identifies migratory and endangered birds requiring SPA designation.

1.3 Screening for Appropriate Assessment

Under Article 6(3) of the Habitats Directive, any plan or project that is not directly connected with or necessary to the management of a Natura 2000 site, but which may have a significant effect on such a site—either individually or in combination with other plans or projects—must be subject to Appropriate Assessment.

The Department of the Environment, Heritage and Local Government (2009) and the European Commission (2002) outline a four-stage process for Appropriate Assessment (AA), which includes:

Screening to determine if AA is required;

Appropriate Assessment itself (with a Natura Impact Statement where necessary);

Assessment of alternative solutions; and

Assessment of imperative reasons of overriding public interest and compensatory

measures.
Each stage is dependent on the findings of the preceding one.

1.4 Scope of this Assessment

The aim of the AA process is to determine the potential for a project to impact the conservation objectives and overall ecological integrity of any Natura 2000 site. This *Remedial Natura Impact Statement* (NIS) has been prepared in accordance with:
Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive (EC, 2001); and *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (DEHLG, 2010, as amended).
Where significant or uncertain effects are identified during screening, a full NIS is required under Article 6(3). The NIS must then assess whether the project will adversely affect the integrity of any Natura 2000 site, taking into account mitigation.

1.5 Remedial Natura Impact Statement

This report comprises a *Remedial Natura Impact Statement* prepared in support of an application for Substitute Consent under Section 177E of the Planning and Development Act 2000 (as amended). It relates to development works carried out at Ballinaboy, Mannin, Co. Galway by Mr. George Melville, including refurbishment of an existing dwelling and the upgrading of the wastewater treatment system.

Substitute Consent is a mechanism within Irish planning law that allows for the retrospective regularisation of development carried out without consent, where an environmental assessment—such as an Appropriate Assessment—should have been conducted prior to the works. It enables the competent authority to determine whether the development has caused adverse effects on the integrity of any Natura 2000 site, and if so, whether mitigation or remediation can be proposed.

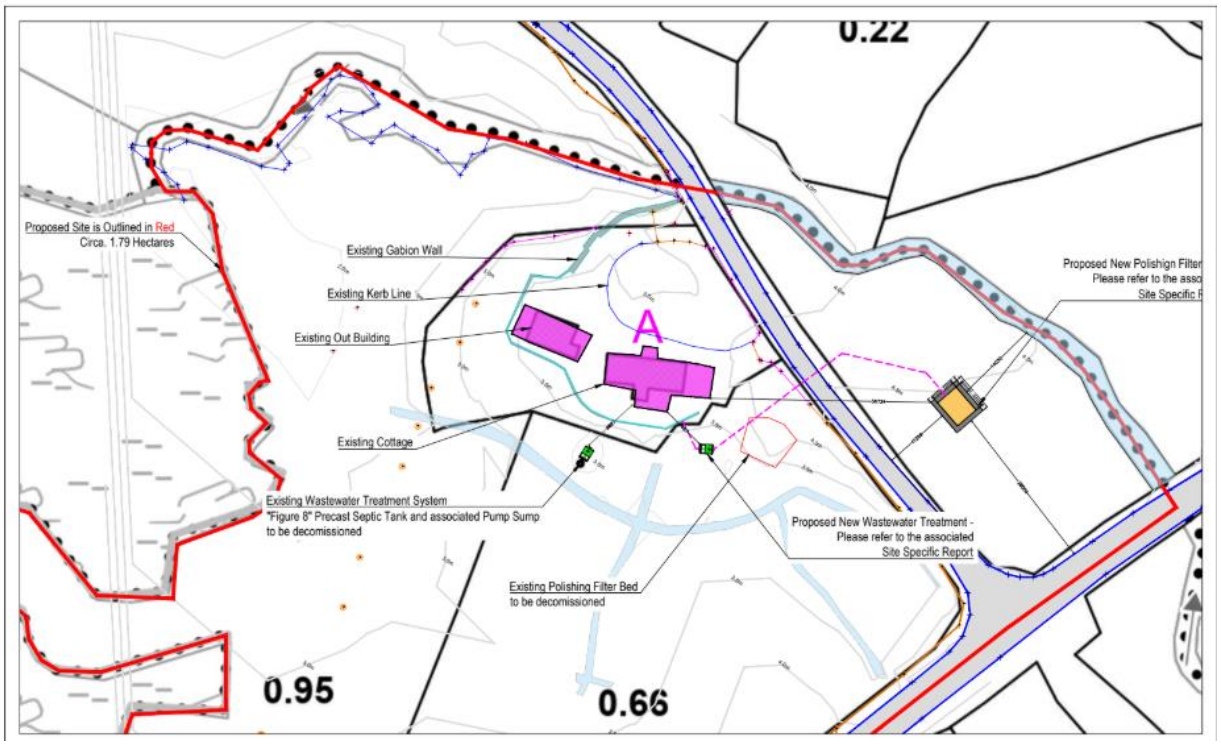
This Remedial NIS provides a retrospective Appropriate Assessment of the development's potential effects on nearby Natura 2000 sites, particularly those designated under the EU Habitats and Birds Directives. It considers the possibility of significant effects, alone or in combination with other projects, and proposes appropriate mitigation measures where necessary.

This assessment follows the European Commission and national guidelines and builds on the *Appropriate Assessment Screening* conducted in 2022. It provides updated survey data, ecological context, and mapping to inform the decision-making process on Substitute Consent.

2.0 Description of Development

Mr. George Melville purchased the property in 2018 and subsequently sought planning permission in 2019 (Ref. 19/1491) to carry out renovations and extensions to the existing house, including the replacement of the old septic system with a modern effluent treatment system (ETS). The application was supported by a Natura Impact Statement (NIS) and a Construction Environmental Management Plan (CEMP), but was refused on grounds relating to flood risk and potential impact on the adjacent Slyne Head Peninsula SAC. Mr. Melville proceeded to renovate the existing house—without increasing its floor area—replacing the roof, windows, and doors, and upgrading the sewage system (with the ETS relocated within the SAC). Other site works included a widened entrance, driveway, and gabion walls.

Following enforcement proceedings and a 2021 Section 5 declaration confirming the works were not exempt, Mr. Melville submitted a retention application in 2022 (Ref. 22/60055) accompanied by an Appropriate Assessment Screening Report, which concluded no likely significant effects. However, the application was deemed invalid due to the need for full Appropriate Assessment. The development has remained unauthorised since, and enforcement proceedings continue. On 13 February 2023, Galway County Council advised Mr. Melville to apply for Substitute Consent, and on 30 May 2024, he was issued with a court summons pending resolution.

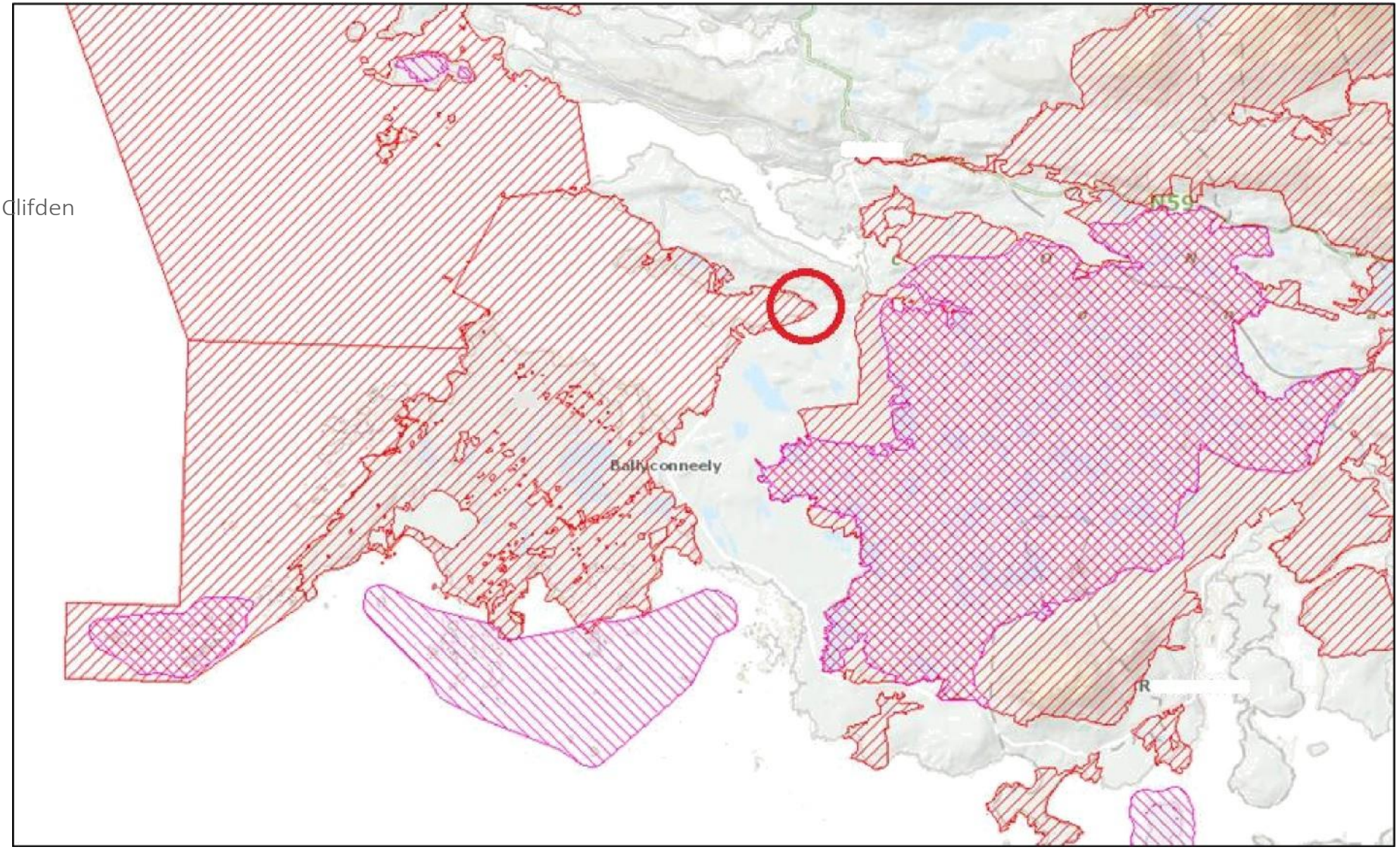


Map 1: Site Layout Map

2.1 Zone of influence and Natura 2000 sites

The proposed development site is located in the townland of, Ballinaboy, Mannin, Co. Galway and is adjacent to the Slyne Head Peninsula SAC.

Map 2. Note area of works carried out are within the SAC exclusion with the exception of the Sewage Treatment system, percolation area and soakpit as well as a small portion of the gabion wall (see Map 1). The SAC is hatched in red.



Map 3: Location of the site relative to the Natura 2000 designations. (Reproduced under OSI Licence number EN 0070910)

3.0 Relationship to Designated Sites

Natura 2000 sites within 15 kilometres of the proposed dwelling were considered initially as per the NPWS guidance document. This Initial screening revealed that the following sites lie within 15km radius of the development:

Natura 2000 Site	Code	Distance
Slyne Head Penninsula SAC	002074	0.00km
Connemara Bog Complex SAC	002034	0.91 Km
Connemara Bog Complex SPA	004181	1.25 km
Twelve Bens Garraun Complex SAC	002031	3.31km
West Connacht Coast SAC	002998	5.30km
Slyne Head Islands SAC	000328	6.94km
Inishbofin, Omey Island and Inishturbot SPA	004231	5.09km
Kingstown Bay SAC	002265	5.25km
Slyne Head to Ardmore Point Islands SPA	004159	6.37km
Barnahallia Lough SAC	002118	7.30km
Omey Island Machair SAC	001309	8.25km
Murvey Machair SAC	002129	9.53km
Cruagh Island SPA	004170	9.90km
Illaunnanoon SPA	004221	12.02km
Dogs Bay SAC	001257	12.21km
Cregduff Lough SAC	001251	13.14km
Rosroe Bog SAC	000324	14.37km

Table 1: Natura 2000 sites within 15km

Zone of Influence

According to the DEHLG 2009 guidelines "Although a distance of 15km is currently recommended in the case of plans…[however] for projects, the distance could be much less than 15km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis"

Thus the Zone of Influence requires to be defined for each project. A "zone of influence" is the difference between an activity's spatial footprint and the extent of the activity's effects on surrounding habitat and wildlife populations. light, noise and hydrological connections are the major influencers in this regard.

The factors in defining the zone of influence above were as follows:

- The location of designated N2000 sites.
- The distance to which pollution generated could impact on downstream habitats.
- The extent of noise and light impacts on ecological receptors.

Given the type and scale of the project the only site being considered further is the Slyne Head Peninsula SAC (site code 002074). The other sites are too distant to be impacted on, effectively upstream of the site or are within a separate hydrological catchment.

3.1 Description of the Natura 2000 Sites

The Habitats Directive states "Any plan or project not directly connected or necessary to the management of the 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 site in view of the 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 site…"

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

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 sites.

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

Slyne Head Peninsula SAC (002074)

Conservation Objectives for Slyne Head Peninsula SAC (Site Code 002074)

Code	Qualifying Interest	Conservation Objectives
1150	Coastal lagoons	Restore the favourable conservation condition
1160	Large shallow inlets and bays	Maintain the favourable conservation condition
1170	Reefs	Maintain the favourable conservation condition
1210	Annual vegetation of drift lines	Maintain the favourable conservation condition
1220	Perennial vegetation of stony banks	Maintain the favourable conservation condition
1330	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	Restore the favourable conservation condition
1395	Petalophyllum ralfsii	Maintain the favourable conservation condition
1410	Mediterranean salt meadows (Juncetalia maritimi)	Restore the favourable conservation condition
1833	*Najas flexilis*	Maintain the favourable conservation condition
2110	Embryonic shifting dunes	Restore the favourable conservation condition
2120	Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	Restore the favourable conservation condition
21A0	Machairs (* in Ireland)	Restore the favourable conservation condition
3110	Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)	Maintain the favourable conservation condition
3140	Hard oligo-mesotrophic waters with benthic vegetation of *Chara spp*.	Maintain the favourable conservation condition

Table 2 continued next page …

4030	European dry heaths	Maintain the favourable conservation condition
5130	*Juniperus communis* formations on heaths or calcareous grasslands	Maintain the favourable conservation condition
6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco Brometalia*)(*important orchid sites)	Maintain the favourable conservation condition
6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)	Maintain the favourable conservation condition
6510	Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*)	Maintain the favourable conservation condition
7230	Alkaline fens	Maintain the favourable conservation condition

Table 2: Conservation Objectives for Slyne Head Peninsula SAC.

The conservation objectives above form the basis of this assessment. In relation to conservation condition the bar of "restore" is more difficult to achieve than "maintain" and so this will be considered should significant impacts be identified in relation to the habitats or species for which the site is selected.

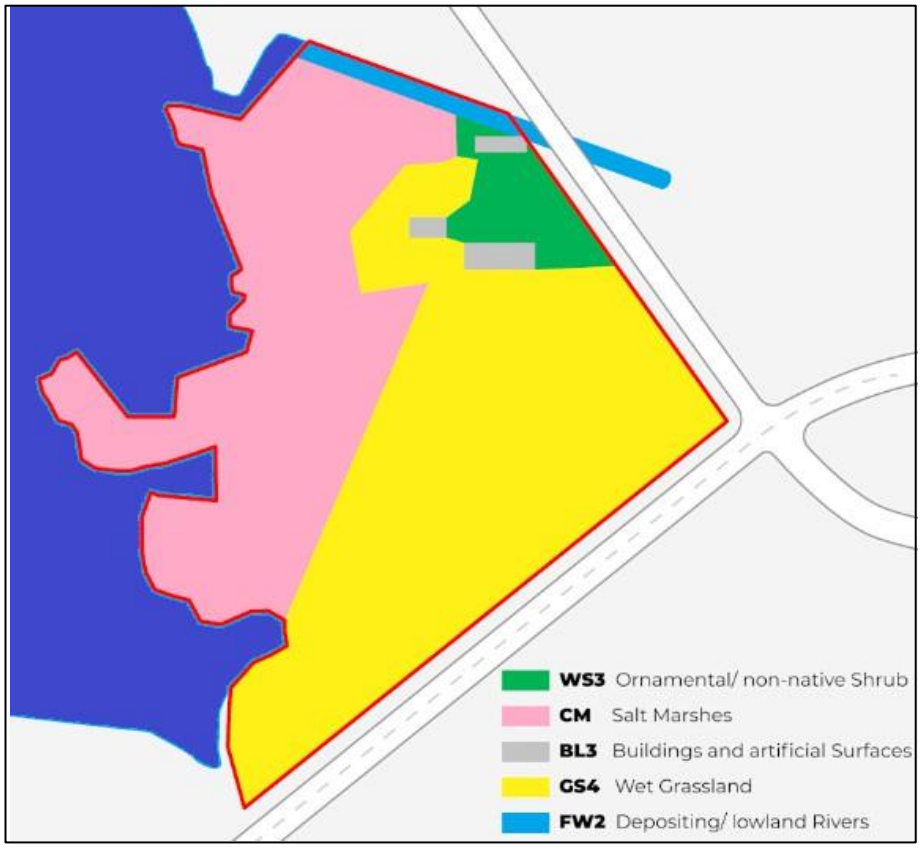
4.0 Receiving environment

Receiving environment can be broken down into several different elements

1. Habitats
2. Hydrology
3. Invasive species

4.1 Habitats

The site was surveyed to determine habitats. Habitat mapping of the site in accordance with Heritage Council publication best practice guidelines habitat survey and mapping 2011 and classification of the habitats according to the guidelines set out in a guide to habitats in Ireland Fossitt 2000



Map 4: Habitat Map (classification after Fossitt 2000, SSCO 2019, and standard colours Smith *et al* 2011

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The habitats found on site are classified based on walkover surveys. No specific flora or fauna surveys were undertaken at this site. The habitats recorded are classified in accordance with 'A Guide to Habitats in Ireland' (Fossitt, 2000), which classifies habitats based on the vegetation present and management history. The habitat map below shows the extent of the habitats on site

Map 5: NPWS map of qualifying interest as per Geohive Maps

Light Blue corresponds to Shallow Inlets and Bays and purple to Potential 1330 / Potential 1410. Potential Atlantic salt meadows (Glauco-Puccinellietalia maritimae) / Potential Mediterranean salt meadows (Juncetalia maritimi)

Please Note both NPWS maps and Aster survey map identify the development, which is subject of this retention application, has no qualifying interest habitat present.

4.2 Hydrology

Hydrology plays a critical role in appropriate assessment and is often a key element of assessments. Indirect impacts of a project are often the result of water pollution (sediments and hydrocarbons) leaving the site and travelling downstream to a protected area.

In this site the boundaries are freshwater and seawater and the habitats close to the site are classified as saltmarshes which are wetland habitat. A stream is on the North boundary of the subject property and the west boundary of the subject property is bordering the coast of Mannin bay.

The Hydrological assessment (Hydro S) concluded that "*the risk of pluvial flooding from the low lying area to the South, risk of fluvial flooding from the stream on the North boundary and tidal flooding from the sea are low and overall the proposed development has a low risk of pluvial, fluvial, tidal and sewer flooding*"

Response to Reason for Refusal Relating to Flood Risk PLANNING REFERENCE No. 19/1491

The refusal of planning permission cited concerns regarding both coastal and fluvial flood risk, stating that the original Flood Risk Assessment did not eliminate these risks beyond reasonable doubt. However, the updated Flood Risk Assessment prepared by Hydro-Environmental Services (2022) provides clear, evidence-based findings that directly address these concerns and support the site's overall suitability for development.

Key findings include:

- The subject site lies entirely above the 0.5% Annual Exceedance Probability (AEP) coastal flood level (i.e., above the 1-in-200-year event), even when the recommended climate change sea level rise allowance of 0.5 m is added.
- The finished floor level of the house is 3.62m OD Malin, which is 0.42 m higher than the minimum recommended finished floor level of 3.2 m OD Malin in the region.
- The development area is not at risk from fluvial flooding, as the shallow agricultural drains on the site do not meet the criteria for classification as watercourses and show no signs of surcharging or backflow during high tides or heavy rainfall events.
- No historical records or observed indicators suggest flood events at the site.

The methodology used in the 2022 FRA aligns with the DoEHLG Guidelines on Flood Risk Management (2009) and supports the conclusion that the site is not at significant risk from either coastal or fluvial flooding. Therefore, the updated assessment removes the basis for refusal on flood risk grounds and demonstrates compliance with Objective FL1 of the Galway County Development Plan 2015–2021.

4.3 Invasive species

An invasive species survey was carried out on site in 2019 as part of the baseline ecological assessment. This survey identified the presence of *Rhododendron ponticum*, a highly invasive, non-native species listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011. Its presence is considered a significant ecological concern due to its ability to dominate native habitats, suppress understory vegetation, and alter soil conditions. In addition, *Crocosmia × crocosmiiflora* (Montbretia) was also recorded on site. While not currently listed under the 2011 Regulations, Montbretia is recognised as an invasive garden escapee in Ireland and is widely acknowledged for its capacity to spread rapidly and displace native flora, particularly in coastal and disturbed habitats.

A follow-up survey conducted in 2025 confirmed that both species are now absent from the site, indicating successful control or eradication. The removal of *Rhododendron*

ponticum, in particular, represents a meaningful improvement in the ecological condition of the site, reducing the risk of further spread into adjacent areas within or near the Slyne Head Peninsula SAC. The absence of both species contributes positively to habitat quality and supports the biodiversity objectives of the local landscape. Ongoing monitoring is recommended to ensure that neither species re-establishes from residual rootstocks or seed sources.

5.0 Assessment

1. Decommissioning of the Existing Septic Tank (Positive Impact)

The removal of the original septic tank represents a beneficial intervention from an environmental perspective. Traditional septic tanks are a common source of nutrient and pathogen loading in rural coastal areas, particularly where soil permeability is low or maintenance is poor. Inadequate treatment can lead to the discharge of partially treated effluent, posing a risk to nearby freshwater and marine habitats, and potentially contributing to eutrophication, faecal contamination, and loss of ecological integrity in sensitive coastal environments such as the Slyne Head Peninsula SAC. The decommissioning of this system removes that source of diffuse pollution.

2. Installation of a New Effluent Treatment System (ETS) – Non-Compliant and Adverse Impact

While the replacement of the septic tank with an Waste Wate Treatment System (ETS) is, in principle, a positive step toward improving effluent treatment, in this case the location of the new system raises significant concerns. The current ETS and percolation area are situated within the boundary of the SAC and in close proximity to the coastal margin. This contravenes EPA Code of Practice siting standards, particularly with regard to minimum separation distances from surface waters. As a result, there is a tangible risk that treated effluent may still contribute nutrients and contaminants to adjacent marine waters—undermining the conservation objectives for habitats such as *Large Shallow Inlets and Bays* (Habitat Code 1160) and *Reefs* (1170). Furthermore, the physical footprint of the ETS and associated infrastructure occupies space within the designated site, introducing a land-use that is incompatible with the site's conservation designation and long-term habitat restoration potential.

3. Driveway and Gabion Walls – Neutral Impact

The gravel driveway and associated gabion retaining walls were constructed outside the SAC boundary with a small portion of the gabion wall inside the SAC but not interfering with any qualifying habitats. These features were built using clean, dry stone and geotextile-free materials, and no excavation was required near watercourses. As such, there is no evidence of sediment mobilisation or chemical contamination affecting the adjacent SAC. Their construction does not appear to have altered surface hydrology or introduced any significant environmental pressures, and they are considered to be of neutral ecological impact. All gravels are certified also as invasive species free (see appendix)

4. Tree Planting and Lawn Establishment Within SAC – Adverse Impact

The most ecologically significant alteration is the conversion of an area within the SAC—

currently classified as wet grassland and situated adjacent to mapped saltmarsh habitat—into a semi-formal garden space, with lawned areas and planted trees (notably alder and birch). Although this area does not currently meet the criteria for Annex I saltmarsh habitats (*e.g.* Atlantic or Mediterranean salt meadows), its location near the coast and low-lying elevation inside the SAC indicate a high potential for natural succession toward saltmarsh communities. The artificial stabilisation of this zone through mowing and tree planting impedes this natural trajectory.

The selected tree species are poorly suited to this hydrological and ecological setting and are altering the structure and ecological character of the site. Their presence introduces shade, leaf litter, and root competition into an area otherwise favourable for open, herbaceous wetland communities. This land-use change compromises the SAC's capacity to support its qualifying interests now and into the future.

Notably, a *reed bunting* (*Emberiza schoeniclus*), a Red-Listed species of conservation concern in Ireland, was observed using the rough grassland margin of this area during the breeding season. Reed buntings are dependent on open wetland habitats and are particularly sensitive to changes in vegetation structure and habitat loss.

6.0 Mitigation

To address potential adverse effects on the Slyne Head Peninsula SAC, the following mitigation measures are proposed:

6.1 Replacement of Wastewater Treatment System

The existing ETS and associated percolation area are located within the boundary of the Slyne Head Peninsula SAC and do not meet EPA Code of Practice (2021) separation distances from nearby drains and the coastal environment. Although the system is reportedly functioning, its location within the SAC and proximity (2–4.5 m) to shallow drains poses a risk to water quality and the ecological integrity of the designated site.

As mitigation, it is proposed that the existing treatment system be fully decommissioned and replaced with a new unit positioned outside the boundary of the SAC. The replacement system would comply fully with the EPA Code of Practice (2021), including required separation distances from drains, groundwater, and the shoreline. This measure will eliminate the risk of nutrient or contaminant inputs to the SAC and will ensure protection of qualifying marine habitats, including large shallow inlets and bays (1160) and reefs (1170).

6.2 Restoration of Lawned and Planted Area within the SAC

A portion of the SAC within the site has been converted to managed lawn and planted with tree species including alder and birch. Although the area is currently classified as wet grassland, its location adjacent to known saltmarsh habitat and shallow coastal hydrology indicates high potential for future reversion to Atlantic salt meadows (1330) or transitional habitats influenced by sea-level rise.

To support restoration objectives of the SAC, the following mitigation is proposed:

Removal of all trees and planted vegetation not consistent with saltmarsh or wetland habitats.

Cessation of all mowing and active landscaping within the SAC boundary.

Allowance for natural re-establishment of hydrology and vegetation, enabling passive restoration of salt-influenced grassland and marginal wetland habitat.

Passive rewilding to support habitat functionality and biodiversity, particularly for bird species such as reed bunting (Emberiza schoeniclus), which has been recorded on site during the breeding season.

These measures are intended to align the site with the conservation objectives of the SAC and enhance its future ecological value through restoration of a naturally functioning, undisturbed habitat zone.

7.0 Conclusion

This Remedial Natura Impact Statement has been prepared to retrospectively assess works undertaken at Ballinaboy, Mannin, Co. Galway, in accordance with Article 6(3) of the EU Habitats Directive (92/43/EEC), and relevant national guidance on Appropriate Assessment. The report has evaluated the potential for these works to adversely affect the integrity of the Slyne Head Peninsula SAC (site code: 002074), which borders the site and contains several Annex I habitats of high conservation value.

The assessment has identified one key area of concern: the siting of the existing effluent treatment system (ETS) and percolation area within the SAC and in close proximity to natural surface drains. While there is no evidence of current malfunction or pollution, the location of this infrastructure is not compliant with EPA Code of Practice standards and poses a future risk to the hydrological and ecological functioning of nearby designated habitats. In addition, part of the SAC has been converted into a managed lawn and planted with tree species inappropriate to the habitat, potentially affecting its future natural regeneration as a marginal saltmarsh or wet grassland community.

In response, this rNIS proposes clear and achievable mitigation measures. These include the relocation of the ETS to a site-compliant location outside of the SAC and surface water drainage zone, the removal of alder and birch trees from within the designated area, and the cessation of all active lawn and garden management within the SAC. These steps will support the natural restoration of the SAC's habitat mosaic and align with the conservation objectives for wetland and transitional habitats in the area. Continued control of invasive species such as Rhododendron, already evidenced on site, will also contribute positively to habitat quality.

Furthermore, the HydroS flood risk assessment confirms that the site lies outside both fluvial and coastal flood zones, effectively refuting the earlier basis for refusal relating to flood risk vulnerability. The gravel driveway and gabion structures are located principally outside the SAC boundary, with no direct impact on QI habitats and consist of clean materials, and present no risk of sedimentation or hydrological impact to the Natura 2000 site.

In conclusion, while some marginal impacts have occurred adjacent to sensitive habitats, they are considered reversible. With full implementation of the mitigation measures set

out in this report, the project can be brought into compliance with Article 6(3) of the Habitats Directive. The competent authority can be satisfied that the development, alone or in combination with other plans or projects, will not adversely affect the integrity of the Slyne Head Peninsula SAC.

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NPWS, 2025 Natura 2000 Form Slyne Head Peninsula SAC (site code 2074)

NPWS, 2025 Site Synopsis Slyne Head Peninsula SAC (site code 2074)

NPWS, 2025 Conservation Objectives Slyne Head Peninsula SAC (site code 2074)

Appendix I: Site Synopsis

SITE NAME: SLYNE HEAD PENINSULA SITE CODE: 002074

This site comprises the peninsula west of Ballyconneely, Co. Galway. It extends northwards to Errislannan Point to include the shallow waters of Mannin Bay. The peninsula is low-lying and undulating, reaching a maximum height of only 64 m (Doon Hill). The underlying rock is predominantly gneiss, except for schist along the northern shores of Mannin Bay, a granite ridge along the western edge of the peninsula and a conspicuous basalt exposure which forms Doon Hill. The peninsula is fringed with rocky shores and sandy beaches, with some extensive areas of machair and several brackish lakes and lagoons. Inland, the site is a maze of small fields, supporting a mosaic of habitats dominated by grassland and heath, interspersed with numerous lakes and associated swamp, marsh and fen. An important feature of the site is the influence of windblown calcareous sand on these habitats.
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):
[1150] Coastal Lagoons*
[1160] Large Shallow Inlets and Bays
[1170] Reefs [1210] Annual Vegetation of Drift Lines [1220] Perennial Vegetation of Stony Banks
[1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [2110] Embryonic Shifting Dunes
[2120] Marram Dunes (White Dunes) [21A0] Machairs*
[3110] Oligotrophic Waters containing very few minerals [3130] Oligotrophic to Mesotrophic Standing Waters [3140] Hard Water Lakes
[4030] Dry Heath
[5130] Juniper Scrub
[6210] Orchid-rich Calcareous Grassland* [6410] Molinia Meadows
[6510] Lowland Hay Meadows [7230] Alkaline Fens
[1395] Petalwort (Petalophyllum ralfsii) [1833] Slender Naiad (Najas flexilis)

Mannin Bay is an excellent example of a large shallow bay, with a wide range of sediment types. The islets and rocks at the mouth of the bay give some shelter from Atlantic swells. Conditions become more sheltered towards the head of the bay and are extremely sheltered in Mannin Creek. Tidal streams are weak. There are a very high number of sediment communities for such a small area. Mannin Bay is almost unique as a very large proportion of the bay is dominated by a combination of maerl debris and living maerl. Maerl is free living red calcareous algae generally called 'coral'. The two species that are most abundant in Mannin Bay are *Lithothamnion corallioides* and *Phymatolithon calcareum*. In addition *Lithophyllum fasclatum* and *L. dentatum* have also been recorded. In shallow water, Eelgrass (*Zostera marina*) and maerl are found together, an uncommon combination known only from two other locations in Ireland. Mannin Bay has excellent examples of communities characterised by the burrowing brittlestars *Amphiura brachiata* and *A. filiformis*. The brittle star *Ophiopsila annulosa* is present and is an uncommon

species. In addition there is an unusual community characterised by the tubeworm *Sabella pavonina* in Mannin Creek. The shores on the south side of Mannin Creek are known to have bivalve communities with unusually high species diversity. The beaches of Mannin Bay are unusual as they are composed of maerl debris.

Mannin Bay has good examples of littoral reef communities that are sheltered from wave action and subject to moderate tidal streams. Shoreline communities follow a zonation of lichen zones followed by *Pelvetia canaliculata* and then barnacles and limpets with *Fucus spiralis*. The zones are narrow (1- 1.5 m), which is typical of sheltered shores. Most of the shore is composed of flat bedrock and boulders characterised by dense *Ascophyllum nodosum* and *Fucus vesiculosus*. The dogwhelk *Nucella lapillus* is common. On the lower shore is a band of *Fucus serratus* on boulders and bedrock, with sponges, anemones and red algae. In the sublittoral fringe is a mixed flora of kelps (*Laminaria saccharina, L. digitata, Saccorhiza polyschides* and *Himanthalia elongata*) and red algae, with areas of sand and gravel with maerl. Sponges, anemones, tunicates and bryozoan crusts are common on the vertical sides and under the boulders. In the shelter of Mannin Creek the uncommon community characterised by *Ascophyllum nodosum var. mackii* is found on the north side of the creek.

Machair is particularly well developed and forms extensive plains at Mannin Beg and Aillebrack. The machair has a typically herb-rich sward dominated by species such as Red Fescue (*Festuca rubra*), Wild Thyme (*Thymus praecox*), Lady's Bedstraw (*Galium verum*), Daisy (*Bellis perennis*), clovers (*Trifolium spp*.) and plantains (*Plantago lanceolata and P. coronopus*), with damp areas of Creeping Bent (*Agrostis stolonifera*), Silverweed (*Potentilla anserina*) and small sedges (*Carex spp*.). The rare liverwort *Petalophyllum ralfsii*, a species listed under Annex II of the E.U. Habitats Directive, occurs within damp hollows in the machairs. The population at this site is the largest known in both Ireland and the world.

The machair gives way to bare sand in places with embryonic shifting dunes. These areas are characterised by the presence of Sand Couch (*Elymus farctus*) and Sand Sedge (*Carex arenaria).* Some Marram (*Ammophila arenaria*) dunes occur west of Mannin and towards the tip of the Slyne Head headland. Sandy beaches occur at the seaward side of the machair systems, some of which are 'coral' strands composed of the chalky skeletons of red seaweeds (*Lithothamnion sp*. and *Phymatolithion sp*.). Above the beaches typical drift line vegetation and shingle is found with species such as Prickly Saltwort (*Salsola kali*), Frosted Orache (*Atriplex lacinata*) and Sea Rocket (*Cakile maritima*). Parts of the shoreline, particularly east of Mannin machair, are fringed with saltmarsh vegetation developed on peat. Typical species found here include Common Saltmarsh-grass (*Puccinellia maritima*), Sea Plantain (*Plantago maritima*), Sea Milkwort (*Glaux maritima*) and Thrift (*Armeria maritima*). Saltmarsh dominated by dense stands of Sea Rush (*Juncus maritimus*) occur at the entrance to Salt Lough.

Brackish lakes and lagoons are a feature of this site. These include Ballyconneelly Lake, Lough Silverhill, Lough Aillebrack South and Lough Athola. These lakes are shallow, with sandy bottoms and shores, and may be directly connected to the sea. They all receive sea spray and during storms may be flooded by the sea. Characteristic species are pondweeds

(*Potamogeton spp.),* stoneworts (*Chara spp.*) and Tasselweed (*Ruppia maritima*).

The largest freshwater lake is Lough Anaserd, a typical oligotrophic (nutrient-poor) lake surrounded by heathland. It has a stony shore and numerous rocky islands, some covered with heath vegetation. Aquatic species noted from here include Quillwort (*Isoetes lacustris*), Bulbous Rush (*Juncus bulbosus*), Pipewort (*Eriocaulon aquaticum*), Alternate Water-milfoil (*Myriophyllum alterniflorum*) and Awlwort (*Subularia aquatica*). The rare Slender Naiad (*Najas flexilis*), a species protected under the Flora (Protection) Order, 2015, and listed on Annex II of the E.U. Habitats Directive, is also found here. Truska Lough is another oligotrophic lake and Manninmore Lake is also probably of this type. Other lakes within the site are more nutrient-rich in character, possibly due to a brackish influence (e.g.

Dereen Lough), and are fringed with Common Reed (*Phragmites australis*) and Many-stalked Spikerush (*Eleocharis multicaulis*). Also of importance are the associated areas of species rich marsh (e.g. Ballyconneely and Bunowen marshes) and fen (e.g.Triska), the latter dominated by Black Bog- rush (*Schoenus nigricans*), Blunt-flowered Rush (*Juncus subnodulosus*) and sedges (*Carex elata, C. lasiocarpa*). A scarce orchid*, Dactylorhiza traunsteineri*, typically found in calcareous marshes and fens, is recorded from this site.

Lough Aillebrack is considered to be a good example of a hard water lake with Chara formations. Species present which are particularly characteristic of hard water lakes include *C. contraria, C. desmacantha* and *C. globularis*. Much of the inland peninsula consists of small fields which contain a complex mosaic of habitats ranging from dry grassland, hay meadow and heath through to wet grassland and marsh. The heath occurs mainly in areas of outcropping rock and is dominated by Western Gorse (*Ulex gallii*), Bell Heather (*Erica cinerea*), Cross-leaved Heath (*Erica tetralix*) and St. Dabeoc's Heath (*Daboecia cantabrica*). Juniper (*Juniperus communis*) is also a frequent component of the heath communities here. The dry grassland supports vegetation rich in orchid species, including Early Purple-orchid (*Orchis mascula*), the two butterfly orchids (*Platanthera bifolia* and *P. chlorantha*) and the Red Data Book species Green-winged Orchid (*Orchis morio*). Two further Red Data Book species, Pyramidal Bugle (*Ajuga pyramidalis*) and Pale Dog-violet (*Viola lactea*), occur amongst the heath/grassland mosaic. Pale Dog-violet is legally protected under the Flora (Protection) Order, 2015.

The habitat type 'Molinia meadows' has been recorded in a number of places within this site, often in association with other habitats, such as fen, wet grassland or heath. Typical species include Purple Moor-grass (*Molinia caerulea*), Common Sedge (*Carex nigra*), Carnation Sedge (C*. panicea*), Common Knapweed (*Centaurea nigra*), Meadow Thistle (*Cirsium dissectum*), Tormentil (*Potentilla erecta*), Meadowsweet (*Filipendula ulmaria*) and Devil's-bit Scabious (*Succisa pratensis*).

Species-rich lowland hay meadows are also known from this site, supporting species such as Red Fescue, Yorkshire-fog (*Holcus lanatus*), Crested Dog's-tail (*Cynosurus cristatus*), Smooth Meadow- grass (*Poa pratensis*), Wild Carrot (*Daucus carota*), Common Knapweed and White Clover (*Trifolium repens*).

Three Annex I E.U. Birds Directive species are known to breed at the site - Chough (8 pairs in 1992), Sandwich Tern (31 pairs in 1995) and Common Tern (5 pairs in 1995).

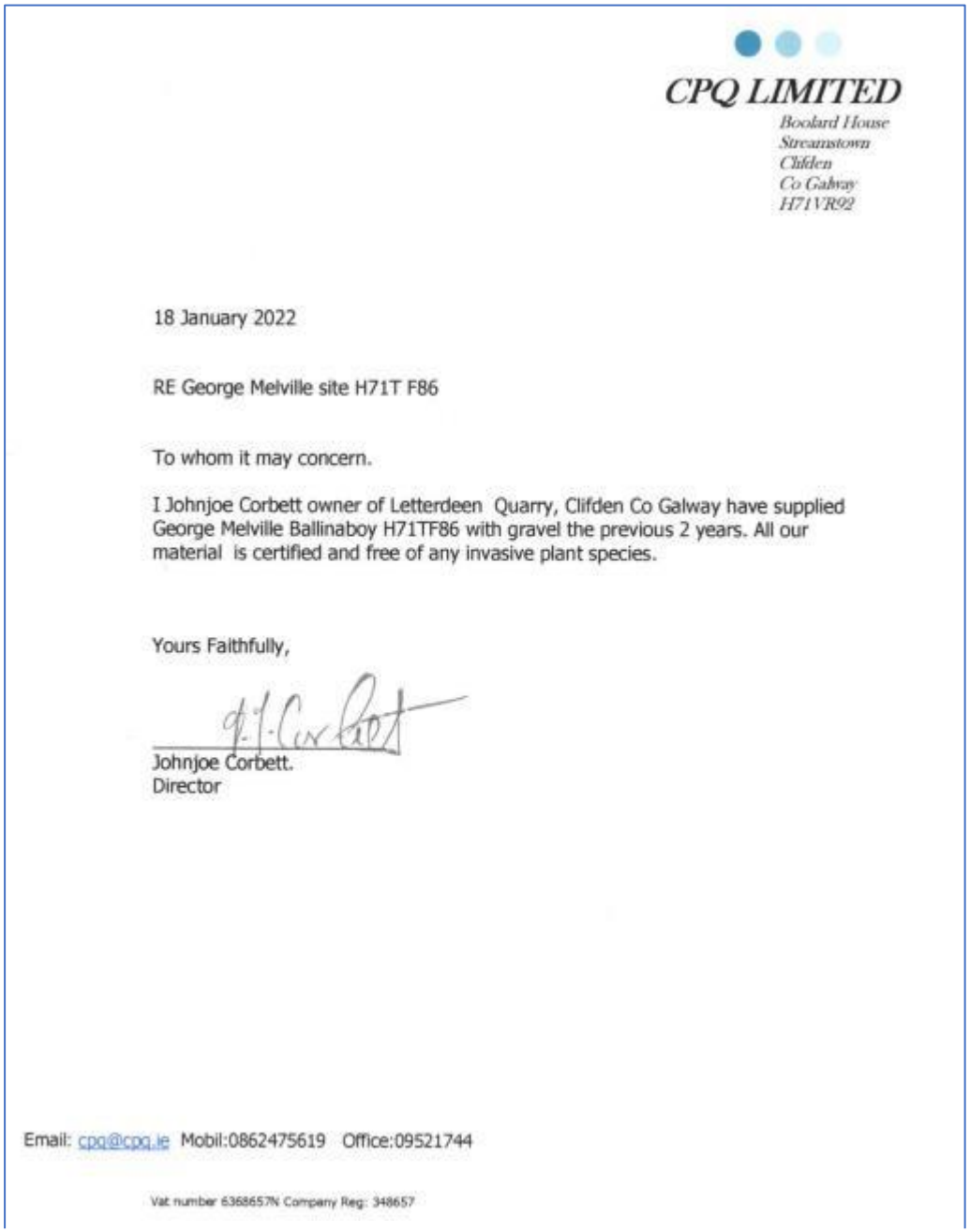
The main land use within the site is grazing by cattle, along with some sheep and horses. This is mostly of low to moderate intensity though parts of the machair may be over-grazed. Part of the machair and dune system at Aillebrack has been damaged by the construction of a golf course and this area is excluded from the site. Leisure and tourist related activities may also be damaging parts of the machair system.

This site is of ecological importance for the range and diversity of its semi-natural habitats, many of which are listed on Annex I of the Habitats Directive. The interface between calcareous sand dunes, machair, heath and grassland communities is of particular note. The site is also important for a number of rare and scarce species, especially the liverwort

Petalophyllum ralfsii.

Appendix II Alien Invasive Gravel Certification

All gravels used on site during the works are certified below as invasive species free



CPQ LIMITED

Boolard House
Streamstown
Clifden
Co Galway
H71VR92

18 January 2022

RE George Melville site H71T F86

To whom it may concern.

I Johnjoe Corbett owner of Letterdeen Quarry, Clifden Co Galway have supplied George Melville Ballinaboy H71TF86 with gravel the previous 2 years. All our material is certified and free of any invasive plant species.

Yours Faithfully,

Johnjoe Corbett.
Director

Email: cpq@cpq.ie Mobil:0862475619 Office:09521744

Vat number 6368657N Company Reg: 348657