Planning and Environmental Consultants

Appropriate Assessment Screening Report and Natura Impact Statement

Clifden Town Centre Public Realm Enhancement Project

DOCUMENT DETAILS

Client:	**Galway County Council (GCC)**
Project Title:	**Clifden Town Centre Public Realm Enhancement Project**
Project Number:	**210327**
Document Title:	**Appropriate Assessment Screening Report and Natura Impact Statement**
Document File Name:	**NIS F1-210327- 24.10.2024**
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Planning and Environmental Consultants

Rev	Status	Date	Author(s)	Approved By
01	Draft	22/08/2024	RM	CM
02	Draft	03/10/2024	RM	CM
01	Final	24/10/2024	RM	CM

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1. INTRODUCTION

1.1 Background

MKO has been appointed to provide the information necessary to allow the competent authority to conduct an Article 6(3) Appropriate Assessment of an area proposed to be enhanced under the Clifden Town Centre Public Realm Enhancement Project in Clifden, Co. Galway (Grid Reference; ITM 465748, 750606).

Screening for Appropriate Assessment is required under Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). Where it cannot be excluded that a project or plan, either alone or in combination with other projects or plans, would have a significant effect on a European Site then same shall be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives. The current project is not directly connected with, or necessary for, the management of any European Site. Consequently, the project has been subject to the Appropriate Assessment Screening process.

This Natura Impact Statement (NIS) has been prepared in accordance with the European Commission's Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2021) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018) as well as the Department of the Environment's Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010) and the Appropriate Assessment Screening for Development Management. Office of the Planning Regulator, Dublin 7, Ireland OPR (2021).

1.2 Statement of Authority

An initial multidisciplinary ecological walkover survey was undertaken by Inga Reich (Honours degree in Biology, Ph.D. in Applied Ecology) on the 26th of November 2021. A follow multidisciplinary ecological walkover survey was undertaken on the 20th of September 2023 by Rachel Minogue (BSc., Env) and Timothy O'Ceallaigh (BSc., Env) of MKO. This report has been prepared by Rachel Minogue (BSc., Env). RM is an ecologist with MKO with relevant academic qualifications in Environmental Science. This report has been reviewed by Colin Murphy (B.Sc., MSc). Colin is an experienced project ecologist with over 4 years' professional consultancy experience.

1.3 Structure and Format of this Document

- Section 2 provides a full description of all elements of the proposed works.
- In Section 3, the characteristics of the receiving environment are fully described.
- In Section 4, a Stage 1 Screening is undertaken to identify any European Sites upon which there is a potential for a likely significant effect to occur either individually or in combination with other plans and projects as a result of the proposed works.
- Section 5, the Natura Impact Statement provides a detailed consideration of the Screened In European Sites and identifies the relevant qualifying features and how they may be affected in light of their conservation objectives.
- Section 6 provides an assessment of the potential for adverse effects on the identified European Sites as a result of the proposed works and in the absence of mitigation. This section also prescribes mitigation to robustly block any identified pathways for impact for effect.
- Section 7 provides an assessment of residual effects taking into consideration the proposed mitigation.

- In Section 8, the potential in combination effects of the proposed works on European Sites, when considered in combination with other plans and projects were assessed.
- A concluding statement is provided in Section 9.

2. DESCRIPTION OF PROPOSED PROJECT

2.1 Site Location

The extent of the proposed public enhancement works extends to three sites in Clifden, Co. Galway, including the Town Centre, Harbour Park, and Beach Road Quay (Grid Reference; ITM 465748, 750606). To the south of the proposed works site is the Clifden Bay Estuary, and the Owenglin River which is designated as part of the Twelve Bens/ Garaun Complex SAC. To the east and north of the proposed works site is existing public buildings and residential dwellings. To the west of the site is large open areas of bog/ woodland/ scrub habitats. The site can be accessed from the north and east via the **N59,** and from the west via the **L1104** Sky Road.

The site location is shown in **Figure 2-1**

Map Legend

Site boundary

Drawing Title

Site Location

Project Title	
Clifden Town Public Realm Enhancement	
Drawn By: RM	Checked By: CM
Project No.: 210327	Drawing No.: Figure 2.1
Scale: 1:41,034	Date: 16/08/2024

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2.1.1 Description of the Proposed Works Areas

The extent of the proposed enhancement works extends to three sites in Clifden, including the Town Centre, Harbour Park, and Beach Road Quay, as described below. The total area covered by the three sections where works are proposed is approx 3.83 hectares (ha).

2.1.1.1 Clifden Town Centre

The Town Centre study area is located directly in the centre of Clifden Town, at the intersection of Main Street and Bridge Street. The Town Centre includes the Main Street, Market Square, Bridge Street and Hulk Street. The area where works are proposed in this location is approximately 1.95ha in size.

2.1.1.2 Harbour Park

Harbour Park is located to the west of Clifden Town Centre approximately 300m away from the town square, near the shoreline of Clifden Bay Estuary. The site is accessed via the Beach Road, from the town centre. The eastern boundary is adjacent to residential buildings. The west is bounded by town centre uses such as Clifden Town Hall, and a number of residential dwellings. The north of the site is bounded by a road and the south of the site is bounded by the banks of Clifden Bay. The study area covers an area of 1.65ha.

2.1.1.3 Beach Road Quay

The quay in Clifden is located a short distance west of Harbour Park. The quay is currently used for moorings for leisure boats along with a commercial element in the form of fishing boats. This study area is adjacent to the Quay House Hotel and the Royal National Lifeboat Institution (RNLI) Lifeboat Station The total area where works are proposed in this location is 0.23ha.

2.1.2 Description of the Proposed Works

Galway County Council are seeking approval from An Bord Pleanála for the proposed development of a public realm scheme in Clifden, Co. Galway.

i. Alterations works to the Clifden Town Centre area on Seaview Road, Main Street, Market Street, Market Hill, Bridgewell Lane, Bridge Street, and Hulk Street comprising:
    a. The reconfiguration and resurfacing of roads and realignment of parking spaces including removal of 58 no. on-street parking spaces leaving a total of 155 no. on street parking spaces,
    b. The widening and realignment of existing footpath areas, including the provision of new soft and hard landscaping,
    c. The installation of new and upgraded public lighting throughout the town,
    d. Relocation of The Beacon Statue
ii. Alterations to and resurfacing of Beach Road Quay public realm comprising:
    a. The provision of pedestrian and seating areas on the quay side of Beach Road quay, including the installation of 6 no. seating areas, and ancillary paving and landscaping,
    b. Remedial works to the quay wall (NIAH reg no. 30325017), including the resetting of dislodged stones, the removal of vegetation, and remedial masonry works,
    c. The replacement of existing railings along the quay wall,
    d. The installation of public lighting along the roadside,
iii. Redevelopment of the Harbour Park area south of Beach Road and to the west of Clifden town centre.

a. The demolition of the existing playground on site, and the construction of a new park including multi-age playground areas, including the provision of:
    i. Cycle Parking,
    ii. Timber Play Furniture,
    iii. Picnic benches and seating areas,
    iv. An Amphitheatre Performance Spaces,
    v. Climbing Wall
    vi. Pump track,
    vii. Running Track,
    viii. Car Park,
    ix. Sports pitch,
    x. Resurfacing, paving and hard & soft landscaping of the park area,

iv. All other associated and ancillary works.

2.1.3 Surface Water Drainage

2.1.3.1 Harbour Park

A 150mm Gully Connection Pipe and new gullies of a min 150mm internal width, and a min 100mm internal height are proposed throughout Harbour Park.

Two 150mm filter drains are proposed along the proposed running track to the centre of harbour park. To the western margins of these filter trains, are two proposed Silt Trap Manholes. Further, various silt trap inspection chambers are proposed along the two filter drains.

A 225mm Surface Water Pipe is proposed to the western parcel of Harbour Park, connecting to a proposed Precast Manhole to the western parcel, and to a Silt Trap Manhole to the east. Numerous Precast Manholes are proposed along the northern and southern parcels of Harbour Park.

For full details on the proposed Surface Water Drainage refer to Drawings 11252-2345-01 titled 'Harbour Park Surface Water Drainage' submitted as part of this application.

2.1.3.2 Beach Road

A 225mm Surface Water Pipe is proposed to the western parcel of Beach Road. A 150mm Gully Connection Pipe and new gullies of a min 150mm internal width, and a min 100mm internal height are proposed throughout Beach Road.

For full details on the proposed Surface Water Drainage refer to Drawings 11252-2360-01 titled 'Beach Road Surface Water Drainage' submitted as part of this application

2.1.3.3 Clifden Town Centre

A 150mm Gully Connection Pipe and new gullies of a min 150mm internal width, and a min 100mm internal height are proposed throughout the town centre. A Precast Manhole is proposed to the northeastern parcel of Clifden Town. The proposed new surface water network will connect to the existing surface water system.

For full details on the proposed Surface Water Drainage for Clifden Town Centre refer to Drawings 11252-2320-01 to 11252-2320-05 titled 'Clifden Town Centre Surface Water Drainage' submitted as part of this application.

2.2 Construction and Environmental Management Plan (CEMP)

The **Construction and Environmental Management Plan (CEMP)** submitted as part of this application has been reviewed, and any information relating to the construction methodology for the proposed works is described below. The appointed contractor for the construction of the Proposed Works in Clifden will be required to comply with the methodologies as set out in the CEMP and any revisions made to this document throughout the construction phase of the proposed works.

2.2.1 Proposed Construction Methodology

2.2.1.1 Resurfacing and Realignment of Roads and Parking Areas

The existing roads and parking areas will be realigned and resurfaced. The construction methodology for road resurfacing is as follows:

- The area where excavations will be carried out and areas of resurfacing will be surveyed, and all existing services will be identified.
- The area of resurfacing will be marked out using ranging rods or wooden posts.
- Existing road or tarmac surfaces to be removed will be grubbed up by appropriately sized excavator or hand tools.
- Excavation depths will be down to a competent stratum as approved by the Design Engineer.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- Sub-base in the form of Type 1 aggregate material will be laid down and compacted. A geotextile woven membrane will be laid down if deemed necessary.
- Any drainage infrastructure such as channel drains or ACO drains will be installed at this point.
- Kerbings or edges if required will be installed. These will be set in concrete and allowed to set before application of the tarmac surface.
- The top layer of tarmacadam/asphalt is then added.
- The surface is then smoothed and compacted using a roller truck.

2.2.1.2 Widening and Realigning of Existing Footpath Areas

Realignment and extension of footpaths and paving areas will be carried out using the following construction methodology:

- Areas of the footpath that will be realigned or widened will be demarked.
- Areas of tarmac will be removed to allow for widening of footpaths. The top layer of tarmac will be removed using an appropriately sized excavator or hand tool.
- A layer of clause 804 gravel or other Type 1 bedding material will be laid, compacted and levelled to the appropriate thickness of a 150mm as per Drawing No. 11252-2370-06 prepared by Tobin's Consulting Engineers.
- A 100mm layer of concrete will be poured on top of the compacted bedding layer and stone paving slabs laid on top.

2.2.1.3 Proposed Works at the Existing Playground

2.2.1.3.1 *Demolition of Existing Playground*

The works entail the demolition of the existing playground. The demolition/decommissioning works which will be carried out at the existing playground will be carried out using the following methodology:

- Pre-check of the site for any hazards or existing services. These checks will be carried out by a competent person(s).
- An inventory of the waste types that will be generated by the demolition works will be carried out.
- Playground equipment or miscellaneous materials within the playground will be removed.
- Removal of all services, fixtures and supporting structures, swing sets etc.
- Demolition will be completed by trained personnel using appropriate equipment and tools and a mechanical excavator if required.
- The majority of the waste generated during the demolition and decommissioning of the playground will consist of metal, wood, and plastic. This material will be segregated from all other waste components and sent by an authorised waste collector to an authorised waste recovery facility.
- The remaining volume of waste material will not be large enough to warrant any further segregation therefore, all waste generated during the demolition of the playground will be deposited into a single skip that will be brought by a waste collector to an appropriately authorised facility.
- It is anticipated that some masonry/concrete generated during the demolition works will be reused at the site for backfilling.

2.2.1.3.2 *Construction Works of the New Park and Multi-Age Playground Areas*

The construction works for a new park and multi-age playground area are anticipated to utilise the following construction methodology:

- A suitable surface will be installed. As per Drawing No. 116332–LUC–HP–XX–DR-L-0002 prepared by Land Use Consultants (LUC).
- The various park and playground components will be brought on site.
- The park and playground components will be securely fastened e.g., swing set and slides.
- Prior to commissioning of the new park and playground components the appropriate safety checks will be carried out by competent personnel.

2.2.1.4 Development of all Other Ancillary and Components

2.2.1.4.1 *Remedial Masonry Works*

Remedial masonry works are proposed to be carried out on the existing Quay. All remedial or repair works will be carried out by a competent stonemason with experience with such remedial works.

2.2.1.4.2 *Replacement of Existing Railings*

The existing railing is proposed to be removed and replaced. This process will involve the following:

- The existing railings will be removed, with the use of power tools.
- The locations for the new railings will be marked out and the appropriately sized holes will be drilled.
- Railings posts will be inserted and secured.

2.2.1.5 Landscaping

Upon completion of the construction works on the Proposed Works, the landscaping works will be carried out. The soft landscaping includes coastal feature planting, existing grass to be enhanced with coastal wildflower seeding, the introduction of ornamental planting, street tree planting. The existing soft landscape features are to be retained and protected from damage during the works.

In addition, hard landscaping will also be carried out and will consist of remedial works on structures such as existing water access step and the existing boundary wall. Additionally, the replacement of the existing railings, the installation of stone seating and installation of public lighting alongside the relocation of the beacon statue.

For full details on the proposed Construction Methodologies refer to the Construction and Environmental Management Plan (CEMP) submitted as part of this application.

3. CHARACTERISTICS OF THE RECEIVING ENVIRONMENT

3.1 Ecological Survey Methodologies

3.1.1 Ecological Multidisciplinary Walkover Surveys

An initial multidisciplinary ecological walkover survey was undertaken by Inga Reich (Honours degree in Biology, Ph.D. in Applied Ecology) on the 26th of November 2021. A follow multidisciplinary ecological walkover survey was undertaken on the 20th of September 2023 by Rachel Minogue (BSc., Env) and Timothy O'Ceallaigh (BSc., Env) of MKO. The multi-disciplinary ecological walkover surveys were undertaken in accordance with NRA Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes (NRA, 2009). The survey provided baseline data on the ecology of the study area and assessed whether furthermore detailed habitat or species-specific ecological surveys were required. The multi-disciplinary ecological walkover survey comprehensively covered the entire study area.

Habitats were identified in accordance with the Heritage Council's 'Guide to Habitats in Ireland' (Fossitt, 2000). Habitat mapping was undertaken with regard to guidance set out in 'Best Practice Guidance for Habitat Survey and Mapping' (Smith et al., 2011).

Plant nomenclature for vascular plants follows 'New Flora of the British Isles' (Stace, 2010), while mosses and liverworts nomenclature follow 'Mosses and Liverworts of Britain and Ireland - a field guide' (British Bryological Society, 2010).

The walkover survey was designed to detect the presence, or suitable habitat for a range of protected faunal species that may occur in the vicinity of the proposed works.

During the multidisciplinary survey, a search for Invasive Alien Species (IAS), with a focus on those listed under the Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2011), was also conducted.

Despite the initial multidisciplinary ecological walkover survey having been undertaken in November 2021, outside the optimal survey season from April to September, the follow up multidisciplinary ecological walkover survey carried out in September 2023 was conducted within the optimal season for surveying. As such, it is considered that a comprehensive assessment of all habitats and species within the works area has been achieved.

3.1.2 Invasive Species Survey

An initial Invasive Species Survey was undertaken by Inga Reich (Honours degree in Biology, Ph.D. in Applied Ecology) on the 26th of November 2021. A follow up Invasive Species Survey was undertaken on the 20th of September 2023 by Rachel Minogue (BSc, Env) and Timothy O'Ceallaigh (BSc, Env) of MKO in line with NRA (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes).

The site area was walked and systematically surveyed for the presence of invasive species (listed under the 'Third Schedule' of Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011)) with an emphasis on Japanese knotweed (*Fallopia japonica*), Himalayan knotweed (*Persicaria wallichii*), Himalayan balsam (*Impatiens glandulifera*), Giant hogweed (*Heracleum mantegazzianum*), Giant rhubarb (*Gunnera tinctoria*), Rhododendron

(*Rhododendron ponticum*) and Salmonberry (*Rubus spectabilis*). The location of specimens was mapped using a handheld GPS device and photographs were taken from the site.

The invasive species survey carried out in 2023 was conducted within the optimal season for surveying invasive species. As such, it is considered that a comprehensive assessment of invasive species within the works area has been achieved. A precautionary approach has been adopted with regard to the management of areas with the potential to support invasive species.

3.2 Results of Baseline Ecological Surveys

3.2.1 Habitats Present on the Site and Surrounding Area

An initial multidisciplinary walkover survey was undertaken by Inga Reich (Honours degree in Biology, Ph.D. in Applied Ecology) on the 26th of November 2021. A follow up multidisciplinary walkover survey was undertaken on the 20th of September 2023 by Rachel Minogue (BSc., Env) and Timothy O'Ceallaigh (BSc., Env) of MKO in line with NRA (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes). The habitats recorded during the site visit are described below and a habitat map is provided in **Figure 3.1.**

The main habitats recorded within the boundary of the proposed works site are classified as **Dry Meadows and Grassy Verges (GS2)**, **Scrub (WS1), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), Eroding/upland rivers (FW1), and Depositing Lowland Rivers (FW2)**. Habitats recorded to the margins of the proposed works site, outside of the proposed works boundary include **Treelines (WL2)** and **Hedgerows (WL1).**

Areas of **Spoil and Bare Ground (ED2)** are present within Harbour Park, to the northern parcel near the entrance. This habitat is dominated by gravel, stone, and sand and rubble heaps. (**Plate 3.1)**

Roadways, pathways, car parks, concrete walls, metal fencing, public and private buildings, boat yards, playground, and Astro turf recorded within all three sections of the proposed works site are classed as **Buildings and Artificial Surfaces (BL3).** (**Plates 3.2 & 3.3).**

Recolonising Bare Ground (ED3) is present throughout the site, on areas of exposed gravel and former pathways. The ground flora recolonising the bare ground with areas of exposed gravel include species of Nettle (*Urtica dioica),* Creeping Buttercup (*Ranunculus repens),* Germander Speedwell (V*eronica chamaedrys*), Ragwort (*Jacobaea vulgaris),* Dandelion (*Taraxacum vulgaria),* Horsetail (*Hippuris vulgaris*), Creeping Thistle (*Cirsium arvense),* Bush Vetch (Vicia sepium), Red Clover (Trifolium Pratense), and Hawkweed (Hieracium hibernicum). White clover *(Trifolium repens),* Meadow buttercup (*Ranunculus acris),* Ribwort Plantain *(Plantago lanceolatum),* Charlock (*Sinapsis arvensis),* Ragwort (*Senecio jacobaea*), Silverweed (*Potentilla anserina*), Perennial Ryegrass (*Lolium perenne),* Yorkshire Fog (*Holcus lanatus*), Oxeye Daisy (*Leucanthemum vulgare*), Bird's Foot trefoil (*Lotus corniculatus*), and Sheep's Fescue (*Festuca ovina).* **(Plate 3.4).**

Dry Meadows and Grassy Verges (GS2) are present throughout the site. There were no signs of mowing, grazing, or fertilizer application at the time of the site visit (20/09/2023). Species recorded include Curled dock (*Rumex crispus),* Red clover (*Trifolium pratense*), White clover *(Trifolium repens),* Meadow buttercup (*Ranunculus acris),* Nettle (*Urtica dioica),* Ribwort Plantain *(Plantago lanceolatum),* Charlock (*Sinapsis arvensis),* Ragwort (*Senecio jacobaea*), Silverweed (*Potentilla anserina*), Dandelion *(Taraxacum spp.),* Creeping Thistle *(Cirsium arvense*). Goat's Willow (*Salix caprea*), Oxeye Daisy (*Leucanthemum vulgare*), Bird's Foot trefoil (*Lotus corniculatus*), Sheep's Fescue (*Festuca ovina*), Field Bindweed *(Convolvulus arvensis),* Bull Thistle *(Cirsium vulgare),* Common Hogweed *(Heracleum sphondylium),* Nettle *(Urtica dioica),* Perennial Ryegrass *(Lolium perenne),* Yorkshire Fog *(Holcus lanatus),* Creeping Bent *(Agrostis stolonifera),* Common Knapweed (*Centaurea nigra),* Red Valerian *(Centranthus ruber),* Cocksfoot *(Dactylis glomerata),* Field Horsetail *(Equisetum arvense),* Gorse *(Ulex europaeus),* Black medick *(Medicago lupulina),* Alder *(Alnus glutinosa),* and Soft Rush *(Juncus effusus)* **(Plate 3.5).** Further, various invasive species were recorded within this habitat, including Giant rhubarb (*Gunnera tinctoria*), listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 of 2011), Butterfly-bush (*Buddleja davidii*), a medium impact invasive species, as per the second schedule of invasive species in Ireland, and Montbretia (*Crocosmia x crocosmiiflora*), a low impact invasive species.

Scrub (WS1) is present to the north and eastern boundaries of Harbour Park, with species recorded including Bramble (*Rubus fruticosus agg), Gorse (Ulex europaeus), Ash (Fraxinus excelsior), Nettle (Urtica dioica), Ivy (*Hedera hibernica), Field Horsetail *(Equisetum arvense),* Bull Thistle *(Cirsium vulgare),* Common Hogweed *(Heracleum sphondylium),* Curled dock *(Rumex crispus),* and Soft Rush *(Juncus effusus).* Further, various invasive species were recorded within this habitat, including Giant rhubarb (*Gunnera tinctoria*) and Japanese Knotweed (*Fallopia japonica),* listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 of 2011), Butterfly-bush (*Buddleja davidii*), a medium impact invasive species, as per the second schedule of invasive species in Ireland, and Montbretia (*Crocosmia x crocosmiiflora*), a low impact invasive species. **(Plates 3.6-3.7).**

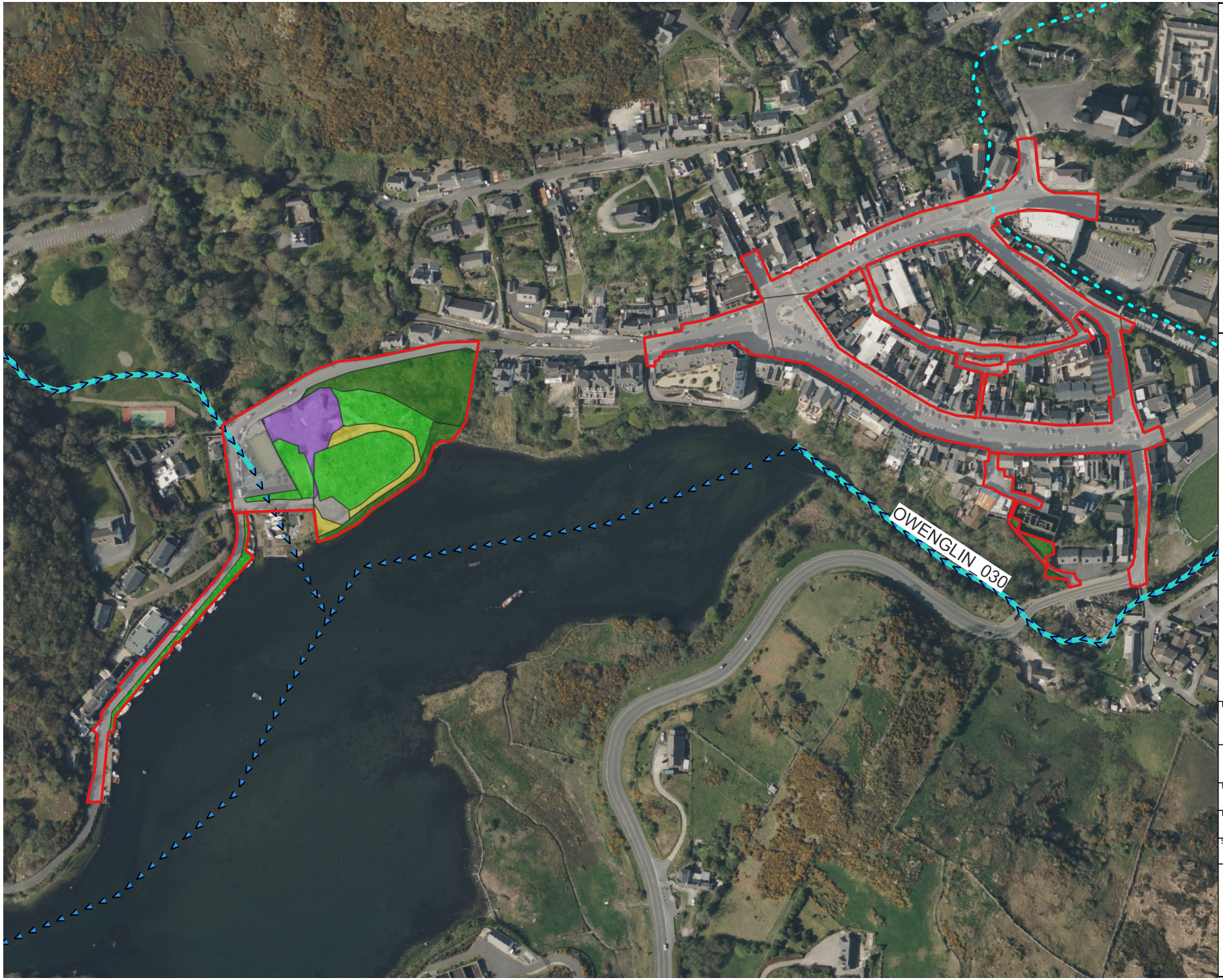
An artificially canalised section of an unmapped EPA watercourse runs culverted under Main Street in Clifden Town Centre to the northeast parcel of the proposed works site (Grid Reference: ITM 465910, 750682) **(Plate 3.8).** This artificially canalised watercourse continues to flow adjacent to the eastern margin of the proposed works site, in a southerly direction before discharging into the Owenglin River after approx 280m, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC **(Plate 3.9).** Based on the flow types, and artificial nature of this section of the watercourse, it is classified as an **Eroding/ Upland Rivers (FW1)-.** The Owenglin River continues to flow to the southern margin of the site, outside of the proposed works boundary in a westerly direction before discharging into Clifden Bay Estuary. Due to the flow types, size this watercourse is classified as a **Depositing Lowland River (FW2).** Further, the Clifden Stream, a tributary of the Owernglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction before discharging into Clifden Bay Estuary. **(Plate 3.10).** Based on the flow types, and artificial nature of this section of the watercourse, it is classified as an **Eroding/ Upland Rivers (FW1).**

Habitats recorded to the margins of the proposed works site, outside of the works boundary include **Hedgerows (WL1) (Plate 3.11)** and **Treelines (WL2) (Plate 3.12).** Species present within the **Hedgerow (WL1)** include individual Ash (*Fraxinus excelsior*), Gorse *(Ulex europaeus),* Field Bindweed *(Convolvulus arvensis),* Goat's Willow *(Salix caprea),* Ivy (*Hedera Hibernica*), and Bramble (*Rubus fruticosus agg),* The ground flora is composed of species including Nettle (*Urtica dioica*), Creeping Buttercup (*Ranunculus repens*), Germander Speedwell (*Veronica chamaedrys*), Broadleaved-Willowherb (*Epilobium montanum),* Bitter Dock (*Rumex obtusifolius*), Bull Thistle *(Cirsium vulgare),* Montbretia (*Crocosmia x crocosmiiflora),* and Rhododendron *(Rhododendron ponticum),* an invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 of 2011). Species present within the **Treelines (WL2)** included Willow (*Salix spp),* Ash (*Fraxinus excelsior*), Sycamore (*Acer pseudoplatanus),* Alder *(Alnus glutinosa*), Horse chestnut (*Aesculus hippocastanum),* Gorse *(Ulex europaeus),* Field Bindweed *(Convolvulus arvensis),* Goat's Willow *(Salix caprea),* Wych Elm (*Ulmus glabra*), and Ivy (*Hedera Hibernica*).

According to Article 17 Annex I habitat mapping, the Annex I habitat **[1130] Estuaries** extends into the southern parcel of Harbour Park (Grid Reference; ITM 465479, 750489), and to the southern parcel Beach Road Quay (Grid Reference; ITM 465347, 750389). However, following the multidisciplinary ecological surveys undertaken on the site, the habitats recorded in these areas include Dry Meadows and Grassy Verges (GS2), Scrub (WS1), Recolonising Bare Ground (ED2), and Buildings and Artificial Surfaces (BL3) **(Plate 3.13 & 3.14).** As such, these areas do not conform to this Annex I habitat type- [1130] Estuaries. Further, as per Article 17 Annex I habitat mapping, a small section mapped **[4010] Wet Heath** overlaps with a section of the proposed works site, along Doonen Road to the southeast corner (Grid Reference; ITM 466008, 750416). However, following the multidisciplinary ecological surveys undertaken on the site, the habitats recorded in this area includes Buildings and Artificial Surfaces (BL3) **(Plate 3.15).** As such, these areas do not conform to this Annex I habitat type [4010] Wet Heath.

The distribution of the relevant Article 17 Habitats within the vicinity of the proposed works is detailed on **Figure 3.2** below.

No other habitats listed under Annex I of the EU Habitats Directive were identified within the project boundary. The watercourses within and adjacent to the proposed works site, and Clifden Bay Estuary may be used by Otters (*Lutra lutra*), Salmon (*Salmo salar*), Grey Seal (*Halichoerus grypus*) and Common Bottlenose Dolphin (*Tursiops truncates)*, which are QI species of several EU sites in the vicinity of the proposed works boundary.



Map Legend

- Site boundary
- Dry Meadows and Grassy Verges (GS2)
- Buildings and Artifical Surfaces (BL3)
- Recolonising Bare Ground (ED3)
- Scrub (WS1)
- Spoil and Bare Ground (ED2)
- Unmapped EPA Watercourse
- EPA River Waterbodies

River Flow Direction

N

Drawing Title
Habitats Present Within the Site Boundary

Project Title
Clifden Town Public Realm Enhancement

Drawn By	Checked By
RM	CM
Project No.	Drawing No.
210327	Figure 3.1
Scale	Date
1:3,469.886	16/08/2024

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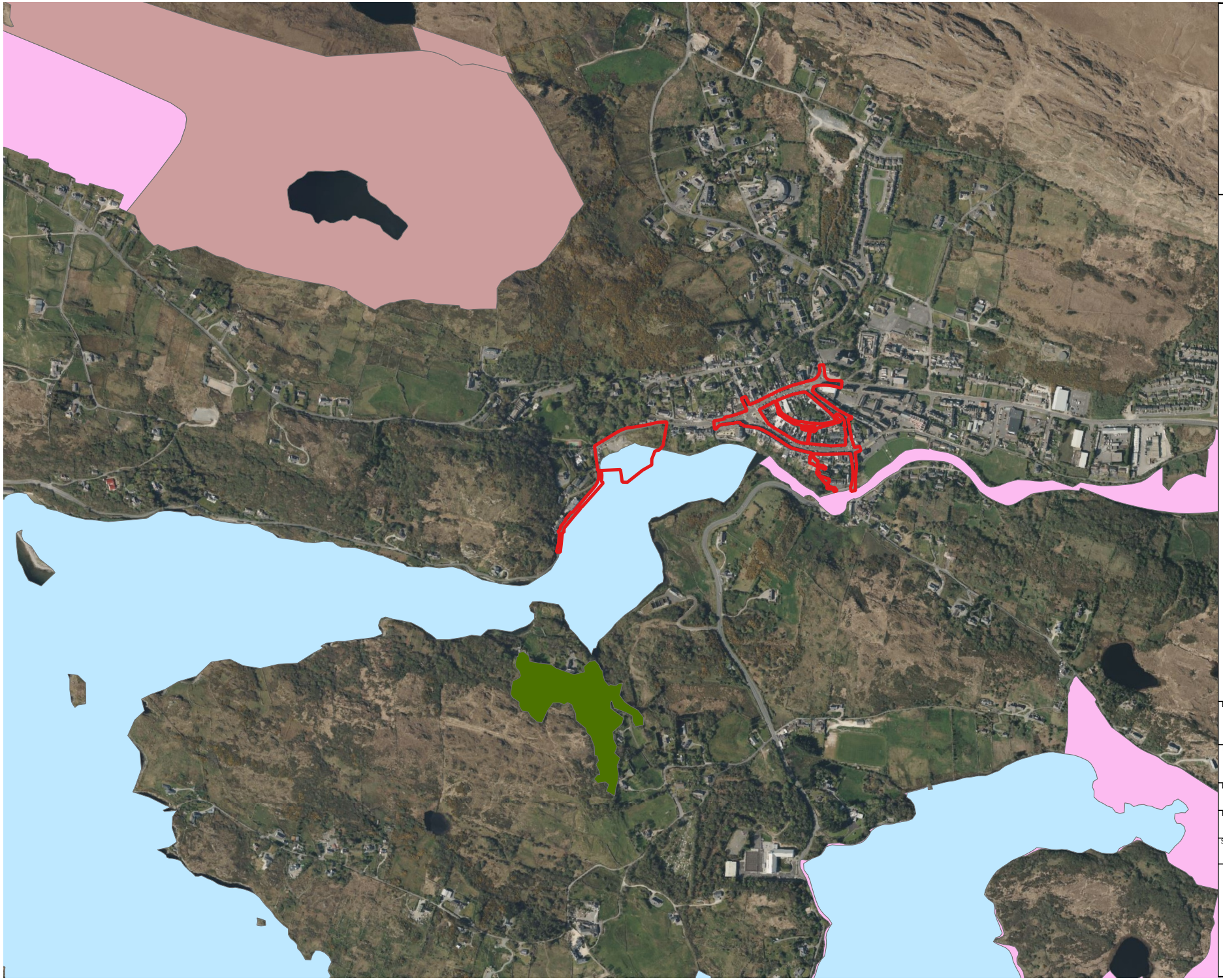

Drawing Title
Annex I habitats mapepd under Article 17 within the vicinity of the proposed works site.

Project Title
Clifden Town Public Realm Enhancement

Drawn By	Checked By
RM	CM
Project No.	Drawing No.
210327	Figure 3.2
Scale	Date
1:12,290	21/08/2024

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*Plate 3-1 Area of **Spoil and Bare Ground (ED2)** recorded to the northern parcel near the entrance of Harbour Park dominated by exposed gravel and stone, with sand and rubble heaps to the northern margin of this area*

*Plate 3-2 Playground area to the western margin of Harbour Park classified as **Buildings and Artificial Surfaces (BL3).***

Plate 3-3 Roadway, pathways, car parking, and buildings in Clifden Town Centre classified as ***Buildings and Artificial Surfaces (BL3).***

Plate 3-4 ***Recolonising Bare Ground (ED3),*** *with exposed gravel to the western boundary of Harbour Park*

Plate 3-5 ***Dry Meadows and Grassy Verges (GS2)*** *recorded to the eastern margin of Harbour Park.*

Plate 3-6 ***Scrub (WS1)*** *present to the eastern boundary of Harbour Park.*

Plate 3-7 ***Scrub (WS1)*** *present to the eastern boundary of Harbour Park, outside of the proposed works boundary, in private lands adjacent.*

Plate 3-8 An artificially canalised section of an unmapped EPA watercourse, classified as an ***Eroding Upland River (FW1)*** *runs culverted under Main Street in Clifden Town Centre to the northeast parcel of the proposed works site. This artificially canalised watercourse continues to flow adjacent to the eastern margin of the proposed works site, in a southerly direction before discharging into the Owenglin River after approx 280m, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC*

*Plate 3-9 A section of the Owenglin River, classified as a **Depositing Lowland River (FW2).**which is designated as part of the Twelve Bens/ Garraun Complex SAC, flows to the southern margin of the site, outside of the proposed works boundary in a westerly direction before discharging into Clifden Bay Estuary.*

*Plate 3-10 A section of the Clifden Stream, classified as an **Eroding Upland River (FW1),**a tributary of the Owernglin River which flows through the western margin of Harbour Park, flowing in a southerly direction before discharging into Clifden Bay Estuary.*

Plate 3-11 ***Hedgerow (WL1)*** *recorded to the eastern margin of Beach Road Quay, outside of the proposed works boundary.*

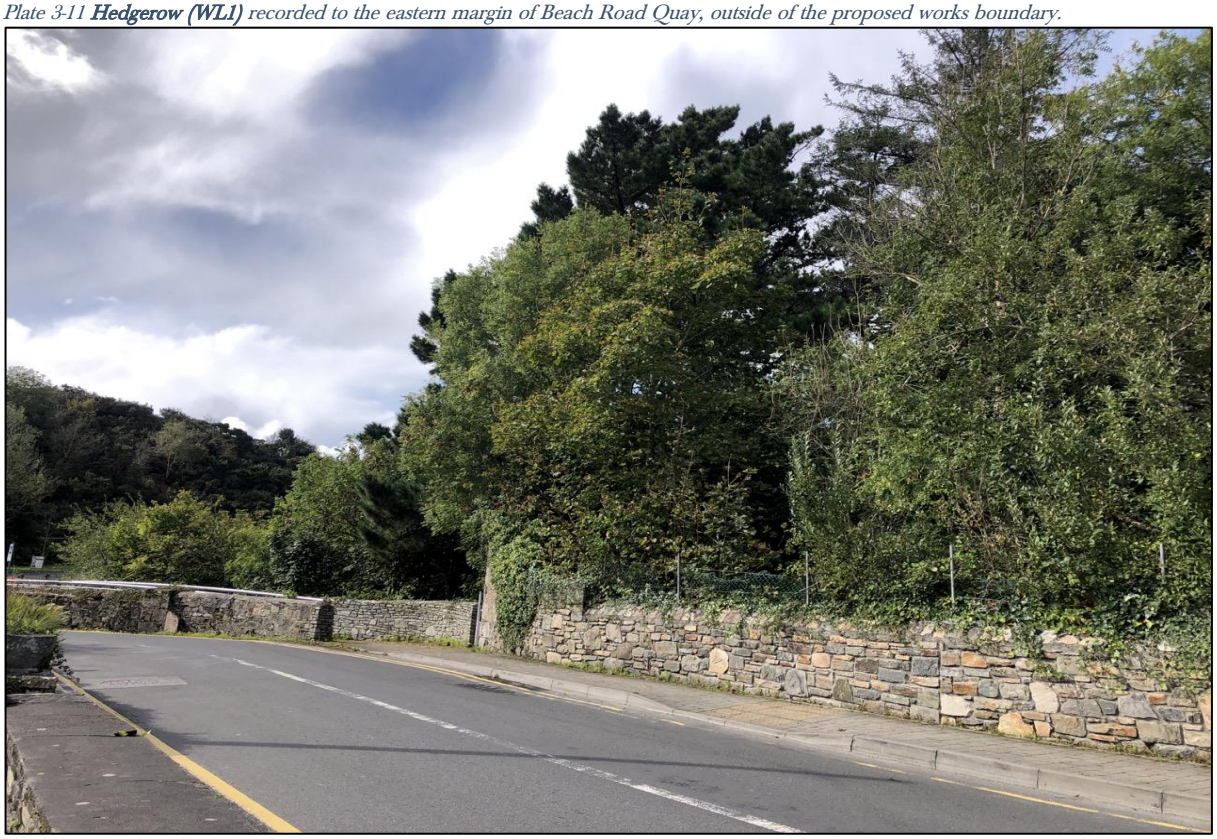


Plate 3-12 ***Treeline (WL1)*** *recorded to the southern margin of Clifden Town, outside of the proposed works boundary.*

Plate 3-13 The southern margin of Harbour Park mapped as the Annex I habitat [1130] Estuaries, as per Article 17 Mapping. The habitats recorded in this area include Dry Meadows and Grassy Verges (GS2), Scrub (WS1), Recolonising Bare Ground (ED2), and Buildings and Artificial Surfaces (BL3). As such, this area does not conform to this Annex I habitat type- [1130] Estuaries.

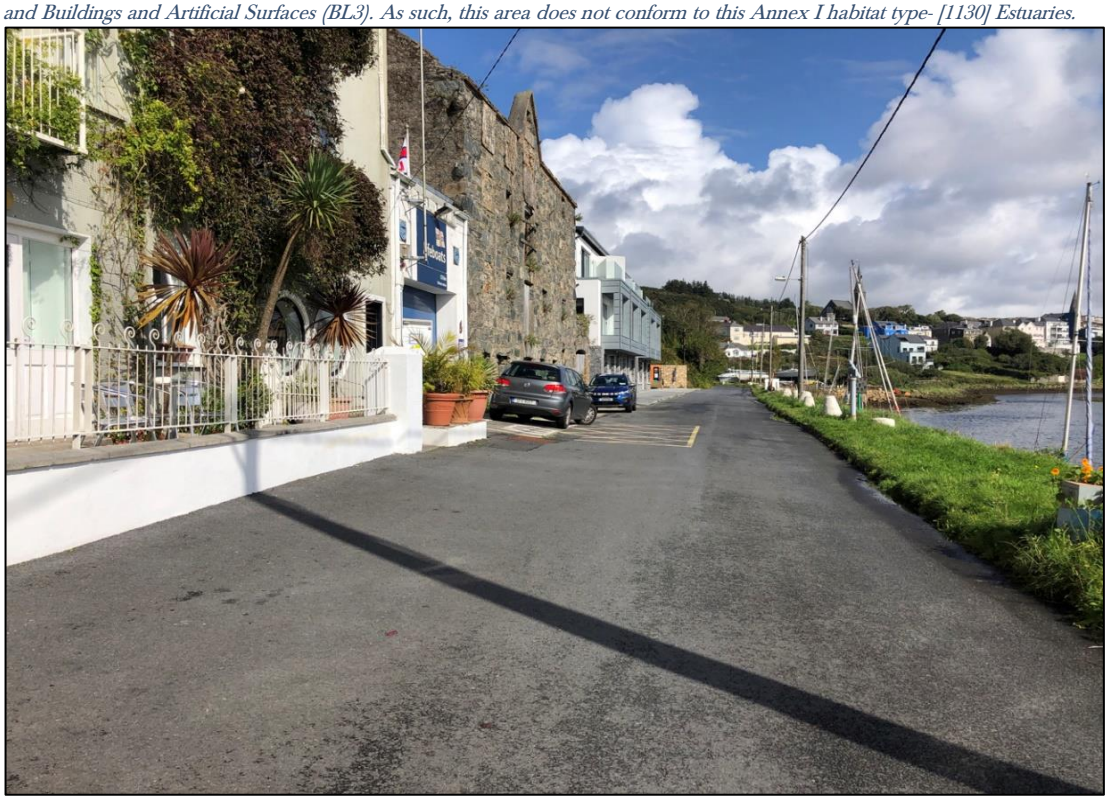


Plate 3-14 The southern margin of Beach Road Quay mapped as the Annex I habitat [1130] Estuaries, as per Article 17 Mapping. The habitats recorded in this area include Dry Meadows and Grassy Verges (GS2) and Buildings and Artificial Surfaces (BL3). As such, this area does not conform to this Annex I habitat type- [1130] Estuaries.

Plate 3-15 A small section of mapped Article 17 Annex I habitat [4010] Wet Heath overlaps with a section of the proposed works site, along Doonen Road to the southeast corner. The habitats recorded in this area includes Buildings and Artificial Surfaces. As such, this area does not conform to this Annex I habitat type [4010] Wet Heath

3.2.2 Invasive Species Results

3.2.2.1 Listed Third Schedule Invasive Species

Four invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 of 2011) were recorded during the surveys undertaken within the proposed works boundary, and in the lands adjacent. Giant rhubarb (*Gunnera tinctoria*) and Japanese knotweed (*Fallopia japonica*) were recorded within the proposed works boundary. Rhododendron (*Rhododendron ponticum*), and Himalayan Balsam (*Impatiens glandulifera*) were recorded in the lands adjacent, outside of the proposed works boundary. The most extensive areas of Invasive Species recorded were in Harbour Park.

As such, an **Invasive Species Management Plan (ISMP)** has been prepared for the control and management of Giant rhubarb and Japanese knotweed recorded within the proposed works boundary. The management and control measures outlined in the ISMP, submitted as part of this application, will prevent the spread of Invasive Species within and outside of the proposed works site. The ISMP will ensure that there will be no significant effects on any of the Qualifying Interests (QIs) associated with the neighbouring Twelve Bens/ Garraun Complex SAC, and any other Designated Sites, as a result of Invasive Species.

3.2.2.2 Non third schedule

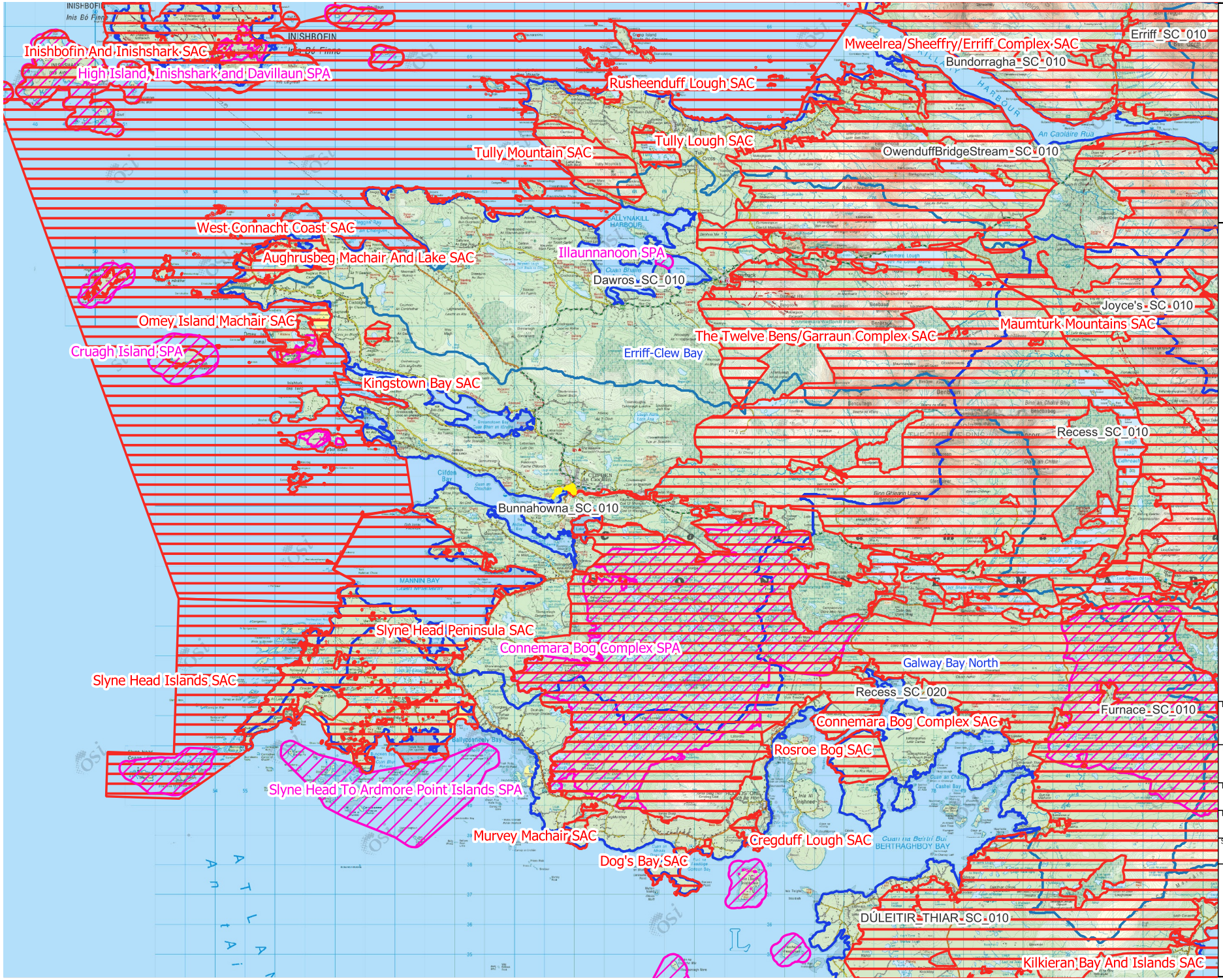
Butterfly Bush (*Buddleja davidii*), and Wall Cotoneaster (*Cotoneaster horizontalis*), both medium impact non-native invasive species of potential concern that is not listed on the Third Schedule of Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011), and Montbretia (*Crocosmia x crocosmiiflora)* a low impact, non-native invasive species of potential concern that is not listed on the Third Schedule of Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) were recorded within the proposed works boundary.

4. STAGE 1 – APPROPRIATE ASSESSMENT SCREENING

4.1 Identification of Relevant European Sites

The following methodology was used to establish any European Sites upon which there is a potential for a likely significant effect to occur either individually or in combination with other plans and projects as a result of the proposed works:

- Initially the most up to date GIS spatial datasets for European designated sites and water catchments were downloaded from the NPWS website (www.npws.ie) and the EPA website (www.epa.ie) on the 21.08.2024.
- All European Sites that could potentially be affected were identified using a source-pathway - receptor model. To provide context for the assessment, European Sites surrounding the development site are shown on **Figure 4-1**. Information on these sites according to the site-specific conservation objectives is provided in **Table 4-1**. Sites that were further away from the proposed works were also considered and no complete source-pathway-receptor chain for significant effect was identified for any other European Site.
- The catchment mapping was used to establish or discount potential hydrological connectivity between the site of the proposed works and any European Sites. The hydrological catchments are also shown in **Figure 4-1.**
- In relation to Special Protection Areas, in the absence of any specific European or Irish guidance in relation to such sites, the Scottish Natural Heritage (SNH) Guidance, '*Assessing Connectivity with Special Protection Areas* (SPA)' (2016) was consulted. This document provides guidance in relation to the identification of connectivity between proposed works and Special Protection Areas. The guidance takes into consideration the distances species may travel beyond the boundary of their SPAs and provides information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.
- **Table 4-1** provides details of all relevant European Sites as identified in the preceding steps and assesses the potential for likely significant effects on each.
- The assessment considers any likely direct or indirect impacts of the proposed works, both alone and in combination with other plans and projects, on European Sites by virtue of criteria including the following: size and scale, land-take, distance from the European Site or key features of the site, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction, operation and decommissioning were considered in this assessment.
- The site synopses and conservation objectives of these sites, as per the NPWS website (www.npws.ie), were consulted and reviewed at the time of preparing this report 21.08.2024
- Where potential pathways for Likely Significant Effect are identified, the site is included within the Likely Zone of Impact and further assessment is required within the NIS.
- The potential for the proposed works to result in cumulative impacts on any European Sites in combination with other plans and projects was considered in the assessment that is presented in **Table 4-1.** Plans and projects considered include those that are listed in **Appendix 1.**



Map Legend

- Site Location
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- EPA Hydrological Catchments
- EPA Hydrological Subcatchments

Drawing Title
European Designated Sites Within the Likely Zone of Influence

Project Title
Clifden Town Public Realm Enhancement

Drawn By	Checked By
RM	CM
Project No.	Drawing No.
210327	Figure 4.1
Scale	Date
1:164,841	16/08/2024

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Table 4-1 Identification of European Designated Sites within the Likely Zone of Impact

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
The Twelve Bens/Garraun Complex SAC [002031] **Distance: 0km** (the proposed works boundary extends slightly into the boundary of this SAC at Grid Reference: ITM 466013, 750417). **Surface Water Distance: 280m** (from where the watercourse intersects the proposed works boundary (Grid Reference: ITM 465910, 750682).	› [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera)* › [1106] Salmon (*Salmo salar)* › [1355] Otter (*Lutra lutra)* › [1833] Slender Naiad (*Najas flexilis)* › [3110] Oligotrophic waters containing very few minerals of sandy plains *Littorelletalia uniflorae* › [3130] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* › [4060] Alpine and Boreal heaths › [7130] Blanket bogs (* if active bog) › [7150] Depressions on peat substrates of the *Rhynchosporion* › [8110] Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) › [8210] Calcareous rocky slopes with chasmophytic vegetation › [8220] Siliceous rocky slopes with chasmophytic vegetation › [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	Detailed conservation objectives for this site (Version 1, July 2017) were reviewed as part of the assessment and are available at www.npws.ie	The site of the proposed works is located north/ northwest of this SAC. The proposed works boundary extends slightly into the boundary of this SAC, to the southwest corner of the site, along Doonen Road (Grid Reference: ITM 466013, 750417). However, no works are proposed for this area. As such, there will be no direct impact on this SAC. The proposed works site is located within the same groundwater body- Clifden Marbles [IE_WE_G_0013] as this SAC. As per EPA Maps the majority of the site, including Clifden Town Centre, is located within an area of Moderate Groundwater Vulnerability, with smaller sections located within areas of Extreme Vulnerability and in areas with rock at or near the surface. Due to the proximity of the proposed works site to this SAC, the potential impacts to groundwater have been considered. An artificially canalised section of an unmapped EPA watercourse runs culverted under Main Street in Clifden Town Centre to the northeast parcel of the proposed works site. This watercourse continues to flow adjacent to the eastern margin of the proposed works site, in a southerly direction before discharging into the Owenglin River after approx 280m (from where the watercourse intersects the proposed works boundary (Grid Reference: ITM 465910, 750682)), which as this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. As such, taking a precautionary approach, there is potential hydrological connectivity via the proposed works site and this SAC. Therefore, the

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
			construction phase of the proposed works may result in pollution to surface waters and to groundwaters adversely impacting the groundwater and aquatic influenced QI habitats and species within the SAC, in the absence of mitigation. A dedicated Otter survey was conducted on the 20th of September 2023 by MKO, along the unmapped EPA watercourse, along the accessible sections of the Owenglin River and Clifden Bay Estuary. No signs of Otters were recorded along the surveyed sections of the watercourses. However, taking an extremely precautionary approach, the unmapped EPA watercourse that flows through the northeastern boundary of the site, and adjacent, and the Owenglin River, and Clifden Bay may provide ex-situ supporting foraging, commuting and breeding habitat for the aquatic QI Species: Otters (*Lutra lutra)*. As such, a potential pathway for effect to this aquatic QI Species was identified in the form of ex-situ disturbance and displacement during the construction phase of the proposed works, in the absence of mitigation. **A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed works to result in likely significant effects on this European Site in the absence of mitigation. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this Screening assessment.**
Connemara Bog Complex SAC [002034] **Distance: 0.7km**	› [1065] Marsh Fritillary (*Euphydryas aurinia)* › [1106] Salmon (*Salmo salar)* › [1150] Coastal lagoons › [1170] Reefs › [1355] Otter (*Lutra lutra)*	Detailed conservation objectives for this site (Version 1, October 2015) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. There is no direct hydrological connectivity between the proposed works site and this SAC. The proposed works site is located approx 0.7km north

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
	› [1833] Slender Naiad (*Najas flexilis)* › [3110] Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) › [3130] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* › [3160] Natural dystrophic lakes and ponds › [3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation › [4010] Northern Atlantic wet heaths with *Erica tetralix* › [4030] European dry heaths › [6410] *Molinia* meadows on calcareous, peaty, or clayey-silt-laden soils (*Molinion caeruleae*) › [7130] Blanket bogs (* if active bog) › [7140] Transition mires and quaking bogs › [7150] Depressions on peat substrates of the *Rhynchosporion* › [7230] Alkaline fens › [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles		of this SAC. The site is located within the same groundwater bodies- Clifden Marbles [IE_WE_G_0013] and Clifden Castlebar [IE_WE_G_0017] as this SAC. As per EPA Map the majority of the site, including Clifden Town Centre, is located within an area of Moderate Groundwater Vulnerability, with smaller sections located within areas of Extreme Vulnerability and in areas with rock at or near the surface. The Geological Survey Ireland's (GSI) groundwater body description report for both Clifden Marbles (August 2004) and Clifden Castlebar (July 2004) groundwater bodies states that groundwater will discharge locally to streams and rivers crossing the aquifers, as well as small streams/ seeps. Further, groundwater flow directions are expected to follow local topography, overall, in a westerly direction., towards the coast. As such, after reviewing the Geological Survey Ireland's (GSI) report for the Clifden Marbles and Clifden Castlebar groundwater bodies, there is no potential for indirect impacts on this SAC in the form of groundwater pollution due to the buffering distance of 0.7km, and the nature (including discharge and direction of flow pathways) of the groundwater bodies. Therefore, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
Slyne Head Peninsula SAC [002074] **Distance: 2.5km** **Surface Water Distance: 6.5km**	› [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 (*Glauco-Puccinellietalia maritimae*) › [1395] Petalwort (*Petalophyllum ralfsii)* › [1410] Mediterranean salt meadows (*Juncetalia maritimi*) › [1833] Slender Naiad (*Najas flexilis)* › [2110] Embryonic shifting dunes › []2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) › [21A0] Machairs (* in Ireland) › [3110] Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) › [3140] Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. › [4030] European dry heaths › [5130] *Juniperus communis* formations on heaths or calcareous grasslands › [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates	Detailed conservation objectives for this site (Version 1, February 2015) were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. The proposed works site is located approx 2.5km northeast of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Peninsula SAC after approx 6.5km. As such, taking a precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting the aquatic influenced QI habitats and species within the SAC, via the deterioration of water quality, in the absence of mitigation. **A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed works to result in likely significant effects on this European Site in the absence of mitigation. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this Screening assessment.**

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
	› (*Festuco-Brometalia*) (* important orchid sites) › [6410] *Molinia* meadows on calcareous, peaty, or clayey-silt-laden soils (*Molinion caeruleae*) › [6510] Lowland hay meadows Alopecurus pratensis, *Sanguisorba officinalis*) › [7230] Alkaline fens		
West Connacht Coast SAC [002998] **Distance: 4.7km** **Surface Water Distance 5.6km**	› [1349] Common Bottlenose Dolphin (*Tursiops truncates)*	Detailed conservation objectives for this site (Version 1, November 2015) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. The proposed works site is located approx 4.7km east of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction, discharging into the West Connacht Coast SAC after approx 5.6km. As such, taking a precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting this aquatic QI species: Common Bottlenose Dolphin (*Tursiops*

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
			truncates) within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed works to result in likely significant effects on this European Site in the absence of mitigation. Therefore, the European Site is located within the Likely Zone of Impact and is considered further in this Screening assessment.**
Kingstown Bay SAC [002265] **Distance: 5.7km**	› [1160] Large shallow inlets and bays	Detailed conservation objectives for this site (Version 1, August 2011) were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. Due to the absence of a hydrological connection between the proposed works site and this SAC, the buffering distance of approx 5.7km from the proposed works site to this SAC, and the assimilative capacity of the intervening watercourses, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**
Barnahallia Lough SAC [002118]	› [1833] Slender Naiad *Najas flexilis* › [3130] Oligotrophic to mesotrophic standing waters with vegetation of the	Detailed conservation objectives for this site (Version 1, April 2021) were reviewed as part of the	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site.

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
Distance: 7.5km	*Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea*	assessment and are available at www.npws.ie.	Due to the absence of a hydrological connection between the proposed works site and this SAC, and the buffering distance of approx 7.5km from the proposed works site to this SAC, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**
Slyne Head Islands SAC [000328] **Distance: 7.9km** **Surface Water Distance: 11.2km**	› [1170] Reefs › [1364] Grey Seal (*Halichoerus grypus)*	Detailed conservation objectives for this site (Version 1, August 2012) were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. The proposed works site is located approx 7.9km northeast of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Islands SAC after approx 11.2km.

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
			As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting the aquatic QI species: Grey Seal (*Halichoerus grypus)* and habitat: Reefs within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source pathway receptor chain was identified and in the absence of mitigation, there is potential for the proposed works to result in likely significant effects on this European Site in the absence of mitigation.**
Omey Island Machair SAC [001309] **Distance: 8.9km**	› [1395] Petalwort *Petalophyllum ralfsii* › [21A0] Machairs (* in Ireland) › [3140] Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.	Detailed conservation objectives for this site (Version 1, January 2017) were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. Due to the absence of a hydrological connection between the proposed works site and this SAC, and the buffering distance of approx 8.9km from the proposed works site to this SAC, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**
Tully Mountain SAC [000330]	› [4030] European dry heaths › [4060] Alpine and Boreal heaths	Detailed conservation objectives for this site (Version 1, April 2019)	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site.

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
Distance: 9.5km		were reviewed as part of the assessment and are available at www.npws.ie.	Due to the terrestrial nature of the QI habitats, and the buffering distance of approx 9.5km from the proposed works site to this SAC, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**
Murvey Machair SAC [002129] **Distance: 10.2km**	› [1395] Petalwort *Petalophyllum ralfsii* › [21A0] Machairs (* in Ireland)	Detailed conservation objectives for this site (Version 1, January 2017) were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. Due to the terrestrial nature of the QI habitat and species, and the buffering distance of approx 10.2km from the proposed works site to this SAC, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
Aughrusbeg Machair And Lake SAC [001228] **Distance: 10.5km**	› [3130] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoëto-Nanojuncetea* › [4010] Northern Atlantic wet heaths with *Erica tetralix*	Detailed conservation objectives for this site (Version 1, October 2021) were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. Due to the absence of a hydrological connection between the proposed works site and this SAC, and the buffering distance of approx 10.5km from the proposed works site to this SAC, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**
Tully Lough SAC [002130] **Distance: 10.8km**	› [1833] Slender Naiad *Najas flexilis* › [3130] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea*	Detailed conservation objectives for this site (Version 1, June 2021) were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. Due to the absence of a hydrological connection between the proposed works site and this SAC, and the buffering distance of approx 10.8km from the proposed works site to this SAC, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the**

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
			Likely Zone of Impact and is not considered further in this Screening assessment
Rosroe Bog SAC [000324] **Distance: 12km**	› [7130] Blanket bogs (* if active bog) › [7150] Depressions on peat substrates of the *Rhynchosporion*	Detailed conservation objectives for this site (Version 1, May 2017) were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. Due to the terrestrial nature of the QI habitats, and the buffering distance of approx 12km from the proposed works site to this SAC, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**
Cregduff Lough SAC [001251] **Distance: 12.1km**	› [1833] Slender Naiad *Najas flexilis* › [7140] Transition mires and quaking bogs	Detailed conservation objectives for this site (Version 1, November 2021) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. Due to the absence of a hydrological connection between the proposed works site and this SAC, and the buffering distance of approx 12.1km from the proposed works site to this SAC, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or**

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
			cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment
Dog's Bay SAC [001257] **Distance: 12.3km**	› [1210] Annual vegetation of drift lines › [2110] Embryonic shifting dunes › [2120] Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) › [2130] Fixed coastal dunes with herbaceous vegetation (grey dunes) › [4030] European dry heaths	Detailed conservation objectives for this site (Version 1, March 2017) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. Due to the terrestrial nature of the QI habitats, and the buffering distance of approx 12.3km from the proposed works site to this SAC, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**
Rusheenduff Lough SAC [001311] **Distance: 12.7km**	› [1833] Slender Naiad *Najas flexilis* › [3130] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea*	Detailed conservation objectives for this site (Version 1, April 2021) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. Due to the absence of a hydrological connection between the proposed works site and this SAC, and the buffering distance of approx 12.7km from the proposed works site to this SAC, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded.

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
			No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment
Inishbofin And Inishshark SAC [000278] **Distance: 15km**	› [1150] Coastal lagoons › [1364] Grey Seal *Halichoerus grypus* › [3110] Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) › [4010] Northern Atlantic wet heaths with *Erica tetralix* › [4030] European dry heaths	Detailed conservation objectives for this site (Version 1, May 2015) were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct impact on this SAC as it is located outside the boundary of the proposed works site. Due to the absence of a hydrological connection between the proposed works site and this SAC, the buffering distance of approx 15km from the proposed works site to this SAC, and the assimilative capacity of the intervening watercourses, no complete source-pathway-receptor chain was identified and potential for indirect impact on the European Site can be excluded. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**
Special Protection Areas (SPA)			
Connemara Bog Complex SPA [004181]	› [A017] Cormorant (*Phalacrocorax carbo)* › [A098] Merlin (*Falco columbarius)*	Detailed conservation objectives for this site (Version 1, January 2023) were reviewed as part of the	There will be no direct impacts on this SPA as it is located outside the boundary of the proposed works site.

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
Distance: 2.2km	› [A140] Golden Plover (*Pluvialis apricaria)* › [A182] Common Gull (*Larus canus)*	assessment and are available at www.npws.ie	The proposed works site is located approx 2.2km northwest of this SPA. As such, is it located within the core foraging range of 3km for the Golden Plover (*Pluvialis apricaria*), and within the core foraging range of 5km for the Merlin (*Falco columbarius*). (SNH 2016). However, none of the SCI species associated with this SPA were recorded utilizing the proposed works site or the lands adjacent during any of the surveys undertaken by MKO. Taking an extremely precautionary approach, the small areas of Dry Meadows and Grassy Verges (GS2) located within Harbour Park and along Beach Road, may potentially provide suitable terrestrial foraging habitat for invertebrates for the Golden Plover (*Pluvialis apricaria)* and Common Gull (*Larus canus*) listed as SCI species for this SPA. However, due to the common and widespread occurrence of this habitat type within the surrounding lands, the loss of small areas of this habitat to facilitate the proposed works, will not result in significant impact to the SCI species in the form of ex-situ habitat loss or disturbance/ displacement. Further, the proposed works site is dominated by Artificial Surfaces (BL3), Recolonising Bare Ground (ED3), Dry Meadows and Grassy Verges (GS2) and Scrub (WS1). As such, the proposed works site does not provide significant suitable ex-situ supporting habitat for Cormorant (*Phalacrocorax carbo)* and Merlin (*Falco columbarius)* also designated as SCI species for this SPA. Therefore, due to the absence of a complete source-pathway receptor chain, the buffering distance of approx.2.2km from the project footprint to this SPA, there is no potential for ex situ disturbance or displacement related

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
			impacts on the SCI species during the construction phase of the proposed project. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the**
Inishbofin, Omey Island and Turbot Island SPA [004231] **Distance: 7.2km**	› [A122] Corncrake (*Crex crex)*	Detailed conservation objectives for this site (Version 1, October 2022) were reviewed as part of the assessment and are available at www.npws.ie. This site has a generic conservation objective: "*To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA".* NPWS (2022) Conservation objectives for Inishbofin, Omey Island and Turbot Island SPA [004231]. First Order Site-specific Conservation Objectives Version	There will be no direct impact on this SPA as it is located outside the boundary of the proposed works site. During the multidisciplinary walkover surveys carried out, no Corncrake (*Crex crex*) were recorded utilizing the habitats within or adjacent to the site. Further, the proposed works site is dominated by Artificial Surfaces (BL3), Recolonising Bare Ground (ED3), Dry Meadows and Grassy Verges (GS2) and Scrub (WS1). The corncrake breeds in rough pastures, and hay and sileage meadows. As such, the proposed works site does not provide suitable ex-situ supporting habitat for these SCI species. Therefore, due to the absence of a complete source-pathway receptor chain, the buffering distance of approx.7.2km from the project footprint to this SPA, there is no potential for ex situ disturbance or displacement related impacts to the Corncrake (*Crex crex*) during the construction phase of the proposed project. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the**

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
		1.0. Department of Housing, Local Government and Heritage.	**Likely Zone of Impact and is not considered further in this Screening assessment**
Illaunnanoon SPA [004221] **Distance: 7.8km**	› [A191] Sandwich Tern (*Sterna sandvicensis)*	Detailed conservation objectives for this site (Version 1, October 2022) were reviewed as part of the assessment and are available at www.npws.ie. This site has a generic conservation objective: "*To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA".* NPWS (2022) Conservation objectives for Illaunnanoon SPA [004221]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.	There will be no direct impact on this SPA as it is located outside the boundary of the proposed works site. During the multidisciplinary walkover surveys carried out, no Sandwich Tern (*Sterna sandvicensi*) were recorded utilizing the habitats within or adjacent to the site. Further, the proposed works site is dominated by Artificial Surfaces (BL3), Recolonising Bare Ground (ED3), Dry Meadows and Grassy Verges (GS2) and Scrub (WS1). The Sandwich Tern (*Sterna sandvicensi)* breeds on coastal habitats. As such, the proposed works site does not provide suitable ex-situ supporting habitat for these SCI species. Therefore, due to the absence of a complete source-pathway receptor chain, the buffering distance of approx.7.8km from the project footprint to this SPA, there is no potential for ex situ disturbance or displacement related impacts to the Sandwich Tern (*Sterna sandvicensi*) during the construction phase of the proposed project. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
Slyne Head to Ardmore Point Islands SPA [004159] **Distance: 8.5km**	› [A045] Barnacle Goose (*Branta leucopsis)* › [A191] Sandwich Tern (*Sterna sandvicensis)* › [A194] Arctic Tern (*Sterna paradisaea)* › [A195] Little Tern (*Sterna albifrons)*	Detailed conservation objectives for this site (Version 1, October 2022) were reviewed as part of the assessment and are available at www.npws.ie. This site has a generic conservation objective: "*To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA".* *NPWS (2022) Conservation objectives for Slyne Head to Ardmore Point Islands SPA [004159]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.*	There will be no direct impact on this SPA as it is located outside the boundary of the proposed works site. The proposed works site is located approx 8.5km northeast of Slyne Head to Ardmore Point Islands SPA. As such, is within the core foraging range of 15km for the Barnacle Goose (*Branta leucopsis*). (SNH 2016). No Barnacle Geese, or any other SCI Species associated with this SPA were recorded utilizing the proposed works area or the lands adjacent during any surveys carried out by MKO. Taking an extremely precautionary approach, Barnacle geese (*Branta leucopsis)* may potentially use the Dry Meadows and Grassy Verges (GS2) in Harbour Park for foraging during the winter. However, due to the common and widespread occurrence of this habitat type within the surrounding lands, the loss of small areas of this habitat to facilitate the proposed works, will not result in significant impact to the SCI species in the form of ex-situ habitat loss or disturbance/ displacement. Further, the proposed works site is dominated by Artificial Surfaces (BL3), Recolonising Bare Ground (ED3), Dry Meadows and Grassy Verges (GS2) and Scrub (WS1). As such, the proposed works site does not provide suitable ex-situ supporting coastal habitats for the Sandwich Tern (*Sterna sandvicensis),* Arctic Tern (*Sterna paradisaea)* and Little Tern (*Sterna albifrons)* also designated as SCI species for this SPA. Therefore, due to the absence of a complete source-pathway receptor chain, the buffering distance of approx.8.5km from the project footprint to this

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
			SPA, there is no potential for ex situ disturbance or displacement related impacts on the SCI species during the construction phase of the proposed project. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**
Cruagh Island SPA [004170] **Distance: 12.1km**	› [A013] Manx Shearwater (*Puffinus puffinus)* › [A045] Barnacle Goose (*Branta leucopsis)*	Detailed conservation objectives for this site (Version 1, October 2022) were reviewed as part of the assessment and are available at www.npws.ie. This site has a generic conservation objective: "*To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA".* *NPWS (2022) Conservation objectives for Cruagh Island SPA [004170]. First Order Sitespecific*	There will be no direct impact on this SPA as it is located outside the boundary of the proposed works site. The proposed works site is located approx 12.1km southeast of Cruagh Island SPA. As such, is within the core foraging range of 15km for the Barnacle Goose (*Branta leucopsis*). (SNH 2016). Barnacle geese (*Branta leucopsis)* may potentially use the Dry Meadows and Grassy Verges (GS2) in Harbour Park for foraging during the winter. However, during the walkover surveys carried out, no Barnacle Geese (*Branta leucopsis*) were recorded utilizing the habitats within or adjacent to the site. Given the widespread occurrence of this common habitat in the wider locality, the loss of this habitat within the proposed works site would not have a significant effect on this species. Further, the proposed work site is dominated by Artificial Surfaces (BL3), Recolonising Bare Ground (ED3), Dry Meadows and Grassy Verges (GS2) and Scrub (WS1), and is a busy urban and amenity area. As such, the

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
		Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.	proposed work site does not provide suitable ex-situ supporting habitat for Manx Shearwater (*Puffinus puffinus*), also designated as an SCI species for this SPA which breeds in inhabited offshore islands. Therefore, due to the absence of a complete source-pathway receptor chain, the buffering distance of approx.12.1km from the project footprint to this SPA, there is no potential for ex situ disturbance or displacement related impacts on the SCI species during the construction of the proposed project. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**
High Island, Inishshark and Davillaun SPA [004144] **Distance: 15km**	› [A009] Fulmar (*Fulmarus glacialis)* › [A045] Barnacle Goose (*Branta leucopsis)* › [A194] Arctic Tern (*Sterna paradisaea)*	Detailed conservation objectives for this site (Version 1, October 2022) were reviewed as part of the assessment and are available at www.npws.ie. This site has a generic conservation objective: "*To maintain or restore the favourable conservation condition of the bird species listed as Special*	There will be no direct impact on this SPA as it is located outside the boundary of the proposed works site. The proposed works site is located approx 15km southeast of High Island, Inishshark and Dayillaun SPA. As such, is within the core foraging range of 15km for the Barnacle Goose (*Branta leucopsis*). (SNH 2016). Barnacle geese (*Branta leucopsis)* may potentially use the Dry Meadows and Grassy Verges (GS2) in Harbour Park for foraging during the winter. However, during the walkover surveys carried out, no Barnacle Geese (*Branta leucopsis*) were recorded utilizing the habitats within or adjacent to the site. Given the widespread occurrence of this common habitat in the

European Designated Sites and distance from proposed project	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 21/08/2024	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
		Conservation Interests for this SPA". *NPWS (2022) Conservation objectives for High Island, Inishshark and Davillaun SPA [004144]. First Order Site-specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.*	wider locality, the loss of this habitat within the proposed works site would not have a significant effect on this species. Further, the proposed works site is dominated by Artificial Surfaces (BL3), Recolonising Bare Ground (ED3), Dry Meadows and Grassy Verges (GS2) and Scrub (WS1). As such, the proposed works site does not provide suitable ex-situ supporting coastal habitats for the Arctic Tern (*Sterna paradisaea)* and Fulmar (*Fulmarus glacialis)* also designated as SCI species for this SPA. Therefore, due to the absence of a complete source-pathway receptor chain, the buffering distance of approx.15km from the project footprint to this SPA, there is no potential for ex situ disturbance or displacement related impacts on the SCI species during the construction of the proposed project. **No pathway for significant effect on this European Designated Site was identified, when considered in the absence of any mitigation, individually or cumulatively with other plans or projects and the site is not within the Likely Zone of Impact and is not considered further in this Screening assessment**

4.2 Stage 1 Appropriate Assessment Screening Conclusion

It cannot be excluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the proposed works, individually or in combination with other plans and projects, would be likely to have a significant effect on the following European Designated Sites:

- The Twelve Bens/Garraun Complex SAC [002031]
- Slyne Head Peninsula SAC [002074]
- West Connacht Coast SAC [002998]
- Slyne Head Islands SAC [000328]

As a result, an Appropriate Assessment is required, and a Natura Impact Statement shall be prepared in respect of the proposed works.

5. STAGE 2- NATURA IMPACT STATEMENT (NIS)

The potential for likely significant effects on the following European Sites in the absence of any mitigation, individually or cumulatively with other plans or projects, was identified in the preceding section:

- The Twelve Bens/Garraun Complex SAC [002031]
- Slyne Head Peninsula SAC [002074]
- West Connacht Coast SAC [002998]
- Slyne Head Islands SAC [000328]

The following sections consider each European Site individually to:

1. Determine which individual qualifying features have the potential to be adversely affected by the proposed works.
2. Provide information with regard to the Conservation Objectives and site-specific pressures and threats for those qualifying features that have the potential to be adversely affected.

5.1 Identification of relevant Qualifying Features and Desk Study

5.1.1 The Twelve Bens/ Garraun Complex SAC [002031]

The potential for impacts on this SAC were identified in **Section 4.1** above. The identified pathways for effect include the following:

- Deterioration of water quality/ habitat quality and supporting habitats for aquatic fauna resulting from pollution to surface waters and ground waters during the construction phase, adversely impacting the aquatic influenced QI habitats and species within the SAC, in the absence of mitigation.
- Ex-situ disturbance and displacement to the aquatic QI Species: Otter during the construction phase of the proposed works, in the absence of mitigation.

Table 5-1 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

5.1.1.1 Identification of Individual Qualifying Features of the Twelve Bens/ Garraun Complex SAC with the Potential to be Affected.

Table 5-1 Assessment of Qualifying features of the Twelve Bens/ Garraun Complex SAC potentially affected.

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[1029] Freshwater Pearl Mussel (*Margaritifera margaritifera)*	To restore the favourable conservation condition of Freshwater Pearl Mussel in The Twelve Bens/Garraun Complex SAC	According to the SSCO Document for this SAC (NPWS 2017), the conservation objective for this QI Species applies to the Dawros freshwater pearl mussel (*Margaritifera margaritifera*) population in The Twelve Bens/Garraun Complex SAC, which is of international importance and one of eight Irish populations prioritised for conservation action (Moorkens, 2010; NPWS, 2010). This QI species extends from above Tullywee Bridge to the tidal limit downstream of Dawros Bridge; however, the stretch upstream of Tullywee Bridge has been little surveyed and requires further investigation. This QI species is very sensitive to hydro morphological changes, sedimentation, and nutrient enrichment. An artificially canalised section of an unmapped EPA watercourse runs culverted under Main Street in Clifden Town Centre to the northeast parcel of the proposed works site. This watercourse continues to flow adjacent to the eastern margin of the proposed works site, in a southerly direction before discharging into the Owenglin River after approx 280m (from where the watercourse intersects the proposed works boundary (Grid Reference: ITM 465910, 750682) which as this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. As such, taking a precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, and groundwaters, adversely impacting this aquatic QI Species: Freshwater Pearl Mussel (*Margaritifera margaritifera)* within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation.	**Y**

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		A complete source-pathway-receptor chain for adverse effects on this species was identified and it is assessed further in this NIS.	
[1106] Salmon (*Salmo salar)*	To maintain the favourable conservation condition of Atlantic Salmon in The Twelve Bens/Garraun Complex SAC	According to the SSCO Document for this SAC (NPWS 2017), Salmon spawn in clean gravels, and their Smolt abundance can be negatively impacted by several impacts such as estuarine pollution, predation, and sea lice (*Lepeophtheirus salmonis*). An artificially canalised section of an unmapped EPA watercourse runs culverted under Main Street in Clifden Town Centre to the northeast parcel of the proposed works site. This watercourse continues to flow adjacent to the eastern margin of the proposed works site, in a southerly direction before discharging into the Owenglin River after approx 280m (from where the watercourse intersects the proposed works boundary (Grid Reference: ITM 465910, 750682)) which as this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters and groundwaters, adversely impacting this aquatic QI Species: Salmon (*Salmo salar)* within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source-pathway-receptor chain for adverse effects on this species was identified and it is assessed further in this NIS.**	**Y**
[1355] Otter (*Lutra lutra)*	To maintain the favourable conservation condition of Otter in The Twelve Bens/Garraun Complex SAC	According to the SSCO Document for this SAC (NPWS 2017), terrestrial supporting habitat for this QI species include areas mapped to a 10m terrestrial buffer along shoreline (above high-water mark (HWM) and along riverbanks) identified as critical for otters (NPWS, 2007). There is evidence that otters tend to forage within 80m of the shoreline (HWM) (Kruuk, 2006; NPWS, 2007), and that Otters will utilise freshwater habitats from estuary to headwaters	**Y**

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		(Chapman and Chapman, 1982). Further, Otters will regularly commute across stretches of open water up to 500m e.g., between the mainland and an island; between two islands; across an estuary (De Jongh and O'Neill, 2010). An artificially canalised section of an unmapped EPA watercourse runs culverted under Main Street in Clifden Town Centre to the northeast parcel of the proposed works site. This watercourse continues to flow adjacent to the eastern margin of the proposed works site, in a southerly direction before discharging into the Owenglin River after approx 280m (from where the watercourse intersects the proposed works boundary (Grid Reference: ITM 465910, 750682)) which as this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters and groundwaters, adversely impacting this aquatic QI Species: Otter (*Lutra lutra)* within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. Further, the watercourses within, and adjacent to the proposed works boundary may provide ex-situ supporting foraging, commuting and breeding habitat for this aquatic QI Species. On a precautionary basis a potential pathway for effect to QI Species was identified in the form of ex-situ disturbance and displacement during the construction phase of the proposed works, in the absence of mitigation. **A complete source-pathway-receptor chain for adverse effects on this species was identified and it is assessed further in this NIS.**	
[1833] Slender Naiad (*Najas flexilis)*	To maintain the favourable conservation condition of Slender	According to the SSCO Document for this SAC (NPWS 2017), the selection of The Twelve Bens/Garraun Complex SAC for *Najas flexilis* (slender naiad) was based on its presence in Loughs Pollacappul and Kylemore. Pollacappul is considered to support a large population of	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
	Naiad in The Twelve Bens/Garraun Complex SAC	the species. The closest mapped record for this QI Species is approx 11.6km northeast of the proposed works site, as per Map 6 in the SSCO document. Further, although there are Eroding/ Upland Rivers (FW1) within and Estuaries adjacent to the proposed works site, these watercourses do not provide suitable ex-situ supporting freshwater lake habitat for this QI Species Slender Naiad (*Najas flexilis).* As such, indirect impacts on this QI species catn be rules out due to the absence of hydrological connections, the buffering distance of approx 11.6km from the proposed works site, the absence of suitable ex-situ supporting habitat within the proposed works boundary, and the closest mapped record of this QI species and the absence of a complete source-pathway- receptor chain. **No complete source- pathway- receptor chain for any effect on this species as a result of the proposed works was identified. No further assessment is required**	
[3110] Oligotrophic waters containing very few minerals of sandy plains *Littorelletalia uniflorae*	*To maintain the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) in The Twelve Bens/Garraun Complex SAC*	According to the SSCO Document for this SAC (NPWS 2017), this QI habitat is considered likely to occur in Pollacappul Lough, and possibly also Kylemore Lough in The Twelve Bens/Garraun Complex SAC, but the habitat may be more widespread in the SAC. As per map 3 in the SSCO Document, the closest mapped potential area of this QI Habitat is approx 5.6km east of the proposed works site. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Oligotrophic waters containing very few minerals of sandy plains *Littorelletalia uniflorae* designated as part of this SAC.	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		As such, indirect impacts on this QI habitat can be rules out due to the absence of hydrological connections, the buffering distance of approx 5.6km from the proposed works site and the closest mapped record of this QI habitat and the absence of a complete source-pathway- receptor chain. **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required**	
[3130] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae and/or Isoeto-Nanojuncetea*	*To maintain the favourable conservation condition of Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea in The Twelve Bens/Garraun Complex SAC*	According to the SSCO Document for this SAC (NPWS 2017), this QI habitat is considered likely to occur in Pollacappul Lough, and possibly also Kylemore Lough in The Twelve Bens/Garraun Complex SAC. As per map 3 in the SSCO Document, the closest mapped potential area of this QI Habitat is approx 11.6km northeast of the proposed works site. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae and/or Isoeto-Nanojuncetea* designated as part of this SAC. As such, indirect impacts on this QI habitat can be rules out due to the absence of hydrological connections, the buffering distance of approx 11.6km from the proposed works site and the closest mapped record of this QI habitat and the absence of a complete source-pathway- receptor chain. **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required**	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[4060] Alpine and Boreal heaths	*To restore the favourable conservation condition of Alpine and Boreal heaths in The Twelve Bens/Garraun Complex SAC*	According to the SSCO Document for this SAC (NPWS 2017), this QI habitat: Alpine and Boreal heaths has not been mapped in detail for The Twelve Bens/Garraun Complex SAC, but from current available data the total area of the qualifying habitat is estimated to be approximately 225ha, covering c.1% of the SAC (NPWS internal files). This QI Habitat has been recorded on several hillsides and summits including Benglenisky, Benbaun, Muckanaght, Bencullagh, Maumonght, Benbrack, Knockbrack, Bengooria, Doughruagh and Altnagaighera (NPWS internal files) within this SAC. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Alpine and Boreal heaths designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Alpine and Boreal heaths can be ruled out due to the terrestrial nature of the habitat, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	**N**
[7130] Blanket bogs (* if active bog)	*To restore the favourable conservation condition of Blanket bogs (* if active bog) in The Twelve Bens/Garraun Complex SAC*	According to the SSCO Document for this SAC (NPWS 2017), this QI habitat: Blanket bog has not been mapped in detail for The Twelve Bens/Garraun Complex SAC, but from current available data the total area of the qualifying habitat is estimated to be approximately 5,325ha, covering 33% of the SAC (NPWS internal files). The habitat has been recorded throughout the SAC and is best developed in low-lying basins and is present on the flanks of mountains up to an altitude of c.200m. Examples of this habitat can be found at Glenmore, Kylemore, Tooreenacoona.	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Blanket Bogs designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Blanket Bogs can be ruled out due to the terrestrial nature of the habitat, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	
[7150] Depressions on peat substrates of the *Rhynchosporion*	*To restore the favourable conservation condition of Depressions on peat substrates of the Rhynchosporion in The Twelve Bens/Garraun Complex SAC*	According to the SSCO Document for this SAC (NPWS 2017), this QI habitat: Depressions on peat substrates of the R*hynchosporion* has not been mapped in detail for The Twelve Bens/Garraun Complex SAC and thus the total area of the qualifying habitat in the SAC is unknown, however has been recorded around pools, in wet hollows, quaking areas and in flushed areas within the SAC (NPWS internal files). Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Depressions on peat substrates of the *Rhynchosporion* designated as part of this SAC. As such, indirect impacts on the following QI habitat: Depressions on peat substrates of the *Rhynchosporion* can be ruled out due to the absence of a complete source-pathway-receptor chain.	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.	
[8110] Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*)	T*o restore the favourable conservation condition of Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) in The Twelve Bens/Garraun Complex SAC*	According to the SSCO Document for this SAC (NPWS 2017), this QI habitat Siliceous scree of the montane to snow levels (*Androsacetalia alpinae and Galeopsietalia ladani*) has not been mapped in detail for The Twelve Bens/Garraun Complex SAC but from current available data the total area of the qualifying habitat is estimated to be approximately 162ha, covering 1% of the SAC (NPWS internal files), but occurs on hillsides throughout the SAC. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladani*) can be ruled out due to the terrestrial nature of the habitat, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	**N**
[8210] Calcareous rocky slopes with chasmophytic vegetation	To restore the favourable conservation condition of Calcareous rocky slopes with chasmophytic vegetation in The Twelve Bens/Garraun Complex SAC	According to the SSCO Document for this SAC (NPWS 2017), this QI habitat Calcareous rocky slopes with chasmophytic vegetation has not been mapped in detail for The Twelve Bens/Garraun Complex SAC, but from current available data the total area of the qualifying habitat is estimated to be approximately 105ha, covering c.1% of the SAC (NPWS internal files). This QI habitat has been recorded at the northern slopes of Muckanaght, west of	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		Bengower, Benbaun, Barrlugwaum on the south-east slopes of Benchoona, Altnagaighera, Garraun, Doughruagh and Benlettery (NPWS internal files). Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Calcareous rocky slopes with chasmophytic vegetation designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Calcareous rocky slopes with chasmophytic vegetation can be ruled out due to the terrestrial nature of the habitat, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	
[8220] Siliceous rocky slopes with chasmophytic vegetation	To restore the favourable conservation condition of Siliceous rocky slopes with chasmophytic vegetation in The Twelve Bens/Garraun Complex SAC	According to the SSCO Document for this SAC (NPWS 2017), this QI Habitat Siliceous rocky slopes with chasmophytic vegetation has not been mapped in detail for The Twelve Bens/Garraun Complex SAC, but from current available data the total area of the qualifying habitat is estimated to be approximately 121ha, covering c.1% of the SAC (NPWS internal files), occurring throughout the SAC including the slopes of Bengower, Benbreen, Bencollaghduff, Bencorr, Bencorrbeg, Derryclare, Bencullagh, Muckanaght, Benbaun, Doughruagh, Benchoona and Garraun (NPWS internal files). Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Siliceous rocky slopes with chasmophytic vegetation designated as part of this SAC.	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		Indirect impacts on the following terrestrial QI habitat: Siliceous rocky slopes with chasmophytic vegetation can be ruled out due to the terrestrial nature of the habitat, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	
[91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	To maintain the favourable conservation condition of Old sessile oak woods with Ilex and Blechnum in the British Isles in The Twelve Bens/Garraun Complex SAC	According to the SSCO Document for this SAC (NPWS 2017), this QI Habitat: Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles in The Twelve Bens/Garraun Complex SAC occur at Kylemore and Derryclare Woods, with scattered fragments also near Salrock House at the head of Killary Bay Little, in steep ravines north of Ballinahinch Lake and on islands in Lough Inagh and Derryclare Lough (NPWS internal files). It is important to note that there are additional areas of oak woodland, which were not mapped by the NSNW, present within the SAC. However, as per Map 4 the closest mapped area of this QI habitat is approx 17km east of the proposed works site. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles can be ruled out due to the terrestrial nature of the habitat, the buffering distance of approx 17km, and the absence of a complete source-pathway-receptor chain:	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, July 2017), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.	

5.1.1.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures, and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Works. These are provided in **Table 5.2 below.**

Table 5-2 Site-specific threats, pressures, and activities for the Twelve Bens/ Garraun Complex SAC

Rank	Threats and Pressures
High	Intensive sheep grazing
Medium	Diffuse pollution to surface waters due to agricultural and forestry activities
	Forest replanting (nonnative trees)
	Invasive non-native species
	Mechanical removal of peat
	Use of biocides, hormones, and chemicals (forestry)
Low	Bridge, viaduct
	Burning down
	Dispersed habitation
	Fences, fencing
	Hand cutting of peat
	Mountaineering, rock climbing, speleology
	Trampling, overuse,
	Walking, horse-riding and non-motorised vehicles
Rank	**Activities, Management**
Low	Non intensive cattle grazing
	Non intensive goat grazing

Potential pathways for effect with regard to site-specific threats, pressures and activities have been identified in relation to 'Diffuse pollution to surface waters due to agricultural and forestry activities', 'Invasive non-native species.

5.1.1.3 Species Specific Information

5.1.1.3.1 *[1029] Freshwater Pearl Mussel (Margaritifera margaritifera)*

Description from SSCO document

According to the SSCO Document for this SAC (NPWS 2017), the conservation objective for this QI species: Freshwater Pearl Mussel (*Margaritifera margaritifera*) applies to the Dawros freshwater pearl mussel (*Margaritifera margaritifera)* population in The Twelve Bens/Garraun Complex SAC, which is of international importance and one of eight Irish populations prioritised for conservation action (Moorkens, 2010; NPWS, 2010), listed on the European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009 (Statutory Instrument No. 296 of 2009). The QI Species is known to extend from above Tullywee Bridge to the tidal limit downstream of Dawros Bridge. The target is for the species to be sufficiently widespread to maintain itself on a long-term basis as a viable component of the Dawros system. Aster (2003) estimated a population of between 10,750 and 19,322 per linear kilometre of the Dawros River, while Moorkens (2008) estimated the total Dawros population at 800,000 to 1 million. The maximum density recorded in 2008 for this QI in this SAC was 256 per square metre and an average abundance of 148 mussels per linear metre calculated from 9 samples (Moorkens, 2008; Moorkens and Killeen, 2008). Unfortunately, the Dawros population is unsustainable due to a lack of survival of juvenile mussels. Further, the majority of the mapped habitat in the Dawros system is occupied by adult mussels; and is unsuitable for juvenile recruitment (Moorkens, 2008, 2016; Moorkens and Killeen, 2008; NPWS, 2010). Hydro morphological changes, including bank erosion/slumping and siltation, are key impacts on the Dawros mussel habitat. As such, the habitat in the Dawros cannot support sufficient juvenile survival and sufficient recruitment of juvenile mussels is being hindered by the poor condition of the river substratum.

The NPWS Article 17(NPWS 2019) states that this QI species is critically endangered in Ireland due to habitat deterioration: a combination of hydrological and morphological changes, sedimentation and enrichment. In many rivers, adult mussels have become stressed and are prematurely dying owing to habitat deterioration, while in others, riverbeds have become too clogged with silt, algae and rooted plants for young mussels to survive. The pressures come from a wide variety of sources (e.g. pollution from urban wastewater, development activities, farming and forestry), often quite removed from the species' habitat. Direct impacts also arise from in-stream works such as channelisation, bridge repairs / construction and recreational fishery structures. Flow changes, caused by activities such as land drainage, have been highlighted as an important contributor to the species' demise. The Overall Status of M. margaritifera is Bad and deteriorating, unchanged since the 2013 assessment.

Targets and Attributes for the Freshwater Pearl Mussel (*Margaritifera margaritifera*)

Table 5-3 Targets and Attributes for the Freshwater Pearl Mussel (Margaritifera margaritifera)

Attribute	Target
Distribution	Maintain distribution at 6.43km
Population size	Restore Dawros population to at least 800,000 adult mussels
Population structure: recruitment	Restore to at least 20% of population no more than 65mm in length; and at least 5% of population no more than 30mm in length
Population structure: adult mortality	No more than 5% decline from previous number of live adults counted; dead shells less than 1% of the adult population and scattered in distribution
Suitable habitat: extent	Restore suitable habitat in more than 4.8km in the Dawros system (see map 5) and any additional stretches necessary for salmonid spawning
Suitable habitat: condition	Restore condition of suitable habitat
Water quality: macroinvertebrate and phytobenthos (diatoms)	Restore water quality - macroinvertebrates: EQR greater than 0.90 (Q4-5 or Q5); phytobenthos: EQR greater than 0.93

Attribute	Target
Substratum quality: filamentous algae (macroalgae); macrophytes (rooted higher plants)	Restore substratum quality - filamentous algae: absent or trace (less than 5%); macrophytes: absent or trace (less than 5%)
Substratum quality: sediment	Restore substratum quality - stable cobble and gravel substrate with very little fine material; no artificially elevated levels of fine sediment
Substratum quality: oxygen availability	Restore to no more than 20% decline from water column to 5cm depth in substrate
Hydrological regime: flow variability	Restore appropriate hydrological regime
Host fish	Maintain sufficient juvenile salmonids to host glochidial larvae
Fringing habitat: area and condition	Maintain the area and condition of fringing habitats necessary to support the population

5.1.1.1 Species Specific Information

5.1.1.1.1 *[1106] Salmon (Salmo salar)*

Description from SSCO document

According to the SSCO Document for this SAC (NPWS 2017), artificial barriers block this QI Species: Salmon's (*Salmo salar*) upstream migration, thereby limiting species to lower stretches and restricting access to spawning areas. Further, this QI Species spawns in glean gravels. A conservation limit (CL) is defined by the North Atlantic Salmon Conservation Organisation (NASCO) as "the spawning stock level that produces long term average maximum sustainable yield as derived from the adult-to-adult stock and recruitment relationship". The target is based on the Standing Scientific Committee on Salmon (SSCS) annual model output of CL attainment levels. Attainment of CL estimates are derived from direct counts of adults (rod catch, fish counter) or indirectly by fry abundance counts. The Owenglin River is currently achieving CL. Smolt abundance can be negatively affected by a number of impacts such as estuarine pollution, predation and sea lice (L*epeophtheirus salmonis*)

The NPWS Article 17(NPWS 2019) states that pressures to this QI Species include exploitation at sea in commercial fisheries, interceptory fisheries in coastal waters, aquaculture, and predation. In addition, the negative influence of climate change on food prey structure and abundance has increasingly been attributed to the declines observed in stocks at sea. Within river systems, variation in individual stock abundance can be influenced by a variety of factors, notably alterations in physical habitat, water quality, environmental factors, predation, and angling and commercial fisheries exploitation pressure.

The Overall Status is assessed as Inadequate, the same as the last assessment. Although a short-term negative trend is reported for this species, the trend has reversed in the last 5 years. Therefore, an overall stable trend is reported.

Targets and Attributes for the Salmon (Salmo salar)

Table 5-4 Targets and Attributes for the Salmon (Salmo salar).

Attribute	Target
Distribution: extent of anadromy	100% of river channels down to second order accessible from estuary
Adult spawning fish	Conservation limit (CL) for each system consistently exceeded
Salmon fry abundance	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 minutes sampling
Out-migrating smolt abundance	No significant decline
Number and distribution of redds	No decline in number and distribution of spawning redds due to anthropogenic causes
Water quality	At least Q4 at all sites sampled by EPA

5.1.1.1 Species Specific Information

5.1.1.1.1 *[1355] Otter (Lutra lutra)*

Description from SSCO document

According to the SSCO Document for this SAC (NPWS 2017), this QI's species current range is estimated at 93.6% (Reid et al., 2013). Terrestrial areas are mapped to include 10m terrestrial buffer along shoreline (above high-water mark (HWM) and along riverbanks) both of which are identified as critical for otters (NPWS, 2007). Further, marine areas are mapped based on evidence that otters tend to forage within 80m of the shoreline (HWM) (Kruuk, 2006; NPWS, 2007). Freshwater habitat and River length calculated on the basis that otters will utilise freshwater habitats from estuary to headwaters (Chapman and Chapman, 1982). Further, this QI Species require lying up areas free from disturbance, throughout their territory (Kruuk and Moorhouse, 1991; Kruuk, 2006). Otters will regularly commute across stretches of open water up to 500m e.g., between the mainland and an island; between two islands; across an estuary (De Jongh and O'Neill, 2010). It is important that such commuting routes are not obstructed Otter's diet varies locally and seasonally, but dominated by fish, in particular salmonids, eels, and sticklebacks in freshwater (Bailey and Rochford, 2006; Reid et al., 2013) and wrasse and rockling in coastal waters (Kingston et al., 1999).

The NPWS Article 17(NPWS 2019) states the main threats to the otter include pollution, particularly organic pollution resulting in fish kills; and accidental deaths (road traffic and fishing gear). The Overall Status of otter is therefore considered to be Favourable, unchanged since the previous reporting period.

Targets and Attributes for the Otter (*Lutra lutra*)

Table 5-5 Targets and Attributes for the Otter (Lutra lutra)

Attribute	Target
Distribution	No significant decline
Extent of terrestrial habitat	No significant decline. Area mapped and calculated as 854.66ha
Extent of marine habitat	No significant decline. Area mapped and calculated as 53.81ha
Extent of freshwater (river) habitat	No significant decline. Length mapped and calculated as 382.7km

Attribute	Target
Extent of freshwater (lake) habitat	No significant decline. Area mapped and calculated as 540.7ha
Couching sites and holts	No significant decline
Fish biomass available	No significant decline
Barriers to connectivity	No significant increase

5.1.2 Slyne Head Peninsula SAC [002074]

The potential for impacts on this SAC were identified in **Section 4.1 above**. The identified pathways for effect include the following:

- Deterioration of water quality/ habitat quality and supporting habitats for aquatic fauna resulting from pollution to surface waters during the construction phase, adversely impacting the aquatic influenced QI habitats and species within the SAC, in the absence of mitigation.

Table 5-6 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

5.1.2.1 Identification of Individual Qualifying Features of Slyne Head Peninsula SAC with the Potential to be Affected.

Table 5-6 Assessment of Qualifying features of Slyne Head Peninsula SAC potentially affected.

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[1150] Coastal lagoons	To restore the favourable conservation condition of Coastal lagoons in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), the area for this QI habitat: Coastal Lagoons is calculated from spatial data derived from Oliver, 2007; Site codes IL067 (Ballyconneely Lake) and IL068 (Lough Athola). As per Map 3 in the SSCO Document, the closest mapped area for this QI habitat is approx 3km southwest of the proposed works site, in Lough Athola. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Peninsula SAC after approx 6.5km. As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting this aquatic QI Habitat: Coastal Lagoons within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.**	**Y**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[1160] Large shallow inlets and bays	To maintain the favourable conservation condition of Large shallow inlets and bays in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI Habitats area was estimated as 1540ha using OSi data and the Transitional Water Body area as defined under the Water Framework Directive. As per Map 4 in the SSCO Document, the closest mapped area for this QI habitat is approx 3.3km southwest of the proposed works site. The proposed works site is located approx 2.5km northeast of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Peninsula SAC after approx 6.5km. As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting this aquatic QI Habitat: Large Shallow inlets and bays within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.**	**Y**
[1170] Reefs	To maintain the favourable conservation condition of Reefs in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI Habitats area was estimated as 571ha based on data from BioMar surveys in 1994 and 1995 (Picton and Costello, 1997); intertidal survey in 2011 (MERC, 2012) and subtidal surveys in 2010 and 2011 (Aquafact, 2011; MERC, 2012). As per Map 5 in the SSCO Document, the closest mapped area of this QI habitat is approx 2.5km south of the proposed works site.	**Y**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		The proposed works site is located approx 2.5km northeast of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Peninsula SAC after approx 6.5km. As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting this aquatic QI Habitat: Reefs within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.**	
[1210] Annual vegetation of drift lines	To maintain the favourable conservation condition of Annual vegetation of drift lines in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI habitat was recorded at two sub-sites, giving a total estimated area of 0.78ha. As per Map 8 in the SSCO Document, the closest mapped area of this QI habitat is approx 10.7km southwest of the proposed works site. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Annual vegetation of drift lines designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Annual vegetation of drift lines can be ruled out due to the terrestrial nature of the habitat, the buffering distance of approx 10.7km, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	
[1220] Perennial vegetation of stony banks	To maintain the favourable conservation condition of Perennial vegetation of stony banks in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI habitats current distribution is unknown. However, small areas of shingle vegetation recorded at Doonloughan and Ballyconeely (Ryle et al., 2009) and is likely to be more widespread throughout this SAC. As per Map 8 in the SSCO Document, the closest mapped area of this QI habitat is approx 5.7km southwest of the proposed works site. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Perennial vegetation of stony banks designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Perennial vegetation of stony banks can be ruled out due to the terrestrial nature of the habitat, the buffering distance of approx 5.7km, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)	To restore the favourable conservation condition of Atlantic salt meadows (GlaucoPuccinellietalia maritimae) in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI habitats was mapped at one sub-site that supports Atlantic Salt Meadows was mapped (1.47ha) and additional areas of potential ASM habitat (2.59ha) were identified from an examination of aerial photographs, giving a total estimated area of 4.06ha. NB further unsurveyed areas maybe present within the SAC. As per Map 7 in the SSCO Document, the closest mapped area of this QI habitat is approx 6km southwest of the proposed works site. The proposed works site is located approx 2.5km northeast of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Peninsula SAC after approx 6.5km. As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting this aquatic QI Habitat: Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.**	**Y**
[1395] Petalwort (*Petalophyllum ralfsii)*	To maintain the favourable conservation condition of Petalwort in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), there are three known populations of this QI Species in this SAC are: Mannin More (Population 14a), Truska Machair (Population 14b) and Doon Hill/West of Aillebrack (Population 14c). As per Map 10	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		in the SSCO Document, the closest mapped area of this QI species is approx 6.1km southwest of the proposed works site. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). These habitats were deemed unsuitable for Petalwort (*Petalophyllum ralfsii)* due to the absence of suitable compacted, sandy ground. As such, indirect impacts on the following terrestrial QI species: Petalwort (*Petalophyllum ralfsii)* can be ruled out due to the terrestrial nature of the species, the absence of suitable ex-situ supporting habitat within the proposed works boundary, the buffering distance of approx 6.1km, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this species as a result of the proposed works was identified. No further assessment is required.**	
[1410] Mediterranean salt meadows (*Juncetalia maritimi*)	To restore the favourable conservation condition of Mediterranean salt meadows (Juncetalia maritimi) in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), one subsite that supports this QI Habitat: Mediterranean Salt Meadow was mapped (4.52ha) and additional areas of potential MSM habitat (2.01ha) were identified from an examination of aerial photographs, giving a total estimated area of 6.53ha. NB further unsurveyed areas maybe present within the SAC. As per Map 7 in the SSCO document, the closest mapped area for this QI Habitat is approx 5.7km southwest of the proposed works site. The proposed works site is located approx 2.5km northeast of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary.	**Y**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Peninsula SAC after approx 6.5km. As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting this aquatic QI Habitat: Mediterranean salt meadows (*Juncetalia maritimi*) within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.**	
[1833] Slender Naiad (*Najas flexilis)*	To maintain the favourable conservation condition of Slender Naiad in Slyne Head Peninsula SAC,	As per Map 10 in the SSCO Document, the closest mapped area of this QI species is approx 7km southwest of the proposed works site, within Lough Anaserd. Further, although there are Eroding/ Upland Rivers (FW1) within and Estuaries adjacent to the proposed works site, these watercourses do not provide suitable ex-situ supporting clear freshwater lake habitat for this QI Species Slender Naiad (*Najas flexilis).* As such, indirect impacts on the following QI species: Slender Naiad (*Najas flexilis)* can be ruled out due to the absence of hydrological connectivity, the buffering distance of approx 7km, the absence of suitable ex-situ supporting habitat within the proposed works boundary and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required**	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[2110] Embryonic shifting dunes	To restore the favourable conservation condition of Embryonic shifting dunes in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI habitat is very difficult to measure in view of its dynamic nature and was recorded at all four subsites, giving a total estimated area of 2.52ha. As per Map 8 in the SSCO document, the closest mapped area for this QI Habitat is approx 5.7km southwest of the proposed works site. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Embryonic shifting dunes designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Embryonic Shifting Dunes can be ruled out due to the terrestrial nature of the habitat, the buffering distance of approx 5.7km, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	**N**
[]2120 Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes)	To restore the favourable conservation condition of Shifting dunes along the shoreline with Ammophila arenaria ('white dunes') in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI Habitat is mapped at one sub-site to give a total estimated area of 0.15ha. As per Map 8 in the SSCO document, the closest mapped area for this QI Habitat is approx 8.8km southwest of the proposed works site. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) can be ruled out due to the terrestrial nature of the habitat, the buffering distance of approx 8.8km, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	
[21A0] Machairs (* in Ireland)	To restore the favourable conservation condition of Machairs in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI Habitat was recorded from four sub-sites, giving a total estimated area of 276.29ha. Further, Machair is the most abundant dune habitat in the SAC. The largest machair site is at Doonloughan which has lost some habitat area due to natural events. As per Map 8 in the SSCO document, the closest mapped area for this QI Habitat is approx 6km southwest of the proposed works site. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Machairs designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Machairs can be ruled out due to the terrestrial nature of the habitat, the buffering distance of approx 6km, and the absence of a complete source-pathway-receptor chain:	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.	
[3110] Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)	To maintain the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) in Slyne Head Peninsula SAC,	According to the SSCO Document for this SAC (NPWS 2015), this QI Habitats distribution and classification of lake habitats in the c.29 lakes/ponds in the SAC is not fully known and, therefore, habitat area targets cannot be set. However, according to Map 9 in the SSCO Document, the closest mapped area of this QI habitat is approx 3km southwest of the proposed works boundary, in an inland lake. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) designated as part of this SAC. As such, indirect impacts on the following QI Habitat: Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) can be ruled out due to the absence of hydrological connectivity, the buffering distance of approx 3km, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required**	**N**
[3140] Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.	To maintain the favourable conservation condition of Hard oligo-mesotrophic waters with benthic	The hard water lake habitat (3140) is found in Doon Lough and Aillebrack Loughs South and North. It is likely to be more widespread in the SAC, given the prevalence of calcareous sand.	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
	vegetation of Chara spp. in Slyne Head Peninsula SAC	However, according to Map 9 in the SSCO Document, the closest mapped area of this QI habitat is approx 9km southwest of the proposed works boundary, in an inland lake. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. designated as part of this SAC. As such, indirect impacts on the following QI Habitat: Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.can be ruled out due to the absence of hydrological connectivity, the buffering distance of approx 9km, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required**	
[4030] European dry heaths	To maintain the favourable conservation condition of European dry heaths in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI Habitats total area has not been calculated although it is known to be distributed throughout the SAC, usually occurring in mosaic with other habitats such as exposed rock and various grassland types including the Annex I habitat Semi-natural dry grasslands and scubland facies on calcareous substrates (Festuco-Brometalia) (6210) (NPWS internal files). Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: European Dry heaths designated as part of this SAC.	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		As such, indirect impacts on the following terrestrial QI habitat: European Dry Heath can be ruled out due to the terrestrial nature of the habitat, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	
[5130] *Juniperus communis* formations on heaths or calcareous grasslands	To maintain the favourable conservation condition of Juniperus communis formations on heaths or calcareous grasslands in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI Habitats status within the SAC is currently unclear. As it occurs in intimate association with other habitats including the Annex I European dry heaths (4030) and Smi-natural dry grasslands and scrubland facies on calcareouus substrates (FestucoBrometalia) (6210), which can also support juniper (Juniperus communis), further work is required to establish the habitat's extent, structure, and quality. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: *Juniperus communis* formations on heaths or calcareous grasslands designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: *Juniperus communis* formations on heaths or calcareous grasslands can be ruled out due to the terrestrial nature of the habitat, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites)	To maintain the favourable conservation condition of Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) in Slyne Head Peninsula	According to the SSCO Document for this SAC (NPWS 2015), this QI Habitats extent within the SAC is unknown. It occurs in intimate association with other habitats in the SAC such as other grasslands, exposed rock and heaths including the Annex I habitat European dry heaths (4030) (NPWS internal files). Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: Semi-natural dry grasslands and scrubland facies on calcareous substrates. (*Festuco-Brometalia*) (* important orchid sites) designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) can be ruled out due to the terrestrial nature of the habitat, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	**N**
[6410] *Molinia* meadows on calcareous, peaty, or clayey-silt-laden soils (*Molinion caeruleae*)	To maintain the favourable conservation condition of Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI Habitats extent within the SAC is unknown. It is noted as occurring in association with other habitats including wet grassland and heath, and fen (NPWS internal files). Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: *Molinia* meadows on calcareous, peaty, or clayey-silt-laden soils (*Molinion caeruleae*) designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: *Molinia* meadows on calcareous, peaty, or clayey-silt-laden soils (*Molinion caeruleae*) can be ruled out due to the terrestrial nature of the habitat, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	
[6510] Lowland hay meadows Alopecurus pratensis, *Sanguisorba officinalis*)	To maintain the favourable conservation condition of Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) in Slyne Head Peninsula SAC	According to the SSCO Document for this SAC (NPWS 2015), this QI Habitats extent within the SAC is unknown. NPWS internal files note localised areas of species Rich meadows; however, further work is required to establish the nature and extent of this habitat in the SAC. Further, the main habitats recorded within the proposed works boundary are highly artificial and manmade, dominated by Buildings and Artificial Surfaces (BL3), Dry Meadows and Grassy Verges (GS2), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), and Scrub (WS1). As such, none of the habitats within the works boundary correspond to this QI Habitat: *Lowland hay meadows Alopecurus pratensis, Sanguisorba officinalis)* designated as part of this SAC. As such, indirect impacts on the following terrestrial QI habitat: Lowland hay meadows Alopecurus pratensis, *Sanguisorba officinalis*) can be ruled out due to the terrestrial nature of the habitat, and the absence of a complete source-pathway-receptor chain: **No complete source- pathway- receptor chain for any effect on this habitat as a result of the proposed works was identified. No further assessment is required.**	**N**

Qualifying feature	Conservation Objective (NPWS, Version 1, February 2015), were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[7230] Alkaline fens	To maintain the favourable conservation condition of Alkaline fens in Slyne Head Peninsula SAC	Extent of this habitat within the SAC is unknown. Fen has been recorded in association with machair at Mannin Bay as well as with wet grasslands and at lake margins (NPWS internal files). Further, the maintenance of groundwater, surface water flows and water table levels within natural ranges is essential for this wetland habitat. The proposed works site is located approx 2.5km northeast of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Peninsula SAC after approx 6.5km. As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting this aquatic QI Habitat: Alkaline fens within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.**	**Y**

5.1.2.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures, and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Works. These are provided in **Table 5.7 below.**

Table 5-7 Site-specific threats, pressures, and activities for Slyne Head Peninsula SAC

Rank	Threats and Pressures
High	Burning down
Medium	Golf course
	Off-road motorized driving
	Outdoor sports and leisure activities, recreational activities
	Storm, cyclone
	Trampling, overuse,
Low	Camping and caravans
	Dispersed habitation
	Dredging/ removal of limnic sediments
	Fishing and harvesting aquatic resources
	Invasive non-native species
	Noise nuisance, noise pollution
	Non-motorized nautical sports
	Paths, tracks, cycling tracks
	Piers / tourist harbours or recreational piers
	Potting
	Sand and gravel extraction
	Taking and removal of animals (terrestrial)
	Walking, horseriding and non-motorised vehicles
Rank	**Activities, Management**
Medium	Non intensive grazing
Low	Sea defense or coast protection works, tidal barrages

Potential pathways for effect with regard to site-specific threats, pressures and activities have been identified in relation to 'Invasive non-native species, ' Dispersed habitation'.

5.1.2.3 Species Specific Information

5.1.2.3.1 *[1150] Coastal lagoons*

Description from SSCO document

According to the SSCO Document for this SAC (NPWS 2015), this QI Habitat: Coastal Lagoon's area was calculated from spatial data derived from Oliver, 2007; Site codes IL067 (Ballyconneely Lake) and IL068 (Lough Athola). Further, Ballyconneely Lake has an artificial sluiced outlet running under the road into Ballyconneely Bay; in dry summers it almost completely dries out. Sea water enters Lough Athola on most tides. Maximum depth of both lagoons in the SAC is recorded as 2m or less, and in Ballyconneely Lake, salinity was recorded as less than 1psu; while most of Lough Athola was 33- 34psu except in a small bay to its western end where it was as low as 6psu.

The NPWS Article 17 (NPWS 2019) states several high-ranking pressures were identified acting on this habitat: eutrophication, modification of hydrological flow, and drainage. Other pressures noted include erosion and silting up, accumulation of seaweed, and sedimentation from peat related to turf cutting and/or forestry. The Overall Status for Lagoons is assessed as Bad, unchanged since the 2013 assessment. However, the overall trend has changed from stable to deteriorating, a genuine decline since 2013.

Targets and Attributes

Table 5-8 Targets and Attributes for [1150] Coastal lagoons

Attribute	Target
Habitat area	Area stable, subject to slight natural variation. Favourable reference area 22.30ha
Habitat distribution	No decline, subject to natural processes
Salinity regime	Median annual salinity and temporal variation within natural ranges
Hydrological regime	Annual water level fluctuations and minima within natural ranges
Barrier: connectivity between lagoon and sea	Appropriate hydrological connections between lagoons and sea, including where necessary, appropriate management
Water quality: Chlorophyll a	Annual median chlorophyll a within natural ranges and less than Njg/L
Water quality: Molybdate Reactive Phosphorus (MRP)	Annual median MRP within natural ranges 0.1mg/L
Water quality: Dissolved Inorganic Nitrogen (DIN)	Annual median DIN within natural ranges and less than 0.15mg/L.
Depth of macrophyte colonisation	Macrophyte colonisation to maximum depth of lagoons
Typical plant species	Maintain number and extent of listed lagoonal specialists, subject to natural variation
Typical animal species	Maintain listed lagoon specialists, subject to natural variation
Negative indicator species	Negative indicator species absent or under control

5.1.2.3.2 *[1160] Large shallow inlets and bays*

Description from SSCO document

According to the SSCO Document for this SAC (NPWS 2015), this QI Habitat: Large shallow inlets and bays area was estimated as 1540ha using OSi data and the Transitional Water Body area as defined under the Water Framework Directive. The Site Synopsis document (NPWS 2015) also states Mannin Bay is an excellent example of a large shallow bay, with a wide range of sediment types.

The NPWS Article 17 (NPWS 2019) states pressures on the habitat include nutrient enrichment, dredging and invasive alien species. Overall Status is assessed as Bad and deteriorating, a genuine decline since the 2013 assessment of Inadequate and improving and is based on more detailed information.

Targets and Attributes

Table 5-9 Targets and Attributes for [1160] Large shallow inlets and bays

Attribute	Target
Habitat area	The permanent habitat area is stable or increasing, subject to natural processes. S
Community extent	Maintain the extent of the Zostera-dominated and Maërl-dominated community complexes, subject to natural processes
Community structure: Zostera density	Conserve the high quality of the Zostera-dominated community complex, subject to natural processes
Community structure	Conserve the high quality of the Maërl-dominated community complex, subject to natural processes
Community distribution	Conserve the following community types in a natural condition: Intertidal sand with Enchytraeidae community complex; Mobile intertidal sand with polychaetes community complex; Subtidal sand with polychaetes and bivalves' community complex; Subtidal sand with Kurtiella bidentata community complex; Intertidal reef community complex; Laminariadominated community complex

5.1.2.3.3 *[1170] Reefs*

Description from SSCO document

According to the SSCO Document for this SAC (NPWS 2015), this QI Habitat: Reef's area was estimated as 571ha based on data from BioMar surveys in 1994 and 1995 (Picton and Costello, 1997); intertidal survey in 2011 (MERC, 2012) and subtidal surveys in 2010 and 2011 (Aquafact, 2011; MERC, 2012) The Site Synopsis document (NPWS 2015) also states Mannin Bay has good examples of littoral reef communities that are sheltered from wave action and subject to moderate tidal streams.

The NPWS Article 17 (NPWS 2019) states the main pressures on reefs come from fishing methods that damage the seafloor. As a result, the Overall Status is Inadequate and stable. While genuine improvements have occurred by the implementation of an EU Regulation restricting the use of bottom trawls, the change in status from Bad to Inadequate is mainly attributed to better knowledge gained from recent surveys.

Targets and Attributes

Table 5-10 Targets and Attributes for [1170] Reefs

Attribute	Target
Habitat area	The permanent habitat area is stable or increasing, subject to natural processes. S
Distribution	The distribution of reefs remains stable, subject to natural processes
Community structure	Conserve the following community types in a natural condition: Intertidal reef community complex; Laminaria-dominated community complex

5.1.2.3.4 *[1330] Atlantic salt meadows (Glauco-Puccinellietalia maritimae)*

Description from SSCO document

According to the SSCO Document for this SAC (NPWS 2015), one sub-site that supports this QI habitat: Atlantic Salt Meadows was mapped (1.47ha) and additional areas of potential ASM habitat (2.59ha) were identified from an examination of aerial photographs, giving a total estimated area of 4.06ha. However further unsurveyed areas maybe present within this SAC. Naturally induced erosion is not an issue at Erriseask owing to its sheltered location, and creeks and pan structures in ASM at Erriseask are poorly developed as is typical of the fragmented nature of the habitat.

The NPWS Article 17 (NPWS 2019) states the overall Status is assessed as Inadequate, due mainly to pressures from agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cordgrass (*Spartina anglica*). This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area.

Targets and Attributes

Table 5-11 Targets and Attributes for [1330] Atlantic salt meadows (Glauco-Puccinellietalia maritimae)

Attribute	Target
Habitat area	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Erriseask - 1.47ha
Habitat distribution	No decline or change in habitat distribution, subject to natural processes.
Physical structure: sediment supply	Maintain natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Maintain natural tidal regime
Vegetation structure: zonation	Maintain range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Maintain structural variation within sward
Vegetation structure: vegetation cover	Maintain more than 90% area outside creeks vegetated

Attribute	Target
Vegetation composition: typical species and subcommunities	Maintain range of subcommunities with typical species listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species - *Spartina anglica*	Common cordgrass (*Spartina anglica*) has not been recorded in this SAC and its establishment should be prevented

5.1.2.3.5 *[1410] Mediterranean salt meadows (Juncetalia maritimi)*

Description from SSCO document

According to the SSCO Document for this SAC (NPWS 2015), one subsite that supports this QI Habitat: Mediterranean Salt Meadow was mapped (4.52ha) and additional areas of potential MSM habitat (2.01ha) were identified from an examination of aerial photographs, giving a total estimated area of 6.53ha. However, further unsurveyed areas maybe present within the SAC. Further, naturally induced erosion is not an issue at Erriseask owing to its sheltered location, and there are no indications of any loss of habitat due to erosion or land use changes in MSM at Erriseask.

The NPWS Article 17 (NPWS 2019) states the Overall Status is assessed as Inadequate, mainly due to pressures associated with agriculture, including overgrazing, under grazing and land reclamation. This assessment is unchanged since the 2013 report. However, the overall deteriorating trend represents a genuine decline since 2013 due to losses in area.

Targets and Attributes

Table 5-12 Targets and Attributes for [1410] Mediterranean salt meadows (Juncetalia maritimi)

Attribute	Target
Habitat area	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Erriseask - 4.52ha
Habitat distribution	No decline, subject to natural processes. See map 7 for known distribution
Physical structure: sediment supply	Maintain natural circulation of sediments and organic matter, without any physical obstructions
Physical structure: creeks and pans	Maintain/restore creek and pan structure, subject to natural processes, including erosion and succession
Physical structure: flooding regime	Maintain natural tidal regime
Vegetation structure: zonation	Maintain range of saltmarsh habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation structure: vegetation height	Maintain structural variation in the sward
Vegetation structure: vegetation cover	Maintain more than 90% of area outside creeks vegetated

Attribute	Target
Vegetation composition: typical species and subcommunities	Maintain range of subcommunities with characteristic species listed in SMP (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species - *Spartina anglica*	Common cordgrass (*Spartina anglica*) has not been recorded in this SAC and its establishment should be prevented

5.1.2.3.6 *[7230] Alkaline fens*

Description from SSCO document

According to the SSCO Document for this SAC (NPWS 2015), the extent of this QI habitat: Alkaline fens within the SAC is unknown. Fen has been recorded in association with machair at Mannin Bay as well as with wet grasslands and at lake margins (NPWS internal files). Further, the maintenance of groundwater, surface water flows and water table levels within natural ranges is essential for this wetland habitat. Fens receive natural levels of nutrients (e.g., iron, magnesium, and calcium) from water sources. However, they are generally poor in nitrogen and phosphorus with the latter tending to be the limiting nutrient.

The NPWS Article 17 (NPWS 2019) states the main pressures facing the habitat in Ireland are land abandonment (and associated succession), overgrazing, drainage, and pollution. The Overall Status is assessed as Bad with a deteriorating trend due to losses of area and habitat quality, as well as the pressures and threats faced by the habitat.

Targets and Attributes

Table 5-13 Targets and Attributes for [7230] Alkaline fens

Attribute	Target
Habitat area	Area stable or increasing, subject to natural processes
Habitat distribution	No decline, subject to natural processes
Hydrological regime	Appropriate natural hydrological regimes necessary to support the natural structure and functioning of the habitat
Peat formation	Active peat formation, where appropriate
Water quality: nutrients	Appropriate water quality to support the natural structure and functioning of the habitat
Vegetation composition: typical species	Maintain vegetation cover of typical species including brown mosses and vascular plants
Vegetation composition: trees and shrubs	Cover of scattered native trees and shrubs less than 10%
Physical structure: disturbed bare ground	Cover of disturbed bare ground less than 10%. Where tufa is present, disturbed bare ground less than 1%

Attribute	Target
Physical structure: drainage	Area showing signs of drainage as a result of drainage ditches or heavy trampling less than 10%

5.1.3 West Connacht Coast SAC [002998]

The potential for impacts on this SAC were identified in **Section 4.1 above**. The identified pathways for effect include the following:

- Deterioration of water quality/ habitat quality and supporting habitats for aquatic fauna resulting from pollution to surface waters during the construction phase, adversely impacting the aquatic influenced QI species within the SAC, in the absence of mitigation.

Table 5-14 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

5.1.3.1 Identification of Individual Qualifying Features of West Connacht Coast SAC with the Potential to be Affected.

Table 5-14 Assessment of Qualifying features of West Connacht Coast SAC potentially affected.

Qualifying feature	Conservation Objective (NPWS, Version 1, November 2015). were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[1349] Common Bottlenose Dolphin (*Tursiops truncates)*	To maintain the favourable conservation condition of Common Bottlenose Dolphin in West Connacht Coast SAC	According to the Site Synopsis Document for this SAC (NPWS 2015), this QI Species: the Bottle-nosed Dolphin occurs within the site in all seasons and the area comprises a key habitat for the species both regionally and within Irish waters as a whole. Further, the waters of the West Connacht Coast represent an exceptional area of key conservation importance for Bottle-nosed Dolphin in Ireland. As per Map 3 in the SSCO Document (NPWS 2015), the closest mapped location for the Common Bottlenose Dolphin is approx 5.5km northwest of the proposed works site. The proposed works site is located approx 4.7km east of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction, discharging into the West Connacht Coast SAC after approx 5.6km. As such, taking a precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting this QI species: Common Bottlenose Dolphin (*Tursiops truncates)* within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation.	**Y**

Qualifying feature	Conservation Objective (NPWS, Version 1, November 2015). were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
		A complete source-pathway-receptor chain for adverse effects on this species was identified and it is assessed further in this NIS	

5.1.3.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures, and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Works. These are provided in **Table 5.15 below.**

Table 5-15 Site-specific threats, pressures, and activities for West Connacht Coast SAC

Rank	Threats and Pressures
Medium	Disposal of household / recreational facility waste
	Fishing and harvesting aquatic resources
	Marine water pollution
	Shipping lanes
Low	Discharges
	Noise nuisance, noise pollution
Rank	**Activities, Management**
Low	No threats and pressures

Potential pathways for effect with regard to site-specific threats, pressures and activities have been identified in relation to 'Marine water pollution', 'Discharges'.

5.1.3.3 Species Specific Information

5.1.3.3.1 *[1349] Common Bottlenose Dolphin (Tursiops truncates)*

Description from SSCO document

According to the Site Synopsis Document for this SAC (NPWS 2015), this SAC contains physical and hydrographic features believed to be important for Bottle-nosed Dolphin, one of two cetacean species listed on Annex II of the E.U. Habitats Directive. These features include shallow coastal bays, areas of steep seafloor topography and complex areas of strong current flow adjacent to estuaries, coastal headlands and islands, sandbanks, shoals, and reefs. Bottle-nosed Dolphin occurs within the site in all seasons and the area comprises a key habitat for the species both regionally and within Irish waters as a whole. Survey data show that Bottle-nosed Dolphin occurrence within the site compares favourably with another designated site in Ireland, the Lower River Shannon. Local population estimates off south-west Co. Mayo and Connemara, Co. Galway describe a minimum of 123 dolphins, with possibly up to 150-200 individuals or more, occurring within the site as a whole, exceeding estimates for the Shannon Estuary population. The waters of the West Connacht Coast represent an exceptional area of key conservation importance for Bottle-nosed Dolphin in Ireland.

The NPWS Article 17(NPWS 2019) states that pressures to this QI Species in Irish waters mainly involve commercial vessel-based activities such as impacts arising from geophysical seismic exploration or from local/ regional prey removal by fisheries. While the effect of these pressures may act on a temporary and/or regional scale, none is considered to be of sufficient magnitude to adversely impact on populations of bottlenose dolphin in Irish waters. The Overall Status of bottlenose dolphin in Ireland remains Favourable. This overall result is the same as the previous two assessments.

Targets and Attributes

Table 5-16 Targets and Attributes for the Common Bottlenose Dolphin

Attribute	Target
Access to suitable habitat	Species range within the site should not be restricted by artificial barriers to site use
Disturbance	Human activities should occur at levels that do not adversely affect the bottlenose dolphin population at the site

5.1.4 Slyne Head Islands SAC [000328]

The potential for impacts on this SAC were identified in **Section 4.1 above.** The identified pathways for effect include the following:

- Deterioration of water quality/ habitat quality and supporting habitats for aquatic fauna resulting from pollution to surface waters during the construction phase, adversely impacting the aquatic influenced QI habitats and species within the SAC, in the absence of mitigation.

Table 5-17 below lists the qualifying features of this European Site and determines, in the light of their Conservation Objectives, whether there is any complete source-pathway-receptor chain, by which adverse effects may occur.

5.1.4.1 Identification of Individual Qualifying Features of Slyne Head Islands SAC with the Potential to be Affected.

Table 5-17 Assessment of Qualifying features of Slyne Head Islands SAC potentially affected.

Qualifying feature	Conservation Objective (NPWS, Version 1, August 2012). were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[1170] Reefs	To maintain the favourable conservation condition of Reefs in Slyne Head Islands SAC	The proposed works site is located approx 7.9km northeast of this SAC. According to Map 3 in the SSCO Document for Slyne Head Islands SAC, the closest mapped Reef is approx 9.7km southwest of the proposed works site. Further, the SSCO Document (NPWS 2012) states the habitat area was estimated as 1418ha from 2010 subtidal reef survey (Aquafact, 2011) and 2012 field observations. The proposed works site is located approx 7.9km northeast of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Islands SAC after approx 11.2km. As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting this aquatic QI Habitat: Reefs within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source-pathway-receptor chain for adverse effects on this habitat was identified and it is assessed further in this NIS.**	**Y**

Qualifying feature	Conservation Objective (NPWS, Version 1, August 2012). were reviewed as part of the assessment and are available at www.npws.ie	Rationale	Potential for Adverse Effects Y/N
[1364] Grey Seal (*Halichoerus grypus)*	To maintain the favourable conservation condition of Grey Seal in Slyne Head Islands SAC,	The proposed works site is located approx 7.9km northeast of this SAC. According to Map 5 in the SSCO Document for Slyne Head Islands SAC, the closest mapped Grey Seal Breeding Site is approx 16.7km southwest of the works site. The closest mapped Grey Seal resting site is mapped approx 13.5km southwest of the works site, and the closest mapped Moulting site is approx 15km southwest of the works site. The proposed works site is located approx 7.9km northeast of this SAC. An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Islands SAC after approx 11.2km. As such, taking an extremely precautionary approach, the construction phase of the proposed works may result in pollution to surface waters, adversely impacting this aquatic QI Species: Grey Seal (*Halichoerus grypus)* within the SAC, via the deterioration of water and habitat quality, in the absence of mitigation. **A complete source-pathway-receptor chain for adverse effects on this species was identified and it is assessed further in this NIS.**	**Y**

5.1.4.2 Site Specific Pressures and Threats

As per the Natura 2000 Data Form, the site-specific threats, pressures, and activities with potential to impact on the European Site were reviewed and considered in relation to the Proposed Works. These are provided in **Table 5.18 below.**

Table 5-18 Site-specific threats, pressures, and activities for Slyne Head Islands SAC

Rank	Threats and Pressures
Low	Damage by herbivores (including game species)
	Fishing and harvesting aquatic resources.
	Netting
	Noise nuisance, noise pollution
	Potting
	Storm, cyclone
Rank	**Activities, Management**
Low	No threats and Pressures

Potential pathways for effect with regard to site-specific threats, pressures and activities have been identified in relation to 'Fishing and harvesting aquatic resources.

5.1.4.3 Species Specific Information

5.1.4.3.1 *[1170] Reefs*

Description from SSCO document

According to the SSCO Document for Slyne Head Islands SAC (NPWS 2012), this QI habitat area was estimated as 1418ha from 2010 subtidal reef survey (Aquafact, 2011) and 2012 field observations.

According to the NPWS Article 19 (NPWS 2019), the main pressures on reefs come from fishing methods that damage the seafloor. As a result, the Overall Status is Inadequate and stable. While genuine improvements have occurred by the implementation of an EU Regulation restricting the use of bottom trawls, the change in status from Bad to Inadequate is mainly attributed to better knowledge gained from recent surveys.

Targets and Attributes

Table 5-19 Targets and Attributes for Reefs

Attribute	Target
Distribution	The distribution of reefs is stable or increasing, subject to natural processes
Habitat area	The permanent area is stable, subject to natural processes.
Community structure	Conserve the following community types in a natural condition: Exposed intertidal reef community complex; Laminaria-dominated community; and Exposed subtidal reef with echinoderms and encrusting algae community.

5.1.4.3.2 *[1364] Grey Seal (Halichoerus grypus)*

Description from SSCO document

According to the Site Synopsis Document for Slyne Head Islands SAC (NPWS 2012), the site contains an important breeding colony of Grey Seal, a species listed on Annex II of the E.U. Habitats Directive. The breeding population is estimated at 238- 306 individuals (in 2005). A one-off moult count in 2007 gave a figure of 162 seals.

According to the NPWS Article 19 (NPWS 2019), The grey seal (Halichoerus grypus) is the larger of two seal species that commonly breed around Ireland and inhabit its inshore and offshore waters. Pressures on this species in Irish waters mainly involve commercial vessel-based activities such as geophysical seismic exploration or local/regional prey removal by fisheries or by-catch in fisheries. While these pressures may act on a temporary and/ or regional scale and some are likely to continue to act as pressures in the future, none is considered sufficiently serious to adversely impact on grey seal populations in Irish waters. Given the current state of knowledge of the species' distribution, population, ecology and prevailing pressures, the Overall Status is Favourable with an increasing trend.

Targets and Attributes

Table 5-20 Targets and Attributes for the Grey Seal

Attribute	Target
Access to suitable habitat	Species range within the site should not be restricted by artificial barriers to site use
Breeding behaviour	Conserve the breeding sites in a natural condition.
Moulting behaviour	Conserve the moult haul-out sites in a natural condition.
Resting behaviou	Conserve the resting haul-out sites in a natural condition
Disturbance	Human activities should occur at levels that do not adversely affect the grey seal population at the site

5.2 Hydrological Desk Study

The EPA web-mapper (https://gis.epa.ie/EPAMaps/) was consulted on the 16/08/2024 regarding the water quality and status of waterbodies that are located in the wider area of the proposed works.

The proposed works site is located within the Erriff-Clew Bay Catchment and the Bunnahowna Sub catchment. The proposed works site is located within the Clifden Marbles [IE_WE_G_0013] Groundwater body to the south/ southeast parcel, and the Clifden Castlebar [IE_WE_G_0017] Groundwater Body to the north/ northwestern parcel. The majority of the site, including Clifden Town Centre, is located within an area of Moderate Groundwater Vulnerability, as per EPA Maps. Smaller sections of the site to the east and west of Harbour Park, and to the southwest and southeast of Clifden Town are located within areas of Extreme Vulnerability, making these areas extremely vulnerable to contamination by human activities, as per EPA Maps. Beach road is located in areas with rock at or near the surface.

Further, the Geological Survey Ireland's (GSI) groundwater body description report for both Clifden Marbles (August 2004) and Clifden Castlebar (July 2004) groundwater bodies states that groundwater will discharge locally to streams and rivers crossing the aquifers, as well as small streams/ seeps. Further, groundwater flow directions are expected to follow local topography, overall, in a westerly direction., towards the coast.

An artificially canalised section of an unmapped EPA watercourse runs culverted under Main Street in Clifden Town Centre to the northeast parcel of the proposed works site (Grid Reference: ITM 465910, 750682)). This artificially canalised watercourse continues to flow adjacent to the eastern margin of the proposed works site, in a southerly direction before discharging into the Owenglin River after approx 280m, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River continues to flow to the southern margin of the site, outside of the proposed works boundary in a westerly direction before discharging into Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owernglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction before discharging into Clifden Bay Estuary.

The closest downstream water quality monitoring station was at the bridge at Doonen Road and Riverside and the 2020 Q Value at this point was 4 (good). The river waterbody Water Framework Directive (WFD) status for 2016-2021, 2013-2018, and 2010-2015 for the Owenglin River was 'Good'. The River Waterbodies Risk 2010-2015 awarded the Owenglin River a 'Good' Status. The transitional waterbody WFD status 2016-2021 for Clifden Bay was 'Good'.

6. ASSESSMENT OF POTENTIAL EFFECTS & ASSOCIATED MITIGATION

This section of the NIS assesses the potential effects of the proposed works on the identified relevant Qualifying Interests/Special Conservation Interests. This assessment is undertaken in the absence of any mitigation and in respect of the conservation objectives of the European Sites. The Conservation Objectives each of the European Sites assessed were reviewed on the 31/10/2023. The Conservation Objectives for these sites are available at the following locations:

- NPWS (2017) Conservation Objectives: The Twelve Bens/Garraun Complex SAC 002031. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
- NPWS (2019) Conservation Objectives: Slyne Head Peninsula SAC 002074. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, and the Gaeltacht.
- NPWS (2019) Conservation Objectives: West Connacht Coast SAC 002998. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, and the Gaeltacht.
- NPWS (2012) Conservation Objectives: Slyne Head Islands SAC 000328. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage, and the Gaeltacht.

Following the initial impact assessment, mitigation is prescribed where necessary to avoid adverse effects on the Conservation Objectives of the relevant QIs/SCIs.

6.1 Potential for Direct Effects on the European Sites

The site of the proposed works is located north/ northwest of the Twelve Bens/ Garraun Complex SAC. The proposed works boundary extends slightly into the boundary of this SAC, to the southwest corner of the site, along Doonen Road (Grid Reference: ITM 466013, 750417). However, no works are proposed for this area. As such, there will be no direct impact on the Twelve Bens/ Garraun Complex SAC. The proposed works site lies entirely outside the boundaries of all other European Designated Sites, and as such there is no potential for direct effects on the Qualifying Interests (QI's) of Slyne Head Peninsula SAC, West Connacht Coast SAC, and Slyne Head Islands SAC.

According to Article 17 Annex I habitat mapping, the Annex I habitat **[1130] Estuaries** extends into the southern parcel of Harbour Park (Grid Reference; ITM 465479, 750489), and to the southern parcel of Beach Road Quay (Grid Reference; ITM 465347, 750389). However, following the multidisciplinary ecological surveys undertaken on the site, the habitats recorded in these areas include Dry Meadows and Grassy Verges (GS2), Scrub (WS1), Recolonising Bare Ground (ED2), and Buildings and Artificial Surfaces (BL3) **(Plate 3.13 & 3.14).** As such, these areas do not conform to this Annex I habitat type- [1130] Estuaries. Further, as per Article 17 Annex I habitat mapping, a small section mapped **[4010] Wet Heath** overlaps with a section of the proposed works site, along Doonen Road to the southeast corner (Grid Reference; ITM 466008, 750416). However, following the multidisciplinary ecological surveys undertaken on the site, the habitats recorded in this area includes Buildings and Artificial Surfaces (BL3) **(Plate 3.15).** As such, these areas do not conform to this Annex I habitat type [4010] Wet Heath.

The distribution of the relevant Article 17 Habitats within the vicinity of the proposed works is detailed on **Figure 3.2** above.

Further, no QI habitats associated with The Twelve Bens/Garraun Complex SAC [002031], Slyne Head Peninsula SAC [002074], and Slyne Head Islands SAC [000328] were identified on the site of the proposed works during the surveys undertaken. Habitats recorded within the footprint of the proposed works were classified as **Dry Meadows and Grassy Verges (GS2), Scrub (WS1), Recolonising Bare Ground (ED3), Spoil and Bare Ground (ED2), Eroding/upland rivers (FW1), and Depositing Lowland Rivers (FW2).** Habitats recorded to the margins of the proposed works site, outside of the proposed works site include **Treelines (WL2) and Hedgerows (WL1).**

Therefore, there is no potential for direct effects on any European Site as a result of the proposed works.

6.2 Potential for Indirect Effects on the European Sites

6.2.1 Deterioration of Water Quality During the Construction Phase

Following a precautionary approach, a potential pathway for indirect effects on the aquatic/ groundwater dependent Qualifying Interests (QIS) of The Twelve Bens/Garraun Complex SAC [002031], Slyne Head Peninsula SAC [002074], West Connacht Coast SAC [002998], and Slyne Head Islands SAC [000328] was identified in the form of deterioration of water quality and supporting habitats for aquatic species.

An artificially canalised unmapped EPA watercourse flows through the northeastern boundary of the proposed works site, in a southerly direction before discharging into the Owenglin River, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC. The Owenglin River flows in a westerly direction before discharging into the Clifden Bay Estuary. Further, the Clifden Stream, a tributary of the Owenglin River flows culverted through the western margin of Harbour Park, flowing in a southerly direction into Clifden Bay Estuary. Clifden Bay Estuary flows in a westerly direction discharging into the Slyne Head Pennisula SAC, West Connacht Coast SAC, and Slyne Head Islands SAC.

As such, taking a precautionary approach, the construction phase of the proposed works may result in pollution to surface waters and groundwaters, adversely impacting the aquatic influenced QI habitats and species within these SACs, via the deterioration of water quality, in the absence of mitigation.

As such, the following mitigation measures as detailed in the Construction and Environmental Management Plan (CEMP), submitted as part of this application have been incorporated into the design of the proposed works.

6.2.1.1 Preventative Measures to Avoid Impact on Water Quality During the Construction Phase

To prevent potential pathways for pollution to surface waters and groundwaters, a Construction and Environmental Management Plan (CEMP) has been prepared by MKO and is submitted as part of this application. The mitigation measures set out in the CEMP have been incorporated into the design of the proposed works.

The mitigation measures described below in subsections **6.2.1.1.1 to 6.2.1.1.5,** ensure that the proposed works does not prevent or obstruct any of the Qualifying Interests (QIs) from reaching favourable conservation status as per Article 1 of the EU Habitats Directive, ensuring that the proposed works does not adversely affect the integrity of any Designated European sites.

6.2.1.1.1 *Protecting Water Quality*

The site of the Proposed development is located north of the Twelve Bens/Garraun Complex SAC [002031] and extends along the Owenglin River which passes through the southern margin of the proposed works area and flows into Clifden Bay about 160m after passing underneath the R341 Regional Road bridge. Further, a tributary of the Owenglin River flows through the western margin of Harbour Park, running partially culverted through the park into Clifden Bay.

An unmapped EPA watercourse flows through the eastern parcel of the proposed works area, running partially culverted through Clifden Town, before discharging into the Owenglin River to the southern

margin of the proposed works site, which at this point is designated as part of the Twelve Bens/ Garraun Complex SAC.

The proposed works area is located within the Erriff-Clew Bay Catchment and the Bunnahowna Sub catchment. The proposed works area is located within the Clifden Marbles and Clifden Castlebar Groundwater Body.

Prior to the commencement of any construction activities, the necessary mitigation measures will be put in place to ensure that no silt laden water runoff generated at the site will flow to nearby watercourses thus ensuring the protection of surface water during the works. This will involve confirming the location of all existing services and delineating between drainage systems. Surface waters will be managed to ensure the prevention of run off from areas where excavation occur does not result in silt laden water entering the existing storm water network. Stockpiled material will be located away from any drains or watercourses, covered with polyethylene sheet and if deemed necessary will be surrounded by silt fencing where there is a risk of run-off during prolonged periods of rainfall.

Particular emphasis will also be placed on hazardous materials entering the surface water management system as well as spill or leaks of fuel oils. Section 4.2 provides an Emergency Response Plan for dealing with spillages which may result in adverse environmental effects.

6.2.1.1.2 Prevention Pollution Control Measures

The following measures will be put in place to prevent the transportation of silt laden water or pollutants from entering any of the wider environments including watercourses/drains near the site:

Details of control measures which will be implemented at the site, if required, are included in the Plates below.

Site setup:

- Any areas where it is proposed to carry out works will be secured with fencing and markers. No construction access will be permitted outside the fenced area.
- Access routes will be clearly marked. Access during construction to any working area will be restricted to land within the outlined works areas.
- Traffic diversions and sections of roadways/footpaths may be required to be used during the course of the construction phase.

Pollution Prevention:

- Any requirement for temporary fills or stockpiles will be damped down or covered with polyethylene sheeting as required to avoid sediment release associated with heavy rainfall.
- Excavated spoil will be stockpiled and contained entirely within the confines of the proposed works areas and a minimum of 50m from nearby watercourses. Silt fencing will also be utilised around these stockpiles, if necessary.
- In the event of encountering groundwaters during excavation, the excavation will be de-watered using a pump equipped with a silt bag on the outlet, if necessary, to capture any silty material prior to subsequent natural percolation to ground. The discharge area around the silt bags will have a layer of embedded silt fencing installed.
- All diesel or petrol pumps required onsite will be operated within bunded units.
- Ground disturbance will be kept to a minimum and water from excavations will be filtered. Silt fences will be installed at the site if deemed necessary. Exposed surfaces will be re-vegetated as soon as possible following construction.
- Earthworks and excavations will not be carried out during periods of heavy rainfall.

6.2.1.1.3 Cement Based Products Control Measures

Cement based products will be required over the course of the works. Due to the nature of the proposed works, significant volumes of cement are not anticipated to be required. Where cement is required, this will be delivered to the work areas by concrete trucks. The complete washing out of concrete trucks will not be permitted at the works area. Suppliers will be directed back to their own facility to complete the washout process.
The following mitigation measures are proposed to avoid release of cement leachate from the works area:

- No batching of wet-cement products will occur on site.
- Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. Where possible pre-cast elements for concrete works will be used.
- No washing out of any plant used in concrete transport or concreting operations will be allowed.
- No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed.
- Use weather forecasting to plan dry days for pouring concrete.
- Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.

6.2.1.1.4 Refuelling, Fuel and Hazardous Materials Storage

The following measures are proposed to avoid release of hydrocarbons at the site:

- Minimal refuelling or maintenance of construction vehicles or plant will take place on site. Off-site refuelling will occur at a controlled fuelling station.
- On-site refuelling will take place by direct refuelling from the delivery truck or from fuel stored within a bunded fuel tank. Mobile measures such as drip trays and fuel absorbent mats will be used during all refuelling operations.
- Storage/refuelling will be located in and carried out in a designated area of the works area, located a suitable distance from excavation works. This area will be underlain by concrete hard standing or another impermeable surface, and tanks will be inspected for leaks regularly. Spill kits will be supplied at these stations and staff will be trained in their use and in spill control. Drainage from these areas will be diverted for collection and not discharged into waterbodies without treatment and other best management practices.
- Fuels, lubricants, and hydraulic fluids for equipment used, will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment.
- Vehicles will never be left unattended during refuelling. Only dedicated trained and competent personnel will carry out refuelling operations and plant refuelling procedures shall be detailed in the contractor's method statements.
- All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off site.
- Spill control measures as outlined in Section 3.2 below will be adhered to.

6.2.1.1.5 Dust Control

Construction dust can be generated from many on-site activities such as excavation and backfilling. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e., soil, sand, etc and the weather. In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or, periods of dry weather. Construction traffic movements also have the potential to generate dust as they travel along the approach road. The measures below will also prevent construction debris arising on the public road network.

Proposed means to control dust include:

- Any site roads with the potential to give rise to dust will be regularly watered, as required, during dry and/or windy conditions.
- The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by Site Management for cleanliness and cleaned as necessary.
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind.
- Water misting or bowsers will operate on-site if required to mitigate dust in dry weather conditions.
- The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary.
- All construction related traffic will have speed restrictions on un-surfaced roads to 15 kph.
- Daily inspection of construction sites to examine dust measures and their effectiveness.

6.2.1.2 Operational Phase Control Measures and Assessment

The proposed works will result in the generation of additional surface water. However, due to the project design, described fully in **Section 2.2 of this report,** there is no potential for deterioration of water quality during the operational phase of the proposed works.

6.2.2 Ex- Situ Disturbance and Displacement Related Impacts to Otter During the Construction Phase

A dedicated Otter survey was conducted on the 20th of September 2023 by MKO, along the unmapped EPA watercourse, the accessible sections of the Owenglin River and Clifden Bay Estuary. No signs of Otters were recorded along the surveyed sections of the watercourses. Although no signs of Otters were recorded during the Otter survey conducted, it is likely that Otters, a QI Species of the Twelve Bens/ Garraun Complex SAC occur within the wider study area.

As such, taking a precautionary approach, the unmapped watercourse that flows through the northeastern boundary of Clifden Town, and the Owenglin River which flows to the southern margin of the proposed works area, may provide ex-situ supporting foraging, commuting and breeding habitat for the aquatic QI Species: Otters (Lutra lutra) associated with the Twelve Bens/ Garraun Complex SAC. As such, taking an extremely precautionary approach, a potential pathway for effect to this aquatic QI Species was identified in the form of ex-situ disturbance and displacement during the construction phase of the proposed works.

Otters are crepuscular in nature and are unlikely to be adversely impacted by the proposed works. The NPWS Threat Response Plan for Otter acknowledges that “Little evidence has come to light in recent studies to suggest that disturbance by recreation is a significant pressure.” It also identifies that Otter are known to travel significant distances from streams and lakes in search of new territory and feeding areas.

Channin P. (2003) provides a literary review with regard to anthropogenic disturbance and refers to several reports which have found that disturbance is not detrimental to Otters (Jefferies (1987), (Durbin 1993), (Green & Green 1997). The report also describes successful breeding in towns, under ferry terminals and under the jetties of one of Europe’s largest oil and gas terminals at Sullom Voe in North Scotland.

Irish Wildlife Manual No. 23 (National Otter Survey of Ireland 2004/2005) found no significant relationship between disturbance and otter occurrence. In addition, no significant difference in otter

presence was found between sites with and without recreational activity. It also states, "the lowest percentage occurrence was found at the sites with the lowest recorded disturbance!"

Irish Wildlife Manual No. 76 (National Otter Survey of Ireland 2010/2012) notes that the occurrence of Otter was unaffected by perceived levels of disturbance at the survey sites. It also notes that there is little published evidence demonstrating any consistent relationship between Otter occurrence and human disturbance (Mason & Macdonald 1986, Delibes et al. 1991; Bailey &Rochford, 2006).

Based on the above review of scientific literature, given that no other evidence of Otters was recorded during the dedicated Otter survey conducted on the 20th of September 2023, and based on the implementation of the best practice disturbance limitation measures to reduce noise and vibration during construction, as set out in the **Construction and Environmental Management Plan (CEMP),** there is no potential for adverse impact on the integrity of the otter population associated with the Twelve Bens/ Garraun Complex SAC as a result of the proposed works.

6.2.2.1 Noise & Vibration Control Mitigation Measures to Reduce Disturbance to Otters

The following mitigation measures to limit noise and vibration disturbance during the construction phase of the proposed works is set out in the **Construction and Environmental Management Plan (CEMP)** submitted as part of this application.

The operation of plant and machinery, including construction vehicles, is a source of potential noise impacts. Noise levels shall be kept below those levels specified in the National Roads Authority – "Guidelines for the Treatment of Noise and Vibration in National Roads Schemes" or such further limits as imposed by the relevant Planning Authority. The Proposed Development shall comply with BS 5228 "Noise Control on Construction and open sites Part 1: Code of practice for basic information and procedures for noise control." During the works, any plant introduced to the site will not be excessively noisy. Exhaust and silencer systems on plant will be maintained in a satisfactory condition and operating correctly at all times. Defective silencers will be immediately replaced.
Proposed measures to control noise include:

- Construction equipment for use outdoors shall comply with the European Communities Regulations– Noise Emission by Equipment for Use Outdoors – SI 241 - 2006.
- Diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts.
- Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All construction plant and equipment to be used on-site will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations;
- Plant with the potential of generating noise or vibration will be placed as far away from sensitive properties as permitted by site constraints.
- Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers;
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works;
- Compressors will be of the "sound reduced" models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers;
- Machines which are used intermittently will be shut down during those periods when they are not in use;

- Training will be provided by the Site Management to drivers to ensure smooth machinery operation/driving, and to minimise unnecessary noise generation.
- It is recommended that drivers of heavy goods vehicles (HGVs) associated with the works extend due care and courtesy to other road users. Excessive use of and unnecessary engine revving will be avoided.
- The proposed construction working hours will be 08:00 – 18:00 Monday to Friday. Construction will not take place at the site on Sundays or Public Holidays. Deviation from these times will only be allowed in exceptional circumstances where written approval has been received from the planning authority and when other relevant third parties i.e., nearby homeowners have been notified and have agreed to works taking place during such time periods.

7. ASSESSMENT OF RESIDUAL ADVERSE EFFECTS

The potential for residual adverse effects on each of the individual relevant Qualifying Features of the Screened In European Sites following the implementation of mitigation, is assessed in this section of the report.

Based on the above, in view of best scientific knowledge, on the basis of objective information, there is no potential for adverse effect on the identified QIs/SCIs and their associated targets and attributes, or on any European Site Potential pathways for effect have been robustly blocked through measures to avoid impacts and the incorporation of best practice/mitigation measures into the project design.

Taking cognisance of measures to avoid impacts and best practice/mitigation measures incorporated into the project design which are considered in the preceding section, the Proposed project will not have an adverse effect on the integrity of any European Site.

The proposed project will not prevent the QIs/SCIs of European Sites from achieving/maintaining favourable conservation status in the future as defined in Article 1 of the EU Habitats Directive. A definition of Favourable Conservation Status is provided below:

> *'Conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory referred to in Article 2; The conservation status will be taken as 'favourable' 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.'

Based on the above, it can be concluded in view of best scientific knowledge, on the basis of objective information that the Proposed project will not adversely affect the Qualifying Interests/Special Conservation Interests associated with any European Site.

8. ASSESSMENT OF CUMULATIVE EFFECTS

A search and review in relation to plans and projects that may have the potential to result in cumulative and/or in-combination impacts on European Sites was conducted. This assessment focuses on the potential for cumulative in-combination effects on the European Sites where potential for adverse effects was identified in Section 4 of this report. This included a review of online Planning Registers, development plans and other available information and served to identify past and future plans and projects, their activities and their predicted environmental effects. A list of the plans and projects considered is provided in **Appendix 1.**

Assessment material for this in-combination impact assessment was compiled on the relevant developments within the vicinity of the Proposed works and was verified on the 16/08/2024. The material was gathered through a search of relevant online Planning Registers, reviews of relevant documents, planning application details and planning drawings, and served to identify past and future projects, their activities and their environmental impacts. All relevant projects were considered in relation to the potential for in-combination effects. All relevant data was reviewed (e.g. individual EISs/EIARs, layouts, drawings etc.) for all relevant projects where available. The plans and projects considered include those listed in **Appendix 1.** These consisted mainly of small scale domestic and agricultural developments.

The dominant land uses in the area were also considered in the assessment, these included pastoral agriculture and turbary.

Following the detailed assessment provided in the preceding sections, it is concluded that, the proposed works will not result in any residual adverse effects on any of the European Sites, their integrity or their conservation objectives when considered on its own. There is therefore no potential for the proposed works to contribute to any cumulative adverse effects on any European Site when considered in-combination with other plans and projects.

In the review of the projects that was undertaken, no connection, that could potentially result in additional or cumulative impacts was identified. Neither was any potential for different (new) impacts resulting from the combination of the various projects and plans in association with the proposed works.

Taking into consideration the reported residual impacts from other plans and projects in the area and the predicted impacts with the current proposal, no residual cumulative impacts have been identified with regard to any European Site

9. CONCLUDING STATEMENT

This NIS has provided an assessment of all potential direct or indirect adverse effects on European Sites.

Where the potential for any adverse effect on any European Site has been identified, the pathway by which any such effect may occur has been robustly blocked through the use of avoidance, appropriate design and mitigation measures as set out within this report and its appendices. The measures ensure that the construction phase of the proposed works does not adversely affect the integrity of European sites.

Therefore, it can be objectively concluded that the Proposed works, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site.

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APPENDIX 1

CUMULATIVE IMPACT ASSESSMENT- PLANS AND PROJECTS

1. ASSESSMENT OF CUMULATIVE EFFECTS

1.1 Plans

The following development plans have been reviewed and taken into consideration as part of this assessment:

- Galway County Development Plan 2022 - 2028
- Clifden Local Area Plan 2018 – 2024
- Ireland's 4th National Biodiversity Action Plan 2023-2030
- Northern and Western Regional Assembly – Regional Spatial and Economic Strategy 2020 - 2032

The review focused on policies and objectives that relate to Natura 2000 sites and natural heritage. Policies and objectives relating to sustainable land use were also reviewed

Table 8.1 Review of plans

Plan	Key Policies/Issues/Objectives Directly Related to European Sites in The Zone of Influence	Assessment of development compliance with policy
Galway County Council Development Plan 2022- 2028	**Objective NHB 1 Natural Heritage and Biodiversity of Designated Sites, Habitats and Species** Protect and where possible enhance the natural heritage sites designated under EU Legislation and National Legislation (Habitats Directive, Birds Directive, European Communities (Birds and Natural Habitats) Regulations 2011 and Wildlife Acts) and extend to any additions or alterations to sites that may occur during the lifetime of this plan. Protect and, where possible, enhance the plant and animal species and their habitats that have been identified under European legislation (Habitats and Birds Directive) and protected under national Legislation (European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011), Wildlife Acts 1976-2010 and the Flora Protection Order (SI 94 of 1999). Support the protection, conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of European sites, that form part of the Natura 2000 network, the protection of Natural Heritage Areas, proposed Natural Heritage Areas, Ramsar Sites, Nature Reserves, Wild Fowl Sanctuaries (and other designated sites including any future designations) and the promotion of the development of a green/ ecological network. **Objective NHB 2 European Sites and Appropriate Assessment** To implement Article 6 of the Habitats Directive and to ensure that Appropriate Assessment is carried out in relation to works, plans and projects likely to impact on European sites (SACs and SPAs), whether directly or indirectly or in combination with any other plan(s) or project(s). All assessments must be in compliance with the European Communities (Birds and Natural Habitats) Regulations 2011. All such projects and plans will also be required to comply with statutory Environmental Impact Assessment requirements where relevant. **Objective NHB3 Protection of European Sites** No plans, programmes, or projects etc. giving rise to significant cumulative, direct, indirect or secondary impacts on European sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans, programmes, etc. or projects.*	The Development plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the Natura 2000 network and other natural heritage interests. No potential for cumulative impacts when considered in conjunction with the current proposal were identified. There will be no impact on designated sites as a result of the development. Best practice preventative measures will be implemented to avoid effects on European Sites. There will be no adverse effects on receptors listed as QIs/SCIs of European Sites, as a result of the development.

Clifden Local Area Plan (LAP) 2018-2024	**Natural Heritage and Biodiversity Policies:** **Policy NH 1 – Natural Heritage, Landscape and Environment** It is the policy of Galway County Council, to support the conservation and enhancement of natural heritage and biodiversity, including the protection of the integrity of European Sites , the protection of Natural Heritage Areas and proposed Natural Heritage Areas and the promotion of the development of a green/ecological network within the plan area, in order to support ecological functioning and connectivity, create opportunities in suitable locations for active and passive recreation and to structure and provide visual relief from the built environment. The protection of natural heritage and biodiversity, including European Sites, will be implemented in accordance with relevant EU environmental directives and applicable national legislation, policies, plans and guidelines, including the following (and any updated/superseding documents): EU Directives, including the Habitats Directive (92/43/EEC), the Birds Directive (2009/147/EC codified version of Directive), the Environmental Impact Assessment Directive (2011/92/EU, as amended by (2014/52/EU), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC); the Environmental Liability Directive 2004/35/EC; National legislation, including the Wildlife Act 1976, the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development (Amendment) Act 2010 and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) and the Regulation of the European Parliament and of the Council on the Prevention and Management of the Introduction and Spread of Invasive Non-Native Species [2013/0307 (COD)] (adopted by European Council coming into effect January 2015) National policy guidelines, including the Landscape and Landscape Assessment Draft Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004, and the Appropriate Assessment Guidelines 2010. **Objective NH 1 – European Sites** Protect European sites that form part of the European Sites network (including Special Protection Areas and Special Areas of Conservation) in accordance with the requirements in the EU Habitats Directive (92/43/EEC), EU Birds Directive (2009/147/EC), the Planning and Development (Amendment) Act 2010, the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) (and any subsequent amendments or updated legislation) and having due regard to the guidance in the Appropriate Assessment Guidelines 2010 (and any updated/superseding guidance). A plan or project	The Development plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the Natura 2000 network and other natural heritage interests. No potential for cumulative impacts when considered in conjunction with the current proposal were identified. There will be no impact on designated sites as a result of the development. Best practice preventative measures will be implemented to avoid effects on European Sites. There will be no adverse effects on receptors listed as QIs/SCIs of European Sites, as a result of the development.

	(e.g., proposed development) within the plan area will only be authorised after the competent authority (Galway County Council) has ascertained, based on scientific evidence and 62 62 a Habitats Directive Assessment where necessary, that: The plan or project will not give rise to significant adverse direct, indirect or secondary impacts on the integrity of any European Sites (either individually or in combination with other plans or projects); or The plan or project will adversely affect the integrity of any European Sites 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 European Sites; or The plan or project will adversely affect the integrity of any European Sites site (that hosts 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, 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 measures necessary to ensure the protection of the overall coherence of European Sites. **Objective NH 2 – Protected Habitats and Species** Support the protection of protected habitats and species listed in the annexes to the EU Habitats Directive 1992 (92/43/EEC) and the Birds Directive (2009/147/EC) and regularly occurring-migratory birds and their habitats, species protected under the Wildlife Acts and the Flora Protection Order. This includes the protection of the barn owl, otters, salmon, brook lamprey, bats and their roosts and the maintenance of woodland, hedgerows, tree lines, waterways and ecological networks and corridors which serve as feeding areas, flight paths and community routes for bats. **Objective NH 3 – Natural Heritage Areas and Proposed Natural Heritage Areas** Protect Natural Heritage Areas and proposed Natural Heritage Areas in accordance with the requirements of the Wildlife Act 1976, the Wildlife (Amendment) Act 2000 and the Planning and Development Act 2000 (as amended). Where a proposed development within the plan area may give rise to likely significant effects on any Natural Heritage Area or proposed Natural Heritage Area an	

	Ecological Impact Assessment or an Environmental Impact Assessment, as appropriate, may be required. **Objective NH 4 – Impact Assessments** Ensure full compliance with the requirements of the EU Habitats Directive (92/43/EEC), SEA Directive (2001/42/EC) and EIA Directives including 2011/92/EU & 2014/52/EU and associated legislation/regulations, including the associated European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011), European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004-2011, Planning and Development (Strategic Environmental Assessment) Regulations 2004-2011 and the European Communities (Environmental Impact Assessment) Regulations 1989-2011 & European Union (Environmental Impact Assessment) Planning and Regulations 2014 (or any updated/superseding legislation). **Objective NH 5 – Biodiversity & Ecological Networks** Support the protection of biodiversity and ecological connectivity within the plan area including woodlands, trees, hedgerows, roadside verge vegetation, rivers, streams, natural springs, wetlands, stonewalls, fens, geological and geo-morphological systems, other landscape features and associated wildlife, where these form part of the 63 63 ecological networks. Seek to retain and incorporate these natural features into developments, in order to avoid ecological fragmentation and maintain ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive: **b)** Protect and enhance the water quality and ecology of the Owenglin River & Shoreline, in the plan area and their function of as ecological corridors, by maintaining the existing banks and channel and ensuring that new developments are generally set back at least 10m as measured from the near riverbank (this distance may be increased and decreased on a site-by-site basis, as appropriate). **d**) Seek to prevent inappropriate shoreline development which would negatively impact on the ecological quality and biodiversity of the coastal waters. **Objective NH 6 – Water Resources** Protect all water resources in the plan area, including sea waters, rivers, streams, springs, wetlands, surface waters and groundwater quality, in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the National River Basin Management Plan and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). **Objective NH 11 – Control of Invasive and Alien Species**	

	Seek to prevent the spread of invasive and alien invasive species and require a landscaping plan to be produced for developments near water bodies and ensure that such plans do not include invasive species. **Control of Invasive Species Development Management Guideline** **DM Guideline NH 1** – Control of Invasive Species & Bio-Security Measures Ensure larger developments include the relevant documentation with their planning application to demonstrate the bio-security measures proposed to ensure that invasive species will not be introduced and/or spread within the development site.	
Ireland's 4th National Biodiversity Action Plan 2023-2030	**Objective 1: Adopt a Whole-of Government, Whole of-Society Approach to Biodiversity.** Proposed actions include capacity and resource reviews across Government; determining responsibilities for the expanding biodiversity agenda providing support for communities, citizen scientists and business; and mechanisms for the governance and review of this National Biodiversity Action Plan. **Objective 2: Meet Urgent Conservation and Restoration Needs. Supporting actions will build on existing conservation measures.** Efforts to tackle Invasive Alien Species will be elevated. The protected area network will be expanded to include the Marine Protected Areas. The ambition of the EU Biodiversity Strategy will be considered as part of an evolving work programme across Government. **Objective 3: Secure Nature's Contribution to People. Actions highlight the relationship between nature and people in Ireland.** These include recognising the tangible and intangible values of biodiversity, promoting nature's importance to our culture and heritage, and recognising how biodiversity supports our society and our economy. **Objective 4: Enhance the Evidence Base for Action on Biodiversity.**	The Development plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the Natura 2000 network and other natural heritage interests. No potential for cumulative impacts when considered in conjunction with the current proposal were identified. There will be no impact on designated sites as a result of the development. Best practice preventative measures will be implemented to avoid effects on European Sites. There will be no adverse effects on receptors listed as QIs/SCIs of European Sites, as a result of the development.

	This objective focuses on biodiversity research needs, as well as the development and strengthening of long-term monitoring programmes that will underpin and strengthen future decision-making. Action will also focus on collaboration to advance ecosystem accounting that will contribute towards natural capital accounts. **Objective 5: Strengthen Ireland's Contribution to International Biodiversity Initiatives.** Collaboration with other countries and across the island of Ireland will play a key role in the realisation of this Objective. Ireland will strengthen its contribution to international biodiversity initiatives and international governance processes, such as the United Nations Convention on Biological Diversity	
Northern and Western Regional Assembly - Regional Spatial and Economic Strategy 2020-2032	**Regional Policy Objectives** **79.** Encourage the prioritization of Site Specific Conservation Objectives for all sites of Conservation Value, designated in EU Directive (i.e. SACs, SPAs) to integrate with the development objectives of this strategy. **80.** Ensure efficient and sustainable use of all our natural resources, including inland waterways, peatlands, and forests in a manner which ensures a healthy society a clean environment and there is no net contribution to biodiversity loss arising from development supported in this strategy. **81.** Conserve and protect designated areas and natural heritage areas. Conserve and protect European sites and their integrity. **83.** Ensure that all plans, projects and activities requiring consent arising from the RSES are subject to the relevant environmental assessment requirements including SEA, EIA and AA as appropriate.	The Development plan was comprehensively reviewed, with particular reference to Policies and Objectives that relate to the Natura 2000 network and other natural heritage interests. No potential for cumulative impacts when considered in conjunction with the current proposal were identified. There will be no impact on designated sites as a result of the development. Best practice preventative measures will be implemented to avoid effects on European Sites. There will be no adverse effects on receptors listed as QIs/SCIs of European Sites, as a result of the development.

1.2 Other Projects

Assessment material for this in-combination impact assessment was compiled on the relevant developments within the vicinity of the Proposed Development and was verified on the 21/08/2024. The material was gathered through a search of relevant online Planning Registers, reviews of relevant documents, planning application details and planning drawings, and served to identify past and future projects, their activities, and their environmental impacts. All relevant projects were considered in relation to the potential for in-combination effects. All relevant data was reviewed (e.g., individual EISs/EIARs, layouts, drawings etc.) for all relevant projects where available. The projects considered include those listed below. These consisted mainly of small-scale domestic developments and upgrades.

- Planning reference 191101: Permission to (1) construct three detached holiday cottages on a revised site boundary (2) install pedestrian walkway from hotel to holiday cottages, (3) proposed connection to the public sewer as well as all ancillary site works. Gross floor space of proposed works: 111.00 sqm (x3).
- Planning reference 201174: Permission for a) demolition of an existing house, b) the construction on the new 2 storey house, c) new wastewater treatment system d) alterations to the existing site entrance and driveway and e) all associated site works. Gross floor space of proposed works: 233 sqm
- Planning reference 212264: Permission for a residential development which will consist of 28 no. two-storey detached residential units (7 no. 4-bed units, 18 no. 3-bed units, and 3 no. 2-bed units) (4572 sqm total finished floorspace), 56 no. car parking spaces, 4 no. bike racks and all other associated site development works and services, including an internal road and footpath network; ancillary surface water and foul drainage and connections; and appropriate landscaping and boundary treatments, required to facilitate the development
- Planning reference 181484: Permission for the construction of a new playing pitch and all associated site works and services.
- Planning reference 201722: Permission to construct a dwelling house with new site entrance and wastewater treatment system. Gross floor space of proposed works: 367 sqm
- Planning reference 201182: Permission for 1] a new vehicular & pedestrian entrance/exit from / to the R341, 2] New internal access road and parking, 3] a new running/walking track within the site, 4] formation of new landscaped training paddocks and all ancillary site works and services. This application is accompanied by a Natura Impact Statement.
- Planning reference 19246: Permission for 1) a four-megawatt solar farm with battery storage units 2) new perimeter security fencing and access within the site 3) upgrade existing access road and 4) works to facilitate the electricity connection from the solar farm to ESB substation as well as all ancillary site works. This planning application is accompanied by an NIS as required by article 239 of the Planning & Development Regulations 2001 (as amended). Gross floor space of proposed works: 201 sqm
- Planning reference 20942: Permission for development which consists of 270sqm, 3-bedroom single storey house and studio and for the installation of a new wastewater treatment system, associated percolation area and associated site works. Gross floor space of proposed works; 270sqm
- Planning reference 19980: Permission for construction of one and half storey dwelling house (184m2) with attached single storey carport (43m2), new separate single storey garage/gym (64m2), and new effluent treatment system with polishing filter area, new access road, and all ancillary services and landscaping works. Gross floor space of proposed works: 290 sqm (House - 184 sqm, Carport - 43 sqm, Garage - 63 sqm)
- Planning reference 211205: Permission for development consisting of a single storey extension to the west of the school comprising 578sqm of class room facilities for Special Education Needs, a glazed link connecting the school to existing vehicle access to the school as well as access from the school to the school yard, and existing ball courts and sports hall, minor alterations to the existing GP hall to provide new fire escape door sets and associated site works including the building contractor's temporary access to the works from the North of the site. Gross floor space of proposed works 578 sqm.
- Planning Ref: 191184: Permission for the alterations, extension of the existing dwelling to provide a four bedroom dwelling, comprising a new single storey extension to the West and South East, new porch to North, demolition of existing roof and dormer floor, internal walls and some external walls, alteration of existing walls for new roof, new ground floor internal layout, removal of existing septic

tank, replacement with new waste water treatment system and percolation area, along with improvements to existing site entrance, access road and all associated site works, new garage (gross floor space garage 41 sqm/extensions 171 sqm). Previous Planning Ref: 14/548.

- Planning Reference: 221198: for development consisting of modifications to the ground floor layout and shop facade and will include for: (a) single-storey extension to front of the existing store to provide a DRS facility to allow customers to return plastic beverage bottles to a reverse vending machine in store, (b) the removal of the existing entrance/exit pod, (c) the removal of the existing trolley bay, (d) proposed free-standing trolley bay. (e) proposed alteration works to store elevation. (f) alteration works to car park area. (g) all ancillary works required to complete to the required Building Regulations standards. Gross floor space of proposed works: 1579.06sqm.
- Planning Ref: 2460018: for the development consisting of the demolition of non-protected existing buildings and glazed porch and construction of an extension to and refurbishment of existing Protected Structure to create a 40-bed Residential Care Centre with gross floor area of 4,337m2 on a site of 1.46Ha, consisting of: (1) two-storey courtyard building, rectangular in plan, containing 38 single bedrooms with ensuite and one twin room with ensuite, along with support accommodation: sitting and activity rooms, day spaces, sanitary accommodation, pantries, stores, stairs and lifts, roof top plant and roof mounted solar photovoltaic panels; (2) two-storey support wing containing production kitchen, staff changing, family accommodation, stair and lift, plant rooms, screened roof plant areas, and roof mounted solar photovoltaic panels; 3) two-storey glazed links containing corridors, entrance lobby, and reception; (4) reconfiguration of the Protected Structure to provide administrative areas, staff changing, resident support areas, and Day Hospital containing day room, reflection room, hairdressing, physiotherapy areas, clinic rooms, and associated support areas; (5) external works in the form of improved existing site entrances, new landscaped gardens, screened plant areas, electrical substation, liquefied petroleum gas tanks, 37 car parking spaces, bicycle parking, new internal roads and paths, new foul and surface water drainage installations, including SUDS measures, and flood mitigation measures incorporating the diversion of existing culvert to new watercourse with flood retention basins. The application includes a Natura Impact Statement (NIS). Gross floor space of proposed works: 3200 sqm. Gross floor space of any demolition: 149 sqm.
- Planning Ref:211205: development consists of a single storey extension to the west of the school comprising 578sqm of class room facilities for Special Education Needs, a glazed link connecting the school to existing vehicle access to the school as well as access from the school to the school yard, and existing ball courts and sports hall, minor alterations to the existing GP hall to provide new fire escape door sets and associated site works including the building contractor's temporary access to the works from the North of the site. Gross floor space of proposed works 578 sqm.
- Planning Ref: 181484: Permission or the construction of a new playing pitch and all associated site works and services.
- Planning Ref:161627: Permission for the construction of a new harbour side public amenity park for the town of Clifden incorporating the following : (1) a new off road public park (2) the demolition of part of the existing ball alley structure (3) the demolition of the roadside wall of the ball alley to within 0.9metres of existing ground level and retaining the remainder as a roadside wall (4) two new boccia/bowling courts (5) two new hand ball/ball wall courts (6) new out-door gym and recreation equipment (7) a new skate park (8) new public pathways and associated public lighting, viewing areas (9) a new teen zone recreational area (10) a new extension of existing playground (11) filling and draining of existing lands to create raised open parkland (12) the provision of new amenity woodland and associated walkway. And all associated landscaping and site development works to facilitate the above (grosss floor space ball alley 260sqm) (Previous Planning Ref. No. 12/146.).
- Planning Ref: 2460815: Permission for the demolition of an existing modern extension to the rear of the dwelling, comprising of a dining & sun room, the construction of a new extension, comprising of an open-plan kitchen-dining-living space and new pantry, the making of a new opening between the existing hall and proposed extension, incorporating full heigh glazing to east and west façade and a low pitch zinc roof with central rooflight, external works include relocating the soil vent pipe which connects to the existing septic tank and allowance for new soakpit to take water run-off from the new extension and sundry other minor works. Gross floor space of proposed works: 67.53 sqm. Gross floor space of any demolition: 31.49 sqm.

1.3 Conclusion of Cumulative Assessment

In the review of the projects that was undertaken, no connection, that could potentially result in additional or cumulative impacts was identified. Neither was any potential for different (new) impacts resulting from the combination of the various projects and plans in association with the proposed works.

Taking into consideration the reported residual impacts from other plans and projects in the area and the predicted impacts with the current proposal, no residual cumulative impacts have been identified.