



AbbVie Ireland Solar Panel Installation Manorhamilton Rd, Rathbraghan, Co. Sligo



Screening for Appropriate Assessment & Natura Impact Statement

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1. INTRODUCTION

Delichon Ecology have been commissioned by Gravis Planning c/o Astatine Ltd to carry out a Screening for Appropriate Assessment (AA) & Natura Impact Statement (NIS) for proposed solar panel installation on lands owned by AbbVie Ireland, Manorhamilton Road, Sligo F91 XH39AbbVie. The location of the proposed solar farm is presented in **Figure 1-1** while the site layout is presented in **Figure 1-2**.

The Screening for Appropriate Assessment and Natura Impact Statement has been prepared to provide the competent authority, Sligo County Council, with the relevant scientific information to conduct the Appropriate Assessment (AA). This information will allow Sligo County Council to determine, in view of best scientific knowledge, if the proposed project, individually or in combination with other plans and projects is likely to have a significant effect on a European site and, where necessary, to ascertain whether or not the proposed project would adversely affect the integrity of a European site.

1.1 Legislative Context for Appropriate Assessment

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as “The Habitats Directive”, provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000.

Natura 2000 sites are defined under the Habitats Directive (Article 3) as a coherent European ecological network of special areas of conservation, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range. In Ireland, these sites are designated as European Sites and include Special Protection Areas (SPAs), established under the EU Birds Directive (79/409/EEC, as codified by 2009/147/EC) for birds and Special Areas of Conservation (SACs), established under the Habitats Directive 92/43/EEC for habitats and species.

The Habitats Directive has been transposed into Irish law by Part XAB of the Planning and Development Act, 2000 - 2015 and the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477/2011) as amended.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to adversely affect the integrity of European Sites (Annex 1.1).

Article 6(3) establishes the requirement for Appropriate Assessment (AA):

Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.



Article 6(3) of the Habitats Directive, transposed into Irish Law relevant to this project includes Part XAB of the Planning and Development Act, 2000 as amended and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

Natura 2000 sites in Ireland (herein referred to as European sites) that form part of the Natura 2000 network of protected sites include Special Areas of Conservation (SACs) designated due to their significant ecological importance for species and habitats protected under Annexes I and II respectively of the Habitats Directive, and Special Protected Areas (SPAs), designated for the protection of populations and habitats of bird species protected under the EU Birds Directive (Council Directive 2009/409/EEC). Features for which SACs and SPAs are designated are termed Qualifying Interests and Special Conservation Interests respectively. Collectively, Qualifying Interests and Special Conservation Interests are herein referred to as Qualifying Features.

As the proposed project is not directly connected with or necessary to the management of any European Site, Sligo County Council as the competent authority, is obliged to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with other plans or projects, is likely to have a significant effect on European Sites.

The staged assessment process undertaken to meet Article 6(3) obligations is described in **Section 2** below.

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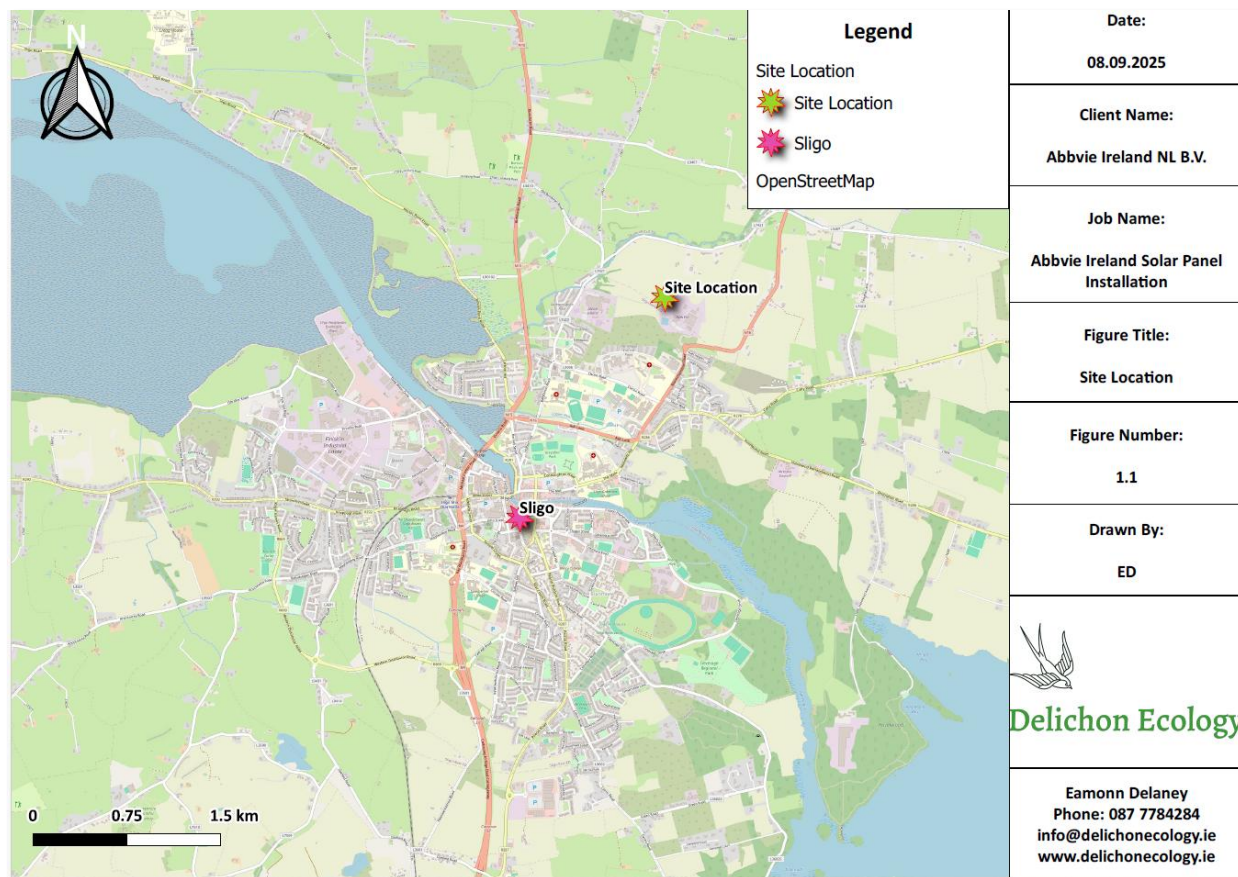


Figure 1-1: Site Location

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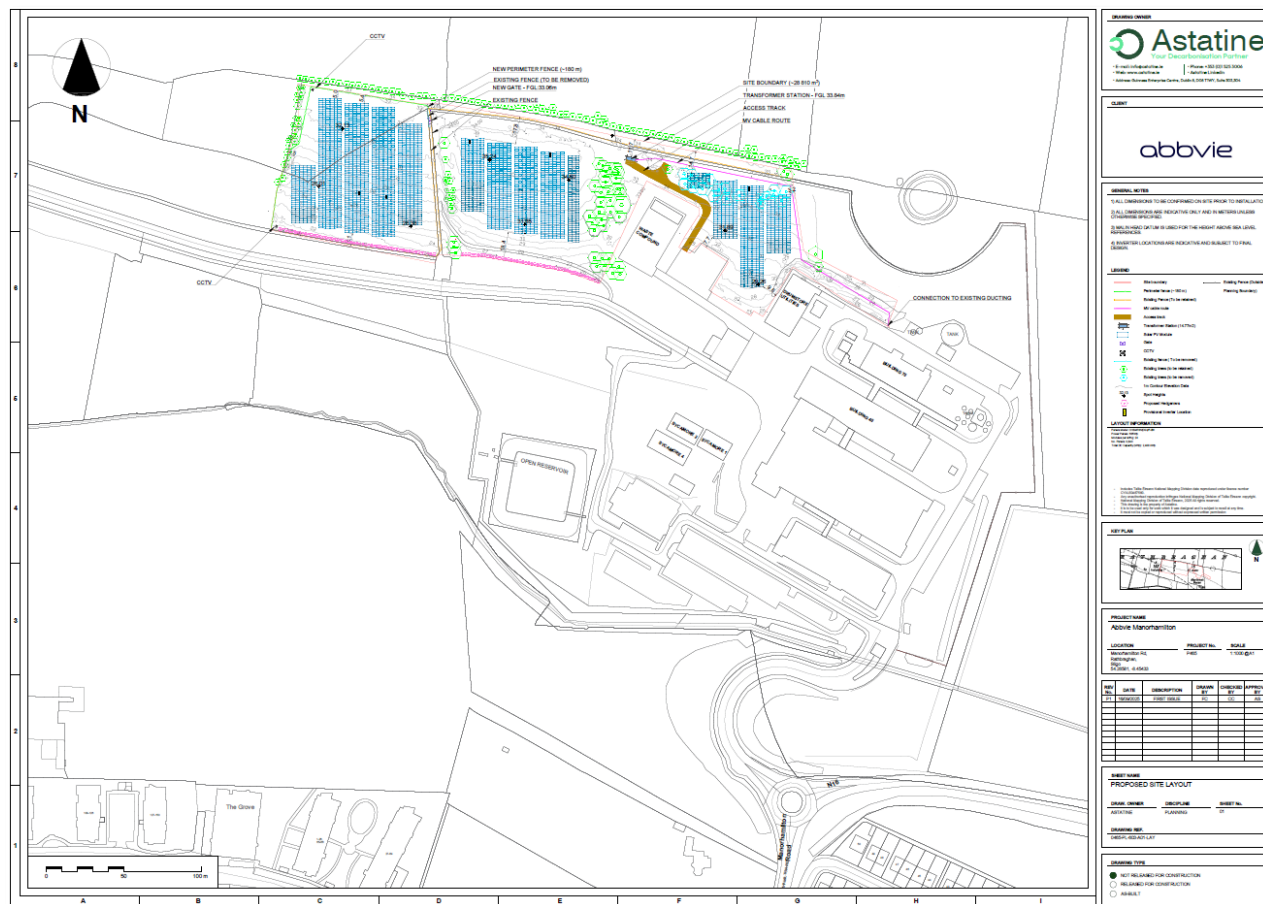


Figure 1-2: Site Layout Plan

2 METHODOLOGY

The Department of the Environment, Heritage and Local Government guidelines (DEHLG, 2009, rev. 2010) outlines the European Commission's methodological guidance (EC, 2002) promoting a four-stage process to complete the AA, and outlines the issues and tests at each stage. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

The four stages are summarised diagrammatically in **Figure 2-1**. Stages 1-2 deal with the main requirements for assessment under Article 6(3). Stage 3 may be part of the Article 6(3) Assessment or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4).

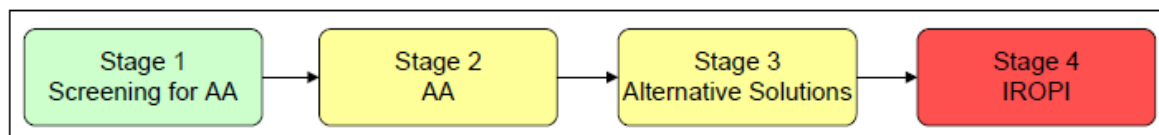


Figure 2-1: Four Stages of the AA Process

2.1.1 Stage 1 – Screening for Appropriate Assessment

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3):

Whether a plan or project is directly connected to or necessary for the management of the site, and whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a European site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation, unless potential impacts clearly can be avoided through the modification or redesign of the plan or project, in which case the screening process is repeated on the altered plan. The greatest level of evidence and justification will be needed in circumstances when the process ends at screening stage on grounds of no impact.

2.1.2 Stage 2 – Appropriate Assessment (Natura Impact Statement)

The aim of Stage 2 of the AA process is to identify any adverse impacts that the plan or project might have on the integrity of relevant European sites. As part of the assessment, a key consideration is 'in combination' effects with other plans or projects. Where adverse impacts are identified, mitigation measures can be proposed that would avoid, reduce or remedy any such negative impacts and the plan or project should then be amended accordingly, thereby avoiding the need to progress to Step 3.

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a European site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. The proponent of the plan or project will be required to submit a Natura Impact Statement, i.e. the report of a targeted professional scientific examination of the plan or project and the relevant European sites, to identify and characterise any possible implications for the site in view of the site's conservation objectives, taking account of in-

combination effects. This should provide information to enable the public authority to carry out the AA.

The information required in a Natura Impact Statement, is outlined in Regulation 42(5) (a) of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) as amended, as follows:

A Natura Impact Statement shall, in addition to addressing the issues referred to in the interpretation contained in Regulation 2(1), include such information or data as the public authority considers necessary, and specifies in a notice given under paragraph (3), to enable it to ascertain if the plan or project will affect the integrity of the site.

Where appropriate, a Natura Impact Statement shall include, in addition—

- i. the alternative solutions that have been considered and the reasons why they have not been adopted,
- ii. the imperative reasons of overriding public interest that are being relied upon to indicate that the plan or project should proceed notwithstanding that it may adversely affect the integrity of a European site,
- iii. the compensatory measures that are being proposed.

If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 3, or the plan or project should be abandoned. The competent authority must make a determination to that effect before proceeding to the next stage.

2.1.3 Guidance

This Screening for AA and NIS report has been prepared with regard to the relevant provisions of the EU Council Directive 92/43/EEC and Ireland's EU (Birds and Natural Habitats) Regulations 2011 (as amended).

The methodology followed for this assessment has had regard to the following guidance and legislation:

- DoEHLG (2009, rev. 2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government;
- European Commission (EC) (2018), Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats Directive' 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
- EC (2002) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
- EC (2007a) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding



public interest, compensatory measures, overall coherence, opinion of the commission.
European Commission;

- EC, (2007b), Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. European Commission;
- EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission;
- Chartered Institute of Ecology and Environmental Management (CIEEM) Version 1.1 (September 2019), Guidelines for Ecological Impact Assessment in the UK and Ireland;
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report;
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report;
- Office of the Planning Regulator (OPR) (2021) Practice Note PN01 - Appropriate Assessment Screening for Development Management.
- EC (2014) Article 6 of the Habitats Directive: Rulings of the European Court of Justice.
- EC (2018), Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats Directive' 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
- EC (2019) Commission notice "Managing Natura 2000 sites, The provision of Article 6 of the Habitats Directive 90/43/EEC". Brussels, 21.11.2019, C (2018) 7621 final. European Communities, Luxembourg.
- EC (2021) (Amended) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provision of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, European Communities, Luxembourg.
- EC (2021) (Amended). Commission notice "Guidance document on the strict protection of animal species of Community interest under the Habitats Directive". Brussels, 21.10.2021, C (2021) 7301. European Commission.
- The European Communities (Birds and Natural Habitats) Regulations 2011 as amended;
- European Union (Environmental Impact Assessment and Habitats) Regulations 2011 S.I No 473/2011 as amended,
- NPWS (2013). Ireland's Summary Report for the period 2008 – 2012 under Article 12 of the Birds Directive. National Parks and Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland;
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report;
- NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report;
- The European Communities (Birds and Natural Habitats) Regulations 2011 as amended;
- The Planning and Development Act as amended;
- The Planning and Development Regulations as amended; and
- Recent Irish and European case law on the Habitats Directive.

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2.1.4 Information Consulted for this Report

This assessment has been informed by the following sources of data:

- Information on the location, nature and design of the proposed project as provided by the client;
- Department of Housing, Planning, Community and Local Government (DHPCLG) online land-use mapping (www.myplan.ie/en/index.html);
- Office of Public Works (OPW) National Flood Hazard Mapping website (www.floodmaps.ie);
- Review of the National Biodiversity Data Centre (NBDC) webmapper <https://maps.biodiversityireland.ie/Map>
- Geological Survey of Ireland - National Draft Bedrock Aquifer map;
- Geological Survey of Ireland - Groundwater Database (www.gsi.ie);
- Environmental Protection Agency (EPA) geoportal mapping tool (<https://gis.epa.ie/EPAMaps/>);
- National Parks and Wildlife Service protected site and species information and data (<https://www.npws.ie/protected-sites>);
- Spatial data in respect of Article 17 reporting, available online at <https://www.npws.ie/maps-and-data/habitat-and-species-data/article-17>.
- Spatial data in respect of Article 12 reporting, available online at <https://www.npws.ie/maps-and-data/habitat-and-species-data/article-12-data>.
- National Biodiversity Data Centre (www.biodiversityireland.ie); and
- Ordnance Survey of Ireland mapping and aerial photography (www.osi.ie).

2.1.5 Statement of Authority

Eamonn Delaney BSc, MSc, MCIEEM, CECOL prepared this Screening for Appropriate Assessment & Natura Impact Statement. Eamonn has eighteen years consultancy experience and has prepared Screening for Appropriate Assessment and Natura Impact Statements for various projects, including residential, amenity, renewable energy and transport developments in addition to strategic policy and planning proposals. Eamonn conducted a site walkover survey of the proposed development site in June and September 2025. Eamonn's initial years in ecological consultancy involved botanical and habitat surveys for the purposes of EIA, EcIA and large scale habitat surveys for local authorities. This included plant species identification and habitat classification in a wide range of rural, urban and peri-urban environments. Eamonn is a member of the Botanical Society of Britain and Ireland (BSBI) and regularly attends local and regional BSBI field meetings in addition to carrying out recording for the proposed BSBI 2020 Atlas, in north Co. Galway and south Co. Mayo.

Eamonn has extensive experience in the Ecological Clerk of Works (ECow) role for Flood Relief Schemes, roads and pipeline developments which requires weekly site visits, monitoring of mitigation measures, reviewing contactors method statements in addition to ongoing liaison with site operational staff and the design team. Eamonn has also been involved in the preparation and review of numerous Screening for Appropriate Assessment reports, Natura Impact Statements, Ecological Impact Assessments and Invasive Species Management Plans for a range of project types including roads, water infrastructure, solar farms, wind farms and peatland rehabilitation works. Through his



involvement in all of these projects, Eamonn has honed his skills in field based assessments and the subsequent reporting and interpretation of information yielded from desk and field based resources.

Eamonn routinely drafts, reviews and completes AA's for numerous projects. As the project design is developed, Eamonn seeks to influence the project design and refine the AA process to avoid and reduce potential impacts to the habitats and species for which the potentially impacted European site is designated. The outcome ensures that the finalised AA has been developed through an iterative process where the findings of the AA inform and are being informed by the project design throughout.

3 PROJECT DESCRIPTION AND EUROPEAN SITES

3.1 Site Location & Project Description

AbbVie Ireland NL B.V. wish to install solar panels on fallow ancillary lands associated within the Manorhamilton facility. The proposed development site is located to the north and north-west of the existing built infrastructure. AbbVie Ireland NL B.V. intends to apply to Sligo County Council for Permission for the solar panel installation at AbbVie Ireland, Manorhamilton Road, Sligo, F91 XH39.

The development will consist of:

- Installation of a ground-mounted solar photovoltaic (PV) array on lands of 2.88 hectares, with a generation capacity of up to c.2.5 MWp;
- Associated infrastructure including five inverters and a transformer station, underground cabling, internal access track, new access gate, perimeter security fencing, CCTV; and
- All ancillary site development works and services (including steel foundations, landscaping and service connections).

The extent and layout of the proposed solar panel installation is presented in **Figure 1.2**.

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3.2 European Sites within the Project Zone of Influence

This stage of the screening for AA process describes European Sites within the Zone of Influence (Zol) of the proposed project.

Section 3.2.3 of the Guidance for Planning Authorities (DoEHLG, 2010) states that the approach to Appropriate Assessment screening can be different for different plans and projects depending on the scale of the plan, project or programme and the likely associated effects. The overriding criteria determining whether a European Site will be impacted and potentially consequently effected by a proposal is the distance between proposal and a European Site and whether there are pathways for effect linking the proposal to European Sites.

Both UK (Scott Wilson et al., 2006) and Irish guidance (DoEHLG, 2010) outline that a distance of 15km may suffice as a likely Zone of Impact (Zol) in the case of plans on European Sites and may be sufficient to cover the geographic extent over which significant ecological effects are likely to occur. However for certain projects, the DoEHLG (2010) guidance recognises that the likely Zol could be 'much less than 15km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects'.

Recent guidance from Office of the Planning Regulator (2021) indicates that the zone of influence for a proposal is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European Site. This guidance indicates that the zone of influence should be established on a case-by-case basis using the Source-Pathway-Receptor framework. Using the Source » Pathway » Receptor approach and having regard for the location, the nature of the works, and the small size and scale of the works, it is considered for the purpose of this assessment that the likely Zol on European Sites is the zone immediately around the proposed development, in addition to any sites with a hydrological or hydrogeological connection downstream of the works and/or with an ecological connection, where distance would be dependent on the qualifying interests of the site. To that end the following sites are located within the potential Source» Pathway » Receptor zone of influence of the proposed works:

- Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC (000627); and
- Cummeen Strand SPA (004035).

The following European Sites which support more remote hydrological connectivity with the proposed works via the open waters of Sligo Bay and the mouth of Ballysadare Bay have also been considered, these include:

- Ballysadare Bay SPA (004129) – 12.9km downstream;
- Ballysadare Bay SAC (000622) – 12.9km downstream; and
- Drumcliff Bay SPA (004013) – 12.7km downstream.

However, given the nature and scale of the proposed rehabilitation works, likely significant effects to these European Sites are not possible due to the distance downstream to these European Sites (>12km) and the assimilative and dilutional capacity of the receiving transitional and coastal waterbodies.



Figure 3-1 shows the European sites within the potential Zone of Influence and surrounding area of the proposed development site and **Figure 3-2** shows European Sites within the project Zone of Influence. **Table 3-1** provides details on the distance and connectivity between the proposed solar panel installation and European Sites within the project Zone of Influence.

3.2.1 Source-Pathway-Receptor Model

The likely effects of the proposed development on European sites have been appraised using a source-pathway-receptor model, where:

- A 'source' is defined as the individual element of the proposed development that has the potential to impact on a European site, its qualifying features and its conservation objectives;
- A 'pathway' is defined as the means or route by which a source can affect the ecological receptor; and
- A 'receptor' is defined as the Special Conservation Interests of Special Protection Areas (SPA) or Qualifying Interests (QI) of Special Areas of Conservation (SAC) for which Conservation Objectives have been set for the European sites being screened.

A source-pathway-receptor model is a standard tool used in environmental assessment. In order for an effect to be likely, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism results in no likelihood for the effect to occur. The source-pathway-receptor model was used to identify a list of European sites, and their QIs/SCIs, with potentially links to European site.

3.2.2 Likely Significant Effect

The threshold for a Likely Significant Effect (LSE) is treated in the screening exercise as being above a de minimis level. The opinion of the Advocate General in CJEU case C-258/11 outlines:

"the requirement that the effect in question be 'significant' exists in order to lay down a de minimis threshold. Plans or projects that have no appreciable effect on a European site are thereby excluded. If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill."

In this report, therefore, 'relevant' European sites are those within the potential Zol of activities associated with the proposed development, where LSE pathways to European sites were identified through the source-pathway-receptor model.

Table 3-1: European Site within the Zone of Influence of the proposed development site

Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
000627	Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC	1014 Narrow-mouthed Whorl Snail <i>Vertigo angustior</i> 1095 Sea Lamprey <i>Petromyzon marinus</i> 1099 River Lamprey <i>Lampetra fluviatilis</i> 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1365 Harbour Seal <i>Phoca vitulina</i> 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* 5130 <i>Juniperus communis</i> formations on heaths or calcareous grasslands 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 7220 Petrifying springs with tufa formation (Cratoneurion)*	1.3km south-west	Given the separation distance, there is no potential for direct connectivity between the proposed development and this European Site. The proposed development site supports potential remote and tenuous hydrological connectivity with this European Site through overland flow of construction phase pollutants to an offsite drainage channel located south of the site bounds and into the Willsborough Stream_010, which flows into this European Site ca 950m downstream. Therefore, the proposed development site supports potential indirect hydrological connectivity to this European Site via overland flow. This European Site is underlain by the same groundwater body to the proposed development site; i.e. the Drumcliff-

¹ *Indicates priority Annex I habitats

² Indicates the nearest straight-line distance unless otherwise quoted.



Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
				Strandhill groundwaterbody (IE_WE_G_0044). In the context of the proposed works considering the limited depth of excavation throughout and the generally low vulnerability of the underlying aquifers, there is limited potential for surface contaminants to enter underlying bedrock aquifers and migrate in quantities required to adversely affect downgradient sensitive receptors. To that end, there is limited potential for vertical migration to the underlying bedrock and lateral migration within the aquifer to downgradient receptors
004035	Cummeen Strand SPA	A046 Brent Goose <i>Branta bernicla hrota</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A162 Redshank <i>Tringa totanus</i> A999 Wetlands	1.3km south-west	Given the separation distance, there is no potential for direct connectivity between the proposed development and this European Site. The proposed development site supports potential remote and tenuous hydrological connectivity with this European Site through overland flow of construction phase pollutants to offsite



Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
				drainage channel located south of the site bounds and into the Willsborough Stream_010, which flows into this European Site ca 950m downstream. Therefore, the proposed development site supports potential indirect hydrological connectivity to this European Site via overland flow. This European Site is underlain by the same groundwater body to the proposed development site; i.e. the Drumcliff-Strandhill groundwaterbody (IE_WE_G_0044). In the context of the proposed works considering the limited depth of excavation throughout and the generally low vulnerability of the underlying aquifers, there is limited potential for surface contaminants to enter underlying bedrock aquifers and migrate in quantities required to adversely affect downgradient sensitive receptors. To that end, there is limited potential for vertical migration to the underlying

Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
				bedrock and lateral migration within the aquifer to downgradient receptors
004129	Ballysadare Bay SPA	A046 Brent Goose <i>Branta bernicla hrota</i> A141 Grey Plover <i>Pluvialis squatarola</i> A149 Dunlin <i>Calidris alpina alpina</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A162 Redshank <i>Tringa totanus</i> A999 Wetlands	8.1km south-west 12.9km downstream via Sligo Harbour	Given the separation distance, there is no potential for direct connectivity between the proposed development and this European Site. The proposed development site supports potential remote and tenuous hydrological connectivity with this European Site through overland flow of construction phase pollutants to an offsite drainage channel located south of the site bounds and into the Willsborough Stream_010, which flows into Sligo Harbour which in turn supports indirect hydrological connectivity with Ballysadare Bay. However, given the nature and scale of the proposed rehabilitation works, likely significant effects to this European Site is not possible due to the distance downstream (>12km) and the assimilative and dilutional capacity of the receiving transitional and coastal waterbodies.



Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
				This European Site is not underlain by the same groundwater body as the proposed development site; i.e. the Drumcliff-Strandhill groundwaterbody (IE_WE_G_0044), removing the risk for potential groundwater connectivity. In the context of the proposed works considering the limited depth of excavation throughout and the generally low vulnerability of the underlying aquifers, there is limited potential for surface contaminants to enter underlying bedrock aquifers and migrate in quantities required to adversely affect downgradient sensitive receptors. To that end, there is limited potential for vertical migration to the underlying bedrock and lateral migration within the aquifer to downgradient receptors.
000622	Ballysadare Bay SAC	1014 Narrow mouthed whorl snail <i>Vertigo angustior</i> 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1365 Harbour seal <i>Phoca vitulina</i> 2110 Embryonic shifting dunes	8.1km south-west 12.9km downstream via Sligo Harbour	Given the separation distance, there is no potential for direct connectivity between the proposed development and this European Site. Given the separation distance, there is no potential for direct



Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
		2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) 2190 Humid dune slacks		connectivity between the proposed development and this European Site. The proposed development site supports potential remote and tenuous hydrological connectivity with this European Site through overland flow of construction phase pollutants to offsite drainage channel located south of the site bounds and into the Willsborough Stream_010, which flows into Sligo Harbour which in turn supports indirect hydrological connectivity with Ballysadare Bay. However, given the nature and scale of the proposed rehabilitation works, likely significant effects to this European Site is not possible due to the distance downstream (>12km) and the assimilative and dilutional capacity of the receiving transitional and coastal waterbodies. This European Site is not underlain by the same groundwater body as the proposed development site; i.e. the Drumcliff-Strandhill groundwaterbody

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Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
				(IE_WE_G_0044), removing the risk for potential groundwater connectivity. In the context of the proposed works considering the limited depth of excavation throughout and the generally low vulnerability of the underlying aquifers, there is limited potential for surface contaminants to enter underlying bedrock aquifers and migrate in quantities required to adversely affect downgradient sensitive receptors. To that end, there is limited potential for vertical migration to the underlying bedrock and lateral migration within the aquifer to downgradient receptors.
004013	Drumcliff Bay SPA	A144 Sanderling <i>Calidris alba</i> A157 Bar-tailed Godwit <i>Limosa lapponica</i> A999 Wetlands	4.7km north-east 12.7m downstream via Sligo Harbour	Given the separation distance, there is no potential for direct connectivity between the proposed development and this European Site. Given the separation distance, there is no potential for direct connectivity between the proposed development and this European Site.



Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
				The proposed development site supports potential remote and tenuous hydrological connectivity with this European Site through overland flow of construction phase pollutants to offsite drainage channel located south of the site bounds and into the Willsborough Stream_010, which flows into Sligo Harbour which in turn supports indirect hydrological connectivity with this European Site. However, given the nature and scale of the proposed rehabilitation works, likely significant effects to this European Site is not possible due to the distance downstream (>12km) and the assimilative and dilutional capacity of the receiving transitional and coastal waterbodies. This European Site is partially underlain by the same groundwater body as proposed development site; i.e. the Drumcliff-Strandhill groundwaterbody (IE_WE_G_0044).



Site Code	Site Name	Qualifying Features / Special Conservation Interest Species ¹	Distance from Study Area ²	Connectivity
				In the context of the proposed works considering the limited depth of excavation throughout and the generally low vulnerability of the underlying aquifers, there is limited potential for surface contaminants to enter underlying bedrock aquifers and migrate in quantities required to adversely affect downgradient sensitive receptors. To that end, there is limited potential for vertical migration to the underlying bedrock and lateral migration within the aquifer to downgradient receptors.

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3.2.3 Summary of Connectivity Analysis

The proposed development is located 1.3km from the nearest European Sites (Cummeen Strand SPA & Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC via the nearest straight line distance. In addition, the proposed development site supports potential remote and tenuous hydrological connectivity with these European Sites through overland flow of construction phase pollutants to an offsite drainage channel located south of the site bounds and into the Willsborough Stream_010, which flows into these European Sites ca 950m downstream. Therefore, the proposed development site supports potential remote indirect hydrological connectivity to both Cummeen Strand SPA & Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC via overland flow.

The proposed development site supports potential remote and tenuous hydrological connectivity with Ballysadare Bay SPA / SAC and Drumcliff Bay SPA through overland flow of construction phase pollutants to offsite drainage channel located south of the site bounds and into the Willsborough Stream_010, which flows into Sligo Harbour which in turn supports indirect hydrological connectivity with these European Site. It is considered that this does not comprise a significant pathway for water quality impacts to the these European Sites, in view of the distance of separation between the site and the European Site boundaries (>12km downstream). However, given the nature and scale of the proposed solar panel installation works, likely significant effects to this European Site are not possible due to the distance downstream (>12km) and the assimilative and dilutional capacity of the receiving transitional and coastal waterbodies.

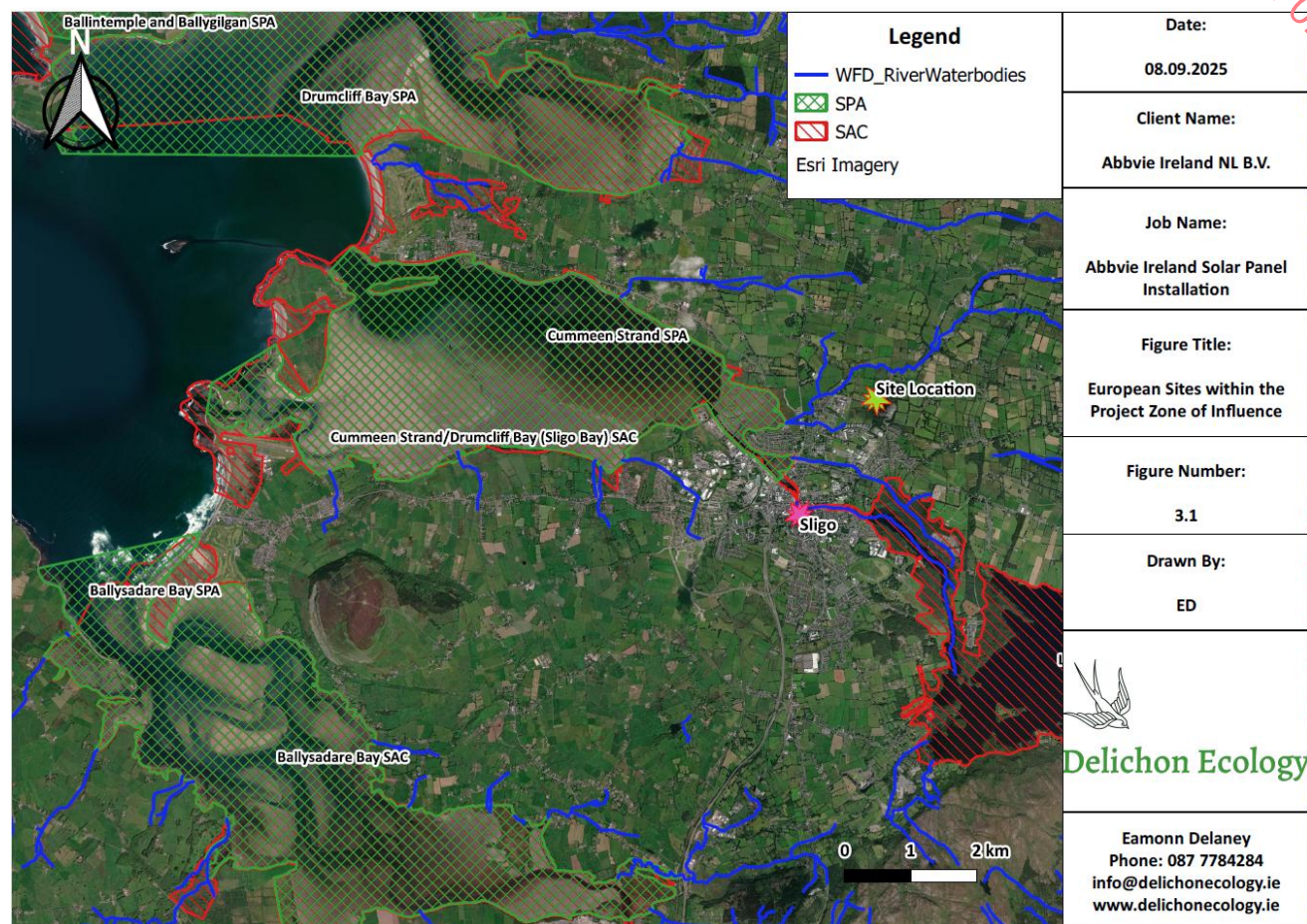


Figure 3-1: European Sites within the Zol of the proposed site

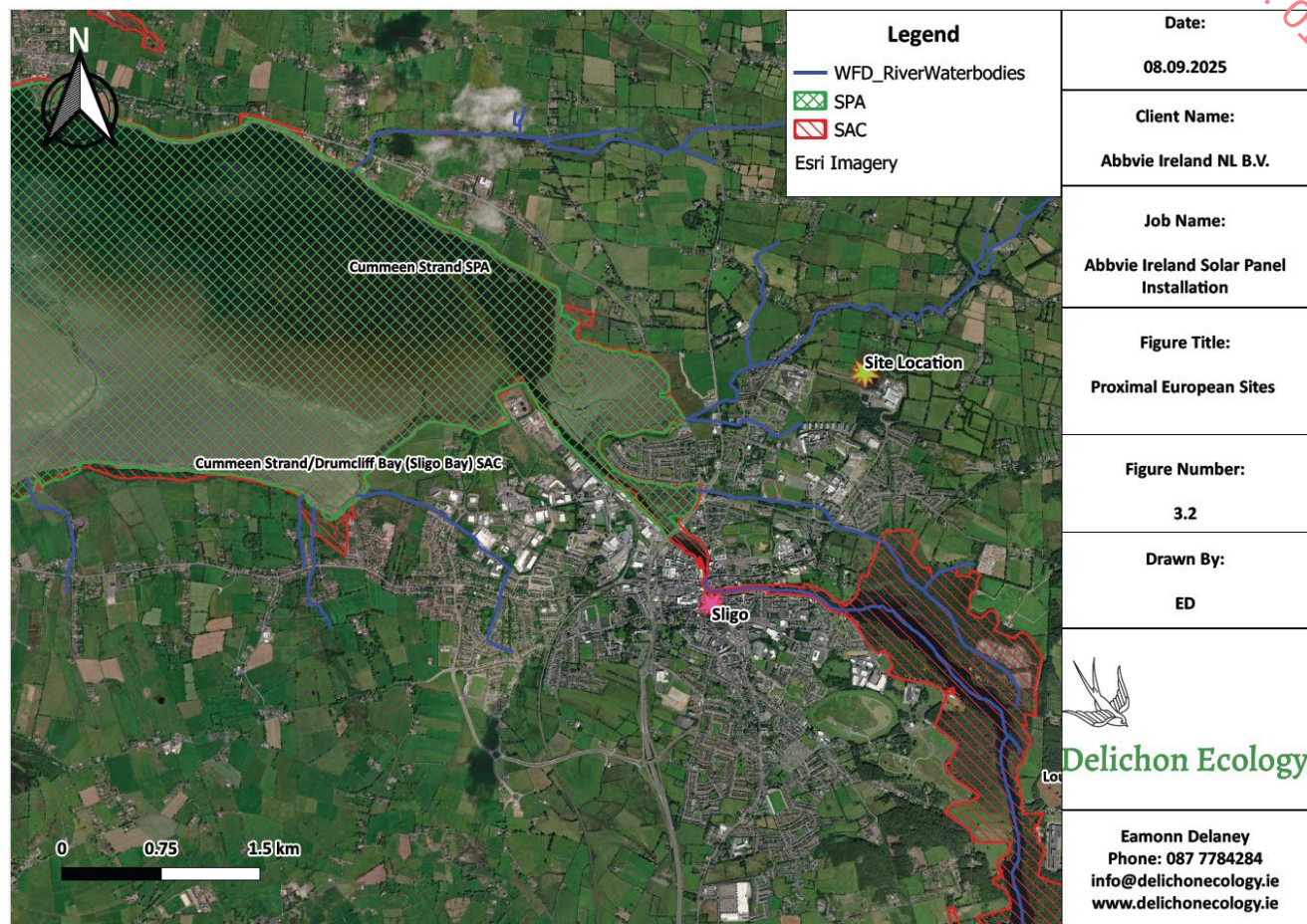


Figure 3-2: Proximal European Sites

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3.2.4 European Site Descriptions

Site descriptions for European Sites within the project ZOI are presented below.

3.2.4.1 Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC (Site Code: 000627)

This large coastal site extends from Cullamore in the north-west to Killaspug in the south-west, and from Sligo town in the south-east to Drumcliff village in the northeast. It encompasses two large, shallow bays, Drumcliff Bay and Sligo Harbour, and both Ardboline and Horse Island. Sand dunes and sand hills at Rosses Point, Killaspug, Yellow Strand and Coney Island are included, as are grasslands at Ballintemple and Ballygilgan (Lissadell), along with a variety of other habitats such as woodland, saltmarsh, sandy beaches, boulder beaches, shingle, fen, freshwater marshes, rocky sea cliffs and lakes. The site is largely underlain by Carboniferous limestone, but acidic rocks are also found on the Rosses Point peninsula. At Serpent Rock in the north-western section of the site the most complete section of the northwestern Carboniferous strata is exposed. Here are found an excellent series of fossilised corals which, in some strata, stand out from the rock matrix.

Cummeen Strand/Drumcliff Bay (Sligo Bay) is an important site of high conservation significance, which includes a wide variety of habitat types, including several listed on Annex I of the E.U. Habitats Directive, several species listed on Annex II of this Directive, large and important populations of waterfowl and seabirds, and several rare plant species (NPWS, 2016)³.

3.2.4.2 Cummeen Strand SPA (004035)

Cummeen Strand is a large shallow bay stretching from Sligo Town westwards to Coney Island. It is one of three estuarine bays within Sligo Bay and is situated between Drumcliff Bay to the north and Ballysadare Bay to the south. The Garavogue River flows into the bay and forms a permanent channel. Cummeen Strand SPA is of high ornithological importance with one species, Light bellied Brent Goose, occurring in numbers of international importance. In addition, the site supports nationally important populations of a further two species. The regular presence of Golden Plover and Bar-tailed Godwit is of particular note as these species are listed on Annex I of the E.U. Birds Directive. The site is also important as a component of the much larger Sligo Bay complex. Cummeen Strand is a Ramsar Convention site (NPWS, 2014)⁴.

3.2.4.3 Ballysadare Bay SPA (004129)

Ballysadare Bay extends for approximately 10 km westwards from the town of Ballysadare, County Sligo. It is the most southerly of three inlets that form the eastern part of the larger Sligo Bay complex. The estuarine channel of the Ballysadare River winds its way through the bay, finally reaching the open sea near the Strandhill Dunes sand spit. The bay is underlain by sedimentary rock of limestones, sandstones and shales which are exposed as low cliffs and small sections of bedrock shore at several locations.

Ballysadare Bay SPA is of high ornithological importance - it supports a Light-bellied Brent Goose population of international importance as well as nationally important populations of four other wintering waterfowl species. The presence of Bar-tailed Godwit, Golden Plover and Whooper Swan is

³ <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000627.pdf>

⁴ <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004035.pdf>

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of particular note as these species are listed on Annex I of the E.U. Birds Directive. The site forms an important component of the larger Sligo Bay complex (NPWS, 2010)⁵.

3.2.4.4 Ballysadare Bay SAC (000622)

Ballysadare Bay extends for about 10 km westwards from the town of Ballysadare, Co. Sligo, and is the most southerly of three inlets of the larger Sligo Bay. The estuarine channel of the Ballysadare River winds its way through the bay, finally reaching the open sea near the spit at Strandhill dunes. The bay is underlain by sedimentary rocks of limestones, sandstones and shales, which are exposed as low cliffs and small sections of bedrock shore at several locations. Knocknarea Mountain overlooks the site.

Ballysadare Bay is of high ecological value for its range of good quality coastal habitats. Actively developing dune systems are rare on the west coast and the sand dune system at Strandhill is of particular interest as a large and intact example of a habitat type which is under general threat from development. The rarity of intact dune systems is recognised in the listing of fixed dunes as a priority habitat on Annex I of the E.U. Habitats Directive. The salt marshes at Ballysadare Bay are relatively good examples for the west coast, and that at Abbeytown is unusual as it is forming on quarry waste. The presence of two Annex II species within the site adds further importance. Furthermore, the bay supports nationally important numbers of waterfowl (NPWS, 2013)⁶.

3.2.4.5 Drumcliff Bay SPA (004013)

Drumcliff Bay, Co. Sligo is the most northerly of Sligo Bay's three estuarine inlets. The bay comprises an inner area of sheltered estuarine habitat and an outer area of shallow seawater. It extends 9 km east to west from Drumcliff village to Raghly Point. Drumcliff Bay is the estuary of the Drumcliff River, a substantial river flowing from Glencar Lough to the east. The inner part of Drumcliff Bay is sheltered by a sandy/grassy peninsula extending north from Rosses Point. The northern part of the bay is fringed by fine sandy beaches - Ballygilgan Strand, Lissadell Strand and Ardtermon Strand. Salt marsh occurs in the most sheltered areas and at low tide, extensive inter-tidal flats are exposed. A bed of Dwarf Eelgrass (*Zostera noltii*) occurs near the south-eastern corner of the bay (NPWS, 2014)⁷.

3.2.5 Conservation Objectives of European Sites

European and national legislation places a collective obligation on Ireland and its citizens to maintain at favourable conservation status areas designated as SAC and SPA. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

Favourable conservation status of a habitat is achieved when:

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

⁵ <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004129.pdf>

⁶ <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000622.pdf>

⁷ <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004013.pdf>

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The favourable conservation status of a species is achieved when:

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

The integrity of a European site (referred to in Article 6.3 of the EU Habitats Directive) is determined based on the conservation objectives and of the site. The Qualifying Interests (QI) and Special Conservation Interests (SCI) are obtained through a review of the most recently published (web-published or otherwise) Conservation Objective supporting documents and Site-Specific Conservation Objectives documents (where available) for the European site.

3.2.5.1 Conservation Objectives of proximal European Sites

The Qualifying habitats and species for those European Sites within the project ZOI are listed in **Table 3-1**. Further details on Conservation Objectives for these European Sites are provided below.

Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC

The detailed conservation objectives for the Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC are provided in the Conservation Objectives document available on the NPWS website, as follows; https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000627.pdf.

Cummeen Strand SPA

The detailed conservation objectives for the Cummeen Strand SPA are provided in the Conservation Objectives document available on the NPWS website, as follows; https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004035.pdf.

Ballysadare Bay SAC

The detailed conservation objectives for the Ballysadare Bay SAC are provided in the Conservation Objectives document available on the NPWS website, as follows; https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000622.pdf.

Ballysadare Bay SPA

The detailed conservation objectives for the Ballysadare Bay SPA are provided in the Conservation Objectives document available on the NPWS website, as follows; https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004129.pdf.

Drumcliff Bay SPA

The detailed conservation objectives for the Drumcliff Bay SPA are provided in the Conservation Objectives document available on the NPWS website, as follows; https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004013.pdf.

4 EXISTING ENVIRONMENT

4.1 Habitats within the study area

A site walkover survey was completed on June 18th and September 09th 2025 to inform this Screening for Appropriate Assessment and Natura Impact Statement. A description of the habitats within the study area is presented below. A habitat map (See **Figure 4-1**) has been prepared to illustrate and classify habitats identified within the study area. Characteristic and noteworthy species identified during the site walkover survey are listed and summarised below.

The following habitats were recorded within the proposed development site and the surrounding environs;

- Treelines (WL2)⁸;
- Hedgerows (WL1)
- Wet Grassland (GS4);
- Drainage ditches (FW4);
- Recolonising bare ground (ED3); and
- Buildings and Artificial Surfaces (BL3).

The proposed development footprint is in various stages of recolonisation with the westernmost field (field 1) and central field (field 2) experiencing recent infilling or disturbance and subsequent recolonisation by ruderal and grassland species. The easternmost field (Field 1) is currently recolonising with early colonising wet and dry grassland species that include locally frequent creeping buttercup (*Ranunculus repens*) and white clover (*Trifolium repens*) in addition to common sorrel (*Rumex acetosa*), Yorkshire fog (*Holcus lanatus*), field horsetail (*Equisetum arvense*), marsh thistle (*Cirsium palustre*), spear thistle (*Cirsium vulgare*), black medick (*Medicago lupulina*), great willowherb (*Epilobium hirsutum*), bush vetch (*Vicia sepium*), colt's-foot (*Tussilago farfara*) and on the more lower lying sloping areas of ground near the southern boundary, locally frequent hard rush (*Juncus inflexus*) and common rush (*Juncus effusus*). This field supports a mosaic of dry meadows and grassy verge grassland (GS2) with wet grassland (GS4), in addition to localised areas of recolonising bare ground (ED3). The northern and eastern fringes of Field 1 support an unmanaged and overgrown hedgerow which has spread to form open scrub. Plant species composition includes grey willow (*Salix cinerea*), young sycamore (*Acer pseudoplatanus*), hawthorn (*Crataegus monogyna*) and young ash (*Fraxinus excelsior*) trees.

The central field (Field 2) has been more recently disturbed and infilled, when compared with Field 1. Topography within this field is sloping and locally undulating partially influenced by past infilling. Plant species assemblage is characterised by recent disturbance and includes locally frequent white clover and red clover (*Trifolium pratense*), with similar species recorded to Field 1; Yorkshire fog, broadleaved dock, coltsfoot, greater willowherb, couch grass (*Elytrigia repens*), curled dock (*Rumex acetosa*), field horsetail, creeping buttercup, greater bird's foot trefoil (*Lotus pedunculatus*), selfheal (*Prunella vulgaris*) and cut-leaved geranium (*Geranium dissectum*). Similar to Field 1, the southern boundary of the Field 2 supports locally abundant growth of common rush. The eastern boundary of field two

⁸ Alphanumeric codes are provided in accordance with 'A Guide to Habitats in Ireland' (Fossitt, 2000).

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supports an unmanaged double sided hedgerow that has lost its shape and comprises grey willow, goat willow, young sycamore and occasional holly.

Field 3 is the most westernmost field and differs from Fields 1 and 2 in that it has not been disturbed or infilled in the recent past, nor has not it been managed or maintained for agricultural purposes (mown or grazed) in recent years. This has resulted in the proliferation of dense tussocky common rush growth, which is more vigorous and abundant toward the southern, more steeply sloped end of the field boundary. In addition to locally frequent to locally abundant common rush, plant species composition includes Yorkshire fog, meadow buttercup (*Ranunculus acris*), creeping thistle and creeping buttercup. Where rush cover abundance is reduced plant species assemblage includes creeping bent (*Agrostis stolonifera*), nettle (*Urtica dioica*), hogweed (*Heracleum sphondylium*), sweet vernal grass (*Anthoxanthum odoratum*), couch grass, false oat grass (*Arrhenatherum elatius*), lesser stitchwort (*Stellaria graminea*), common figwort (*Scrophularia nodosa*) and hedge woundwort (*Stachys sylvatica*). Field 3 is bound to the north and west by poorly structured, gappy and defunct hedgerows that have lost their structure and vigour due to lack of recent management. Plant species composition of these hedgerow habitats include hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), dog rose (*Rosa canina*), elder (*Sambucus nigra*) and spreading bramble (*Rubus fruticosus* agg.).

No signs or evidence of terrestrial mammals were identified during the site walkover survey. No evidence of large burrowing mammals (setts, dens, latrines, scat etc) such as fox (*Vulpes vulpes*) and badger (*Meles meles*) were identified within the proposed development site footprint or the adjoining habitats. There are no suitable habitats to support pine marten (*Martes martes*) or red squirrel (*Sciurus vulgaris*) within the proposed development site footprint. Irish Hare (*Lepus timidus hibernicus*) and rabbit (*Oryctolagus cuniculus*) may utilise the in-situ and adjoining pastoral farmland in the surrounding locality for foraging and refuge. There are no permanent watercourses, within the proposed development footprint that could provide suitable habitat for aquatic or semi-aquatic mammals, including otter (*Lutra lutra*). Drainage channels on site do not provide suitable habitat to support otter foraging or breeding. No third schedule invasive plant species were identified within the proposed development site or its environs during the site walkover surveys.

Photographs of the proposed development site and environs are presented below.

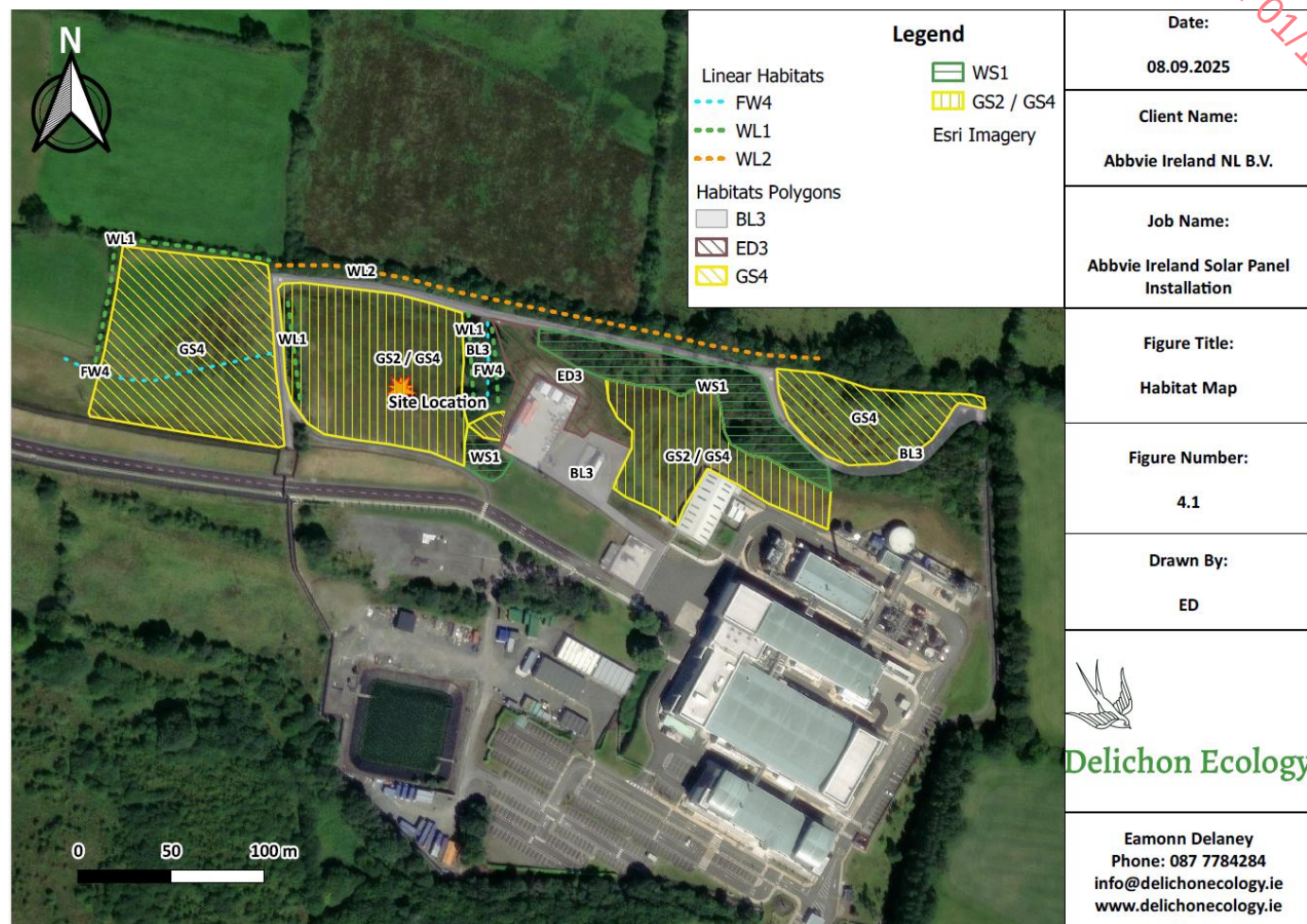


Figure 4-1: Habitats within the proposed solar panel installation site and environs



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Photos of the Study Area

	
Image 4-1: Rush wet grassland and recolonising bare ground at Field 1	Image 4-2: Recolonising bare ground on recently infilled and reinstated ground at Field 2



Image 4-3: Recolonising bare ground on recently infilled and reinstated ground at Field 2

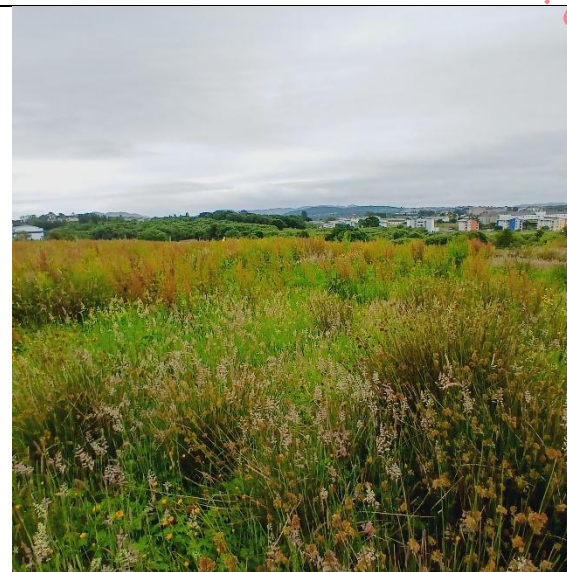


Image 4-4: Dense rushy wet grassland recolonising Field 2

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Image 4-5: Remnant hedgerow located on the western boundary of Field 3



Image 4-6: Overgrown unmanaged hedgerow adjoining Field 1

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4.2 Flooding

The Flood Info database (www.floodinfo.ie) was also consulted to identify Predictive Flood Risk Areas (PFRA) mapped as part of the Catchment Flood Risk Assessment and Management (CFRAM) programme for the study area. OPW developed the Flood Hazard Mapping website floodmaps.ie in 2004-2006 which provided information about the location of known flood events in Ireland and showed supporting information in the form of reports, photos, and press articles about those floods. In late 2017 this data was migrated across to the newly developed website www.FloodInfo.ie. This website was consulted to find any instances of flooding in the proximity of the proposed works. The mapping shows zero instances of single past flood events nor recurring flood events within the proposed development boundary and the study area is within an area that is classified as being under review. Historic mapping from OSI indicate the site is greenfield with no indication of historical flooding within the site boundary.

4.3 Geology, Hydrology and Hydrogeology

The Geological Survey of Ireland (GSI) online database⁹ was consulted for available edaphic, geological and hydrological information of the site and its environs. The underlying bedrock of the study site mostly supports Glencar Limestone Formation comprising dark fine limestone & calcareous shale. The groundwater vulnerability¹⁰ within the footprint of the study site is 'L' indicating Low groundwater vulnerability, while the lands surrounding the proposed solar farm installation area classified as being of 'M' Moderate groundwater vulnerability. Bedrock aquifer maps published on the GSI website provide a detailed classification of bedrock aquifer types and indicate the bedrock aquifer beneath the site and surrounding area is classified as LI – 'Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones'.

The GSI online database does not hold records of karst features within the proposed development site footprint or its immediate surrounds.

The proposed development site is located upon the Drumcliff-Strandhill groundwater body (IE_WE_G_0044). This groundwater body are classified as Good Status in 2016-2021¹¹ and the EPA Groundwater Waterbody risk score is also considered to be 'Not at Risk' of not meeting its objectives under the Water Framework Directive.

Groundwater and surfacewater interactions for the Drumcliff-Strandhill groundwater body is described follows¹²:

Generally, there is a high degree of interconnection between groundwater and surface water in karstified limestone areas. The karst features represent the close interaction between surface water and groundwater. Any contamination of surface water is rapidly transported into the groundwater system, and vice versa.

⁹ GSI Online database: <https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx>

¹⁰ Groundwater Vulnerability is a term used to represent the natural ground characteristics that determine the ease with which groundwater may be contaminated by human activities.

¹¹ Ground Waterbody WFD Status 2016-2021 <https://gis.epa.ie/EPAMaps/>

¹² <https://gsi.geodata.gov.ie/downloads/Groundwater/Reports/GWB/DrumcliffStrandhillGWB.pdf>

5 SCREENING FOR APPROPRIATE ASSESSMENT

This section provides the information required for the competent authority (Sligo County Council) to undertake a Screening for AA and determine in view of best scientific knowledge, whether the proposed works, individually or in combination with other plans and projects, is likely to have a significant effect on the European site. Specifically, it aims to:

- Provide information on, and assess the potential for the proposed works to significantly impact on European sites; and
- Determine whether the activities proposed, alone or in combination with other projects, are likely to have significant effects on European sites in view of their Conservation Objectives.

This screening assessment provides information to address the following elements:

1. Description of the plan or project, and local site or plan area characteristics. The description covers the full scope of the proposed plan or project (i.e. site set up, construction and operational and phases).
2. Description of the receiving environment setting of the proposed plan or project and its surrounds.
3. Identification of relevant European sites within the projects the potential zone of influence. A preliminary assessment to determine connectivity between the proposed works and receptors (i.e. European sites and/ or features for which the sites are designated). Where connectivity exists, the receptors in question are brought forward in the screening assessment process.
4. For receptors that exhibit potential connectivity to the proposed work a screening assessment is undertaken to establish whether the plan or project is likely to have a direct, indirect or cumulative effect on receptors based on a consideration of likely impacts (i.e. an assessment of significance of effect).
5. Screening statement with conclusions on whether or not an AA is necessary for the relevant a Qualifying Feature.

Table 5-1 presents Screening Assessment Criteria considering the proposed development.

Table 5-1: Screening Assessment Criteria

Screening Assessment Criteria Screening Questions	Impacts
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the European Sites.	The proposed works do not support direct connectivity to European sites, therefore there will be no impacts to European Sites in this regard. However, the proposed development site may support remote and tenuous hydrological connectivity with European Sites (Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC (000627 & Cummeen Strand SPA (004035)) through overland

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Screening Assessment Criteria Screening Questions	Impacts
	flow of construction phase pollutants to offsite drainage channel located south of the site bounds and into the WILLSBOROUGH Stream_010, which flows into these European Sites ca 950m downstream. Therefore, the proposed development site supports potential remote indirect hydrological connectivity to Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC & Cummeen Strand SPA via overland flow. During the project's operational phase, surfacewater will be attenuated will be allowed to percolate to ground as the solar panels are designed to allow water flow through the infrastructure and the installed access track will be permeable. There will be no outputs or unattenuated run-off of wastewater or emissions during the project's operational phase.
Likely direct, indirect or secondary impacts of the project on the European Sites:	
• Size and Scale	The size and scale of the proposed works are small when compared with the surrounding environment and the size of European Sites within the project Zone of Influence.
• Land Take	The proposed development site will not result in land-take to European Sites. The nearest European Site is located 1.3km west of the proposed development site via the nearest straight line distance.
• Distance from European Sites or Key Features of the Site	The proposed development site will not result in land-take to European Sites. The most proximal European Sites are the Cummeen Strand / Drumcliff Bay (Sligo Bay) and Cummeen Strand SPA located 1.3km south-west via the nearest straight line distance. The proposed development site may support indirect hydrological connectivity with European Sites (Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC (000627 & Cummeen Strand SPA (004035)) through overland flow of construction phase pollutants to offsite drainage channel located south of the site bounds and into the Willsborough Stream_010, which flows into these European Sites ca 950m downstream. Therefore, the proposed development site supports potential indirect hydrological connectivity to Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC & Cummeen Strand SPA via overland flow.
• Resource Requirements	The proposed development will require use of standard construction methods, including aggregates and water. Limited volumes of cement and aggregate materials may also be required. The resourcing and subsequent use of these materials will not contribute to significant negative effects to European Sites within the project Zol and will be readily retained to the proposed development footprint.

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Screening Assessment Criteria Screening Questions	Impacts
• Emissions	Depending on the time of construction, there may be dust and waterborne emissions associated with the proposed construction works. There will be no significant effects to European Sites as a result of emissions from the proposed development site during the project's operational phase. Surfacewater will be attenuated will be allowed to percolate to ground as the solar panels are designed to allow water flow through the infrastructure and the installed access tracks will be permeable.
• Excavation Requirements	Localised excavations within the proposed development footprint will be required during the project's construction phase. Depending on the time of construction, there may be dust and aqueous emissions associated with the proposed construction works emanating to the receiving and surrounding environment including the Willsborough Stream_010 located to the south-west of the proposed development site boundary which provides remote hydrological connectivity via overland flow to Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC & Cummeen Strand SPA. Such impact sources could contribute localised effects to watercourses in the receiving environment.
• Transport Requirements	Transport requirements as part of the proposed development construction will utilise the existing road network. Transport of construction materials will be ad-hoc, intermittent and restricted to working hours during the project's construction phase. Such requirements will be small scale and localised and will not impact European Sites within the project Zol.
• Duration of construction, operation and decommissioning	Duration of construction will be short term, i.e. 4 months. The project's operational phase will be long term 35 years. There will be no decommissioning as part of this project.
• Cumulative impact with other plans and projects in the area	As part of the Appropriate Assessment, in addition to the proposed development, other relevant projects and plans in the area must also be considered at this stage. These plans and projects are considered further in this respect in Table 5-2 below.

Table 5-2: In-combination Effects associated with the proposed development.

Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
Sligo County Development Plan 2024-2030	P-DSNC-1 Protect and maintain the conservation status of all natural heritage sites designated or proposed for designation in accordance with European and national legislation and agreements. These include Special Areas of Conservation (SAC), Special Protection Areas (SPA), Natural Heritage Areas (NHA), proposed Natural Heritage Areas (pNHA), Ramsar Sites, Statutory Nature Reserves, as identified by the Minister for Culture, Heritage and the Gaeltacht, and any other sites that may be proposed for designation during the lifetime of this Plan. In addition, the Council will identify, maintain and develop non-designated areas of high nature conservation value which serve as linkages or 'stepping stones' between protected sites in accordance with Article 10 of the Habitats Directive. P-DSNC-2 Promote the maintenance and, as appropriate, achievement of 'favourable conservation status' of habitats and species in association with the National Parks and Wildlife Service (NPWS). P-DSNC-3 Carry out an appropriate level of assessment for all development plans, land use plans and projects that the Council authorizes or proposes to undertake or adopt, to determine the potential for these plans or projects to impact on designated sites, proposed designated sites or associated ecological corridors and linkages in accordance with the Habitats Directive. All appropriate assessments shall be in compliance with the provisions of Part XAB of the Planning and Development Act 2000 (as amended). P-DSNC-4 Ensure that all development proposals are subject to the process of Screening for Appropriate Assessment and subsequent stages of Appropriate Assessment, as relevant, carried out to the satisfaction of the Planning Authority, in consultation with National Parks and Wildlife Service, as appropriate.	The Sligo County Development Plan 2024-2030 provides objectives outlined for the protection of the natural environmental and its component European Sites. Policy P-DSNC-4 determines that 'proposals are subject to the process of Screening for Appropriate Assessment and subsequent stages of Appropriate Assessment, as relevant, carried out to the satisfaction of the Planning Authority, in consultation with National Parks and Wildlife Service, as appropriate'. The implementation of this plan and Policy P-DSNC-4 will ensure that all proposed projects and plans that may have an impact on a European Site will be considered for Appropriate Assessment, prior to commencement.

Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
Draft River Basin Management Plan for Ireland 2022 – 2027	The Third Cycle Draft River Basin Management Plan 2022-2027 Consultation Report has been published. This report presents a summary of the issues raised in the submissions reviewed from the public consultation on the draft River Basin Management Plan for Ireland 2022-2027. The 3rd cycle of River Basin Management Plan (RBMP) for the period of 2022-2027 is currently being prepared by Department of Housing, Local Government and Heritage (DHLGH) in line with the EU Water Framework Directive (WFD) (2000/60/EC). Key issues raised as part of the consultation process within the ten most prominent themes are as follows. - Water Quality / Pollution - Agricultural Practices - Public Engagement and Awareness - Local Authority - Level of ambition - Sewage Pollution - Department / Agency - Co-ordination - Funding - Forestry - Peat - Shellfish waters / aquaculture - Other Following review of the submissions, the DHLGH will commence a review and where necessary update the draft RBMP with a view to finalisation and publication in Q3/Q4 of 2022. The SEA and AA processes will continue in	The implementation of the RBMP seeks compliance with the environmental objectives set under the plan, which will be documented for each water body. This includes compliance with the European Communities (Surface Waters) Regulations S.I. No. 272 of 2009 (as amended). The implementation of the RBMP and achievement or maintenance of environmental objectives which will be set for the receiving water bodies will have a positive impact on water dependent habitats and species within European Sites.

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Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
	parallel until finalisation and will be completed prior to adoption of the 3rd cycle plan.	
Inland Fisheries Ireland Corporate Plan 2021 -2025	IFI's Corporate Plan details the Inland Fisheries Ireland's, Vision, Mission and Values across seven strategic objectives for the period 2021 to 2025. Under each of the seven objectives a series of actions required to achieve the objectives are described, with the intended outcomes outlined. The strategic objectives outline where Inland Fisheries Ireland will focus their efforts between 2021 and 2025. Inland Fisheries Ireland will secure stakeholder feedback on the implementation of the Strategy mid-2023.	The implementation and compliance with key environmental issues and objectives of this corporate plan will result in positive in-combination effects to European sites. The implementation of this corporate plan will have a positive impact for biodiversity of inland fisheries and ecosystems. It will not contribute to in-combination or cumulative negative impacts with the proposed development.
National Biodiversity Action Plan 2017-2021	Objective 1 - Mainstream biodiversity into decision-making across all sectors Developments in the area of Green Infrastructure are being initiated at the local and regional level. Green Infrastructure is a strategically planned network of natural and semi natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services such as water purification, air quality, space for recreation and climate mitigation and adaptation. Objective 4 - Conserve and restore biodiversity and ecosystem services in the wider countryside. Target 6.2 - Sufficiency, coherence, connectivity, and resilience of the protected areas network substantially enhanced by 2020.	This Plan together with the proposed development will not add to cumulative impacts to the receiving or surrounding environment. This plan supports a number of objectives and policies which seeks to protect and enhance biodiversity and as such its implementation will improve features of biodiversity throughout the plan area.
Draft 4th National Biodiversity Action Plan 2023-2027	Objective 2 - Meet Urgent Conservation and Restoration Needs	This Plan together with the proposed development will not add to cumulative impacts to the receiving or surrounding environment. This

Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
	Outcome 2A: The protection of existing designated areas and species is strengthened and conservation and restoration within the existing protected area network are enhanced. Outcome 2B: Biodiversity and ecosystem services in the wider countryside are conserved. Outcome 2C: All freshwater bodies are of at least 'Good Ecological Status' as defined under the EU Water Framework Directive. Outcome 2D: Genetic diversity of wild and domesticated species is safeguarded. Outcome 2E: A National Restoration Plan is in place to meet EU Biodiversity Strategy 2030 nature restoration targets. Outcome 2F: Biodiversity and ecosystem services in the marine environment are conserved and restored. Outcome 2G: Invasive alien species (IAS) are controlled and managed on an all-island basis to reduce the harmful impact they have on biodiversity and measures are undertaken to tackle the introduction and spread of new IAS to the environment.	plan supports a number of objectives and policies which seeks to protect and enhance biodiversity and as such its implementation will improve features of biodiversity throughout the plan area.
EPA Licenced Facilities	The following EPA licenced facilities within the environs or potential zone of influence of proposed development site and receiving surfacewater and groundwater catchment supporting the proposed development site are presented below. IPPC Licences	EPA licenced facilities are subject to conditions and parameters associated with licencing requirements, restricting the release of polluted or contaminated materials to the receiving or surrounding environment. Therefore, these

Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
	P1087 AbbVie Ireland NL B.V. P0643 AbbVie Ireland NL B.V. IPC Licence P0073 Colas Bitumen Emulsions (West) Limited P0465 G. Bruss GmbH Dichtungstechnik P0090 ELANCO Animal Health Ireland Limited (surrendered) Waste Licence W0058 Starrus Eco Holdings Limited (Sligo) Section 4 Discharge Licences Sligo Fuels Sales Limited DL(W)109 McCormack Fuels Ltd DL (W) 90 Bord Na Mona fuels Ltd DL(W)149	facilities will not contribute towards significant negative effects to European Sites.
Abbvie Ireland NL B.V. – Numerous infrastructural and cosmetic changes to existing infrastructure	Planning Reference Number (2091) - Development consisting of construction of site security fencing around the perimeter of the Abbvie Ballytivnan site boundaries (approximately 1304m long). The fencing will be 2.4m high galvanised welded steel mesh panels and posts with powder coated finish. The new security fence will include vehicular access gates and pedestrian gates at locations around the boundary. Planning Reference Number (20382) PR - development consisting of a Prefabricated Communications building with a floor area of 39 square metres and 3.46 metres in height installed to the east of the existing buildings with associated site works. The building is clad in insulated metal cladding.	Abbvie Ireland NL B.V. have been granted planning permission for numerous small scale infrastructural and cosmetic upgrades to existing built infrastructure or small scale developments on existing built ground. The nature and scale of these developments are such that they would not present baseline impacts to the existing and surrounding environment, upon which cumulative impacts could be based.



Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
	Planning Reference Number (21306) Development consisting of a single storey extension the south east of the existing production facility, with a floor area of 57.5 sq. metres, an overall height of 6.7 metres, all associated site works and service connections. Planning Reference Number (21490) - Development consisting of retention of an existing 4.7m high single storey building with floor area of 318 sq. m for staff access control for Covid 19 prevention measures with change of use to a permanent production room with ancillary toilet facility and an externally sited air handling unit. The building is located at the south east corner of the existing production facility. Planning Reference Number (22110) - development located to the west of the existing facility which will consist of the demolition and removal of an existing security building, provision of a new site security building with a floor area of 75sqm and a height of 3.8m, modifications to the internal site circulation roads, parking and footpaths, provision of a covered walkway of 2.1m high, modifications to the existing security fence and gate and all associated site services Planning Reference Number (2350) - the demolition and removal of an existing security building, provision of a new site security building with a floor area of 75 sqm and a height of 3.8m, modifications to the internal site circulation roads, parking and footpaths, provision of a covered walkway of 2.1m high, modifications to the existing security fence and gate and all associated site services	

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Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
	Planning Reference Number (2360192) - Development located to the northeast of the existing facility, will consist of a new concrete slab base of approx. 430m² and a new fire water storage tank with a diameter not to exceed 16m and a height not to exceed 10.6m. A temporary construction access road and all associated site services will be required to facilitate the construction. Planning Reference Number (2460459) - an internal extension of circa 71 m sq. and modification to the first floor office area, provision of new external window to northern façade of Building 70 and all associated site development and service works. Planning Reference Number (2460321) - two story extension to the north of the existing Building 10 with a total floor area of 327 sq. meters and an overall height of 8.6 meters and all associated site development and service works.	
AbbVie Ireland NL B.V – private service road	Development consisting of provision of a new private service road to connect the AbbVie facilities in Ballytivnan and Manorhamilton Road. The proposed service road will be 6.5m wide, with a 1m wide pedestrian path and 2.4m high security fencing on either side. The road will be approximately 560 m long with ancillary site works including controlled access at both ends and lighting which will only be enabled during use. the development is subject to a Natura Impact Statement.	A Natura Impact Statement was prepared for this planning application and provided the following conclusion: <i>Stage 1 Screening and Stage 2 AA has been carried out. The implementation of the proposed development would have the potential to result in effects to the integrity of any European sites, if unmitigated.</i>



Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
		<i>The risks to the safeguarding and integrity of the qualifying interests, special conservation interests and conservation objectives of European sites have been addressed by the inclusion of mitigation measures that will prioritise the avoidance of effects in the first place and mitigate effects where these cannot be avoided.</i> <i>In-combination effects from interactions with other plans and projects have been considered in the assessment and the mitigation measures incorporated into the design of the proposed link road allow a conclusion to be arrived at that there will be no significant adverse effects as a result of the project either alone or in-combination with other plans/projects.</i> <i>Having incorporated mitigation measures, it is concluded that the proposed development will not give rise to any effect on the ecological integrity of any European sites, alone or in combination with other plans or projects. This evaluation is made in view of the conservation objectives of the habitats or species for which these sites have been designated.</i>

Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
		On this basis, it is assumed that the appropriate level of Appropriate Assessment has been carried out in respect of this development, and that any required mitigation to avoid adverse effects on European Site integrity will be in place. This project was granted planning permission in July 2019 and has been constructed and is currently in-situ.
Deepwater Quay Sligo Case reference: PL21.319116 Planning Authority Case Reference: 2360189	Change of use from coal yard to recycling facility. A Natura Impact Statement was submitted with the planning application.	A Natura Impact Statement was prepared for this planning application and provided the following conclusion: <i>With the implementation of the best practice and mitigation measures described in section 6 of this report, it is not expected that the proposed development will give rise to any direct, indirect or secondary impacts on the Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and the Cummeen Strand SPA that all construction works are to be carried out in a manner that prevents and blocks any contaminants entering into the Garavogue River.</i> On this basis, it is assumed that the appropriate level of Appropriate Assessment has been carried out in respect of this development, and that any required mitigation to avoid adverse effects on

Programmes, Plans and Projects	Key Policies/Issues/Objectives Directly Related to the Conservation of the Natura 2000 Network	Potential for In-combination Effects
		European Site integrity will be in place. This project is a live case and has been appealed to An Bord Pleanala.
Sligo County Council Case Reference: JP21.311863	Proposed public park, remediation and restoration works on the Finisklin Closed Landfill, Sligo, Co. Sligo	A Natura Impact Statement was prepared for this planning application. On this basis, it is assumed that the appropriate level of Appropriate Assessment has been carried out in respect of this development, and that any required mitigation to avoid adverse effects on European Site integrity will be in place.
Local Planning Applications	A search of Sligo County Council's online planning enquiry database ¹³ was undertaken to identify other projects and plans consented within the past five years that are proximal or within the proposed development area. A small number of applications for dwellings, dwelling alterations and extensions, commercial and residential developments, agricultural sheds and associated structures, buildings and facilities with granted planning permission were noted within the environs of the proposed development site. These small-scale projects are not likely to cause effects to European sites when considered in combination with the current proposal under examination, either during the construction or operational phase. There is therefore no potential for significant in-combination effects of these developments with proposed development.	Adherence to the policies and objectives of the Sligo County Development Plan 2024-2030 ensure that local planning applications and subsequent grant of planning comply with the core strategy of proper planning and sustainability and with the requirements of relevant EU Directives and environmental considerations, there is no potential for adverse in-combination effects on European Sites.

¹³ <https://www.eplanning.ie/SligoCC/SearchTypes>



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5.1.1 Conclusion of Cumulative Impact Assessment

Provided adherence to the overarching policies and objectives of the plans and programmes and best practice and mitigation measures are implemented for individual projects, there is no potential for the mentioned plans and projects to have a cumulative impact to European sites, in combination with the proposed development.

All proposed developments considered in the Zone of Influence of the proposed refurbishment works are subject to the statutory planning process and where required are accompanied by the requisite planning and environmental assessment documentation, including Appropriate Assessment, Ecological Impact Assessment and Environmental Impact Assessment reporting. Other projects, programmes and plans within the project zone of influence have been developed under the consideration of potential impacts and effects to their receiving and surrounding environment and are tasked with avoiding and minimising such impacts, through the Appropriate Assessment and Environmental Impact Assessment processes. Furthermore, a review of permitted and proposed renewable energy projects in the county confirms that there are no other solar farms or renewable energy projects within the Zone of Influence of the proposed development that could give rise to in-combination effects. As such, no cumulative impacts with other renewable energy infrastructure are anticipated.”

Screening Assessment Criteria is further assessed in **Table 5-3** below.

Table 5-3: Screening Assessment Criteria

Screening Assessment Criteria	
Screening Questions	
Describe any likely changes to the site arising as a result of the following	
Reduction of Habitat	The proposed development site primarily supports rushy wet grassland that has established on previously infilled or disturbed ground with adjoining overgrown hedgerows and drainage channels. These habitats do not correspond to habitats of qualifying interest for which Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC or Cummeen Strand SPA has been designated. The proposed works are not located within the bounds of a European Site and therefore there will be no direct reduction of habitat to European Sites. There is the remote potential for the proposed project to contribute towards changes in water quality of downstream European sites within the project Zol; i.e. (Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA). This may be related to the run-off into the receiving environment; particularly the drainage channels to the south of the proposed development site boundary. Potential construction phase run-off



Screening Assessment Criteria Screening Questions	
	could contribute to downstream impacts such as increased siltation, nutrient release and/or contamination. These impacts could contribute to habitat degradation and deterioration of water quality in the receiving and downstream environments. Such impacts and consequent effects could only occur in the absence of best practice measures being implemented during the project's construction phase and key design elements integrated into the project's operational phase. In addition, such pollution events (or impacts) would need to be large scale and sustained to contribute towards significant negative effects during the project's construction phase.
Disturbance to Key Species	The proposed solar panel installation site primarily supports rushy wet grassland that has established on previously infilled or disturbed ground with adjoining overgrown hedgerows, dry drainage channels and does not support habitats of qualifying interest or habitats suitable to support qualifying species of European Sites within the potential project Zone of Influence. Therefore, the proposed development site will not result in the direct disturbance of key species associated with European Sites within the project Zone of Influence. The proposed development site is located 1.3km north-east of Cummeen Strand SPA and does not support suitable foraging, roosting or feeding habitat for these SCI species, most of which utilise coastal and estuarine habitats for foraging and roosting purposes. Therefore, the proposed development will not result in ex-situ impacts to the SCI species of this European Site in terms of changes to population trends or population distribution. The proposed works may lead to indirect hydrological impacts which could result in the deterioration of wetland habitat quality in terms of nutrient enrichment or increased sedimentation. Such impacts would not result in the reduction of wetland habitat area.



Screening Assessment Criteria Screening Questions	
Habitat or Species Fragmentation	The nature of the proposed works, their separation distance from, and lack of direct connectivity with, European Sites means that it will not result in habitat or species fragmentation to European Sites within the project Zone of Influence. Furthermore, the proposed development primarily supports rushy wet grassland that has established on previously infilled or disturbed ground with adjoining overgrown hedgerows and drainage channels. and does not support habitats or habitats suitable to support qualifying species of European Sites within the potential project Zone of Influence.
Reduction in Species Diversity	The proposed development site primarily supports rushy wet grassland that has established on previously infilled or disturbed ground with adjoining overgrown hedgerows and drainage channels and does not support species of European Sites within the potential project Zone of Influence. The proposed development site will not result in the reduction in species diversity to European Sites within the project Zone of Influence.
Changes in Key Indicators of Conservation Value	The proposed development site primarily supports rushy wet grassland that has established on previously infilled or disturbed ground with adjoining overgrown hedgerows and drainage channels. These habitats do not correspond to habitats of qualifying interest for which Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC has been designated. The proposed works are not located within the bounds of a European Site and therefore there will be no direct reduction of habitat to European Sites. There is the remote potential for the proposed project to contribute towards changes in water quality of downstream European sites within the project Zol; i.e. (Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA). This may be related to the run-off into the receiving environment; particularly the drainage channels to the south of the proposed development site boundary. Potential construction phase run-off could contribute to downstream impacts such as



Screening Assessment Criteria Screening Questions	
	increased siltation, nutrient release and/or contamination. These impacts could contribute to habitat degradation and deterioration of water quality in the receiving and downstream environments. Such impacts and consequent effects could only occur in the absence of best practice measures being implemented during the project's construction phase and key design elements integrated into the project's operational phase. In addition, such pollution events (or impacts) would need to be large scale and sustained to contribute towards significant negative effects during the project's construction phase.
Climate Change	The proposed development site will not result in significant negative effects contributing to climate change that could in turn affect the conservation objectives of those European Sites within the project Zol. The proposed works aim to generate a renewable energy source for the AbbVie Pharmaceuticals manufacturing facility, reducing reliance on fossil fuels. Therefore, the proposed works will not contribute to climate changes that in turn could affect European Sites within the project zone of influence.
Describe any likely impacts on the European Sites as a whole in terms of Interference with key relationships that define the structure and function of the site;	There is the remote potential for the proposed project to contribute towards changes in water quality of downstream European sites within the project Zol; i.e. (Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA). This may be related to the run-off into the receiving environment; particularly the drainage channels to the south of the proposed development site boundary. Potential construction phase run-off could contribute to downstream impacts such as increased siltation, nutrient release and/or contamination. These impacts could contribute to habitat degradation and deterioration of water quality in the receiving and downstream environments. Such impacts and consequent effects could only occur in the absence of best practice measures being implemented during the project's construction phase and key design elements



Screening Assessment Criteria Screening Questions	
	integrated into the project's operational phase. In addition, such pollution events (or impacts) would need to be large scale and sustained to contribute towards significant negative effects during the project's construction phase.
Provide Indicators of Significance as a result of the identification of effects set out above in terms of;	
Loss	The footprint of the proposed works does not directly overlap with any European sites. Therefore, there will be no potential effects to European Sites resulting from direct loss. Indirect loss or deterioration of aquatic habitats and consequent effects to reliant QI or SCI species, could occur as a result of the proposed project construction phase, particularly to the downstream areas of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA.
Fragmentation	There will be no direct or indirect fragmentation of habitats or habitats supporting species of European Sites within the project ZOI. The proposed development site primarily supports rushy wet grassland that has established on previously infilled or disturbed ground with adjoining overgrown hedgerows and drainage channels. These habitats do not correspond to habitats of qualifying interest for which Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC has been designated. The proposed works are not located within the bounds of a European Site and therefore there will be no direct reduction of habitat to European Sites.
Disruption	Due to the separation distance between the proposed development site and European Sites, the proposed works will not result in direct disturbance or disruption impacts to qualifying features for these European Sites. In addition, the proposed development site does not provide suitable habitats to support qualifying features associated with these European Sites. Therefore, ex-situ disturbance or disruption is unlikely. The potential for indirect hydrological connectivity to European Sites via the drainage channel located near the southern boundary of the site could result in indirect disruption to water dependent / aquatic habitats and species
Disturbance	



Screening Assessment Criteria Screening Questions	
	in the downstream sections of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA. as a result of declining water quality in downstream / receiving habitats. Such impacts and consequent effects could only occur in the absence of best practice measures being implemented during the project's construction phase and key design elements integrated into the project's operational phase. In addition, such pollution events (or impacts) would need to be large scale and sustained to contribute towards significant negative effects during the project's construction phase. The proposed development site is located 1.3km north-east of Cummeen Strand SPA and does not support suitable foraging, roosting or feeding habitat for these SCI species, most of which are utilise coastal and estuarine habitats for foraging and roosting purposes. Therefore, the proposed development will not result in ex-situ impacts to the SCI species of this European Site in terms of changes to population trends or population distribution. The proposed works may lead to indirect hydrological impacts which could result in the deterioration of wetland habitat quality in terms of nutrient enrichment or increased sedimentation. Such impacts would not result in the reduction of wetland habitat area.
Changes to Key Elements of the Site	The proposed development site will not contribute to Changes to Key Elements of European Sites within the project Zone of Influence. However further analysis of the hydrological interactions between the site, the surrounding environment and European Sites within the project Zone of Influence need to be considered.



Screening Assessment Criteria Screening Questions	
Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be significant or where the scale or magnitude of impacts are not known	Likely impacts on European Sites via surface water are remote but possible, given the potentially remote hydrological connectivity between the proposed development site and the downstream sections of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA. Therefore, further consideration of this source-pathway-receptor dynamic is required, particularly the site design, proposed construction and attenuation measures and the and drainage measures required to avoid potential likely significant effects to these European Sites.

5.2 Screening for AA Conclusion

This screening for AA identifies and assesses significant effects which are likely to occur as a result of the proposed development. The screening identified two European sites within the project zone of influence that support potential remote hydrological connectivity; i.e. Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (Site Code: 000627) and Cummeen Strand SPA (004035). These European Sites support potential tenuous hydrological connectivity with the proposed development, via a drainage channel located near the southern boundary of the site. Therefore, there is a viable source-pathway-receptor dynamic between the proposed development site and these European Sites. The indirect hydrological linkage between the site and these downstream European Sites means that construction phase pollutant sources could be transferred downstream in the absence of appropriate construction, development and operational stage design measures. The remaining European Sites within the wider area, do not support connectivity to the proposed development site.

The proposed development site is located 1.3km north-east of Cummeen Strand SPA and does not support suitable foraging, roosting or feeding habitat for these SCI species, most of which utilise coastal and estuarine habitats for foraging and roosting purposes. Therefore, the proposed development will not result in ex-situ impacts to the SCI species of this European Site in terms of changes to population trends or population distribution. The proposed works may lead to indirect hydrological impacts which could result in the deterioration of wetland habitat quality in terms of nutrient enrichment or increased sedimentation. Such impacts would not result in the reduction of wetland habitat area.

However, given the potential indirect remote and tenuous hydrological connectivity between the development site and Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC and Cummeen Strand SPA, it cannot be concluded that the proposed project, individually or in combination with other plans or projects, will not have a likely significant effect on a European site, without the consideration and analysis of further design, mitigation and scientific information. Therefore Stage 2 Appropriate Assessment is required.

A Natura Impact Statement (NIS) should be prepared, to provide scientific examination of the project to enable an AA to be completed by the competent authority. The NIS will examine potential effects to European Sites screened in as part of this Screening for Appropriate Assessment; i.e. Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (Site Code: 000627) and Cummeen Strand SPA (004035).



6 STAGE 2 – NATURA IMPACT STATEMENT

This section of the report provides the necessary information to inform AA to be completed by the competent authority, Sligo County Council. This NIS provides the relevant scientific information to enable the competent authority in carrying out its AA to determine whether or not the proposed development would adversely affect the integrity of European sites.

The NIS assesses whether or not the proposed development would adversely affect the integrity of European Sites within the project ZoI, for which effects could not be excluded during the Screening for AA (see Section 5 for details). The European Sites are as follows:

- Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (Site Code: 000627); and
- Cummeen Strand SPA (004035)

6.1 Impact Assessment

The impact assessment presented in the following sections outlines potential impacts and effects in the absence of mitigation measures being implemented.

6.1.1 Characterising Impacts

The methodology for the assessment of impacts is derived from the Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites (EC, 2021). When describing changes/activities and impacts on ecosystem structure and function, the types of impacts that are commonly presented include the following:

- Direct loss: reduction of habitat coverage as a result of its physical destruction (e.g. due to its removal or to the deposition of construction materials or sediments); loss of breeding, foraging, resting areas for species.
- Degradation: deterioration of habitat quality, leading to a reduced abundance of characteristic species or an altered community structure (species composition). This can be caused by changes in abiotic conditions (e.g. water levels or an increase in suspended sediments, pollutants or dust deposition); deterioration of breeding, foraging, resting areas for species.
- Disturbance: a change in existing environmental conditions (e.g. increased noise or light pollution, a greater frequentation of people and vehicles). Disturbance may cause, inter alia, the displacement of species individuals, changes in species behaviour, or the risk of morbidity or mortality.
- Fragmentation: leading to an alteration of distribution patches of relevant habitats and species, e.g. through the creation physical or ecological barriers in areas that are physically or functionally connected, or splitting them into smaller more isolated units.
- Other indirect effects: indirect change to the quality of the environment (resulting for example from a change in availability of nutrients and light, or an increase in the vulnerability of the site to other new threats such as invasive alien species, human and animal penetration).

Impacts that could potentially occur through the implementation of the project can be categorised under a number of impact categories as outlined in the EC 2021 document as follows:

- Area of the habitat or habitat of the species permanently lost (e.g. by clearing of vegetation or removal of suitable breeding/nesting sites) assessed against the habitat area on the site, at regional, national and biogeographical level (percentage of habitat area lost) and against the target set in the site-specific conservation objective (which may include a target for restoration);



- Area of the habitat or habitat of the species affected (e.g. by pollution, noise, deterioration of other ecological conditions) assessed against percentage of the habitat area on the site, at regional, national and biogeographical level (percentage of habitat area affected) and against the target set in the site-specific conservation objective (which may include a target for restoration);

Size of resident and migratory species populations affected, assessed against the local, regional, national and international populations (percentage of population affected) and against the target set in the site-specific conservation objective (which may include a target for an increase in population size within the site);

Scale of impact (e.g. by pollution, noise, deterioration of other ecological conditions) on the quality of the habitat or habitat of the species or the survival of species affected, in view of their ecological requirements in the site as defined in the site-specific conservation objective (which may include a target for restoration).

6.1.2 Meaning of 'Adversely Affect the Integrity of the Site'

The concept of the 'integrity of the site' is explained in the EU publication Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, as follows;

'It is clear from the context and from the purpose of the directive that the 'integrity of the site' relates to the site's conservation objectives. For example, it is possible that a plan or project will adversely affect the integrity of a site only in a visual sense or only habitat types or species other than those listed in Annex I or Annex II. In such cases, the effects do not amount to an adverse effect for purposes of Article 6(3), provided that the coherence of the network is not affected. On the other hand, the expression 'integrity of the site' shows that focus is here on the specific site. Thus, it is not allowed to destroy a site or part of it on the basis that the conservation status of the habitat types and species it hosts will anyway remain favourable within the European territory of the Member State.

As regards the connotation or meaning of 'integrity', this can be considered as a quality or condition of being whole or complete. In a dynamic ecological context, it can also be considered as having the sense of resilience and ability to evolve in ways that are favourable to conservation. The 'integrity of the site' has been usefully defined as 'the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified'.

A site can be described as having a high degree of integrity where the inherent potential for meeting site conservation objectives is realised, the capacity for self-repair and self-renewal under dynamic conditions is maintained, and a minimum of external management support is required. When looking at the 'integrity of the site', it is therefore important to take into account a range of factors, including the possibility of effects manifesting themselves in the short, medium and long-term.

The integrity of the site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives.

6.1.3 Potential for Direct Impacts

Direct impacts refer to habitat loss or fragmentation arising from land-take requirements for development purposes. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result in the direct loss or disturbance, disruption or fragmentation of European Sites. In addition, the proposed works footprint and its immediate environs do not support habitats of Qualifying Interest for European Sites within the project zone of influence.

6.1.4 Potential for Indirect Impacts

Indirect impacts refer to those which can arise through proximal or remote connectivity, for example by means of a watercourse, via overland flow of surfacewater, via groundwater, via air (e.g. dust) or via other emissions from a project site (e.g. noise and light). Indirect and secondary impacts do not have a straight-line route between cause and effect. It is potentially more challenging to ensure that all the possible indirect impacts of the project – in combination with other plans and projects - have been established. These can arise, for example, when a development alters the hydrology of a catchment area, which in turn affects the movement of groundwater to a site and the qualifying interests that rely on the maintenance of water levels. Deterioration in water quality can occur as an indirect consequence of development, which in turn changes the aquatic environment and reduces its capacity to support certain plants and animals. The introduction of invasive species can also be defined as an indirect impact. Disturbance to fauna can arise directly through the loss of habitat (e.g. displacement of foraging otter) or indirectly through noise, vibration and increased activity associated with construction activities or the operational processes of a proposed development.

6.1.5 Potential Effects, Description of Pathway and Potential Zone of Influence

Potential effects associated with the proposed development to the Qualifying Habitats and Species of European Sites within the project Zone of Influence are described in **Table 6-1** as follows:

Table 6-1: Impact Source – Pathway and Zone of Influence for the proposed project

Source of Potential Effect	Description of Pathway	Potential Zone of Influence of the Effect
Construction Phase		
Noise, vibration; Lighting; Human presence; and Movements of vehicles associated with construction activities.	Terrestrial - contact (direct contact with construction personnel or machinery during site works), air (through its ability to transmit noise effects), visibility (on site presence of construction personnel)	The Zone of Influence varies by the affected habitat and reliant species. This can be assessed within 500m of the proposed development footprint for wintering birds (see Madsen, 1985; Smit & Visser, 1993; and Rees et al., 2005). However, distance can be significantly lower (e.g. 150 m for otter underground sites (NRA, 2006), or higher for other species. In practice, the surrounding context (industrial campus, peri-urban housing, and existing disturbance) greatly reduces the likelihood that wintering SPA bird species would use lands within this 500 m buffer. Accordingly, while 500m is applied as a precautionary Zol, the effective disturbance zone in this location is likely to be much smaller and is unlikely to exceed baseline

Source of Potential Effect	Description of Pathway	Potential Zone of Influence of the Effect
		disturbance effects associated with the nearby Abbvie facility.
Earthworks / stripping of overburden (e.g. Digging); Over-pumping of silt laden waters Stockpiling of construction materials (sand, aggregates etc.) Use of contaminants (e.g. hydrocarbons, wet cement, lubricants).	Hydrological pathways; i.e. overland flow and receiving drainage channels which provide remote and tenuous connectivity to Ballysadare Bay. Surface water runoff; and Accidental spills.	The Zone of Influence of the potential effects associated with this source is related with the nature of the potential contaminant (e.g. silt, hydrocarbons). The worst case Zone of Influence is considered to be the whole length of the aquatic pathway (i.e. from the proposed development site to the downstream European Sites).
Operational Phase		
Movement of People and vehicles associated within maintenance works; Maintenance of the facility and ancillary services Lighting	Terrestrial - contact (direct contact with operational personnel or machinery during site works), air (through its ability to transmit noise effects), visibility (on site presence of construction personnel) Lighting of the solar panel installation is not proposed as part of this development.	The Zone of Influence associated with these potential effects are considered to be retained to the proposed development site and its immediate environs.
Discharge of surface water generated by the development Use of contaminants (e.g. hydrocarbons, lubricants).	Hydrological pathways; i.e. overland flow and receiving drainage channels which provide remote and tenuous connectivity with Sligo Harbour.	The Zone of Influence of the potential effects associated with this source is related with the nature of the potential contaminant (e.g. silt, hydrocarbons). The worst case Zone of Influence is considered to be the whole length of the aquatic pathway (i.e. from the proposed development site to the downstream European Sites).

6.1.6 Potential Impacts from the Proposed Development on the Site Specific Conservation Objectives of European Sites within the Project Zone of Influence

Potential impacts sources, pathways and consequent effects associated with the proposed development to those qualifying features and the Site Specific Conservation Objectives of European Sites within the project Zone of Influence are considered in greater detail in **Table 6.2**.

Table 6-2 Impact Assessment on the Site Specific Conservation Objectives of European Sites within the Project Zone of Influence.

Attribute / Measure / Target	Potential Impact of proposed works
Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (000627)	
1099 River Lamprey & 1095 Sea Lamprey	
Distribution: extent of anadromy % of estuary accessible No barriers for migratory life stages of lamprey moving from freshwater to marine habitats and vice versa	The proposed works will be restricted to the proposed development site. The proposed works are not located within the footprint or the immediate environs of a European Site. Furthermore, habitats within the works footprint do not support suitable habitat for this species, aquatic species using permanent watercourses and open water estuarine habitats of Sligo harbour. The proposed works may result in the localised release of sediments to the surrounding environment. It is considered that this does not comprise a significant pathway for water quality impacts to these European Sites, in view of the tenuous connectivity distance of separation between the site and the European Site boundaries. In addition, the estuarine and open water habitats associated with this species are accustomed to routine fluctuations in sediment levels following or during ongoing tidal cycles. The proposed works will not impact the presence, extent or supporting habitat quality or extent for this species. Any such release of sediments will be readily assimilated into this estuarine environment and its component habitats which are formed through ongoing accretion and erosion of sediment and particulate matter. In addition, the proposed works and any consequent impacts will not restrict access or present barrier effects to migrating patterns for these species.
1014 Narrow-mouthed Whorl Snail <i>Vertigo angustior</i>	
Distribution: occupied sites Number No decline. There is one known location for this species in this SAC (which overlaps two 1km squares).	The proposed works will be restricted to the proposed development site. The proposed works are not located within the footprint or the immediate environs of a European Site. Furthermore, habitats within the works footprint do not support suitable habitat for this species, an invertebrate species associated with sand dune habitats near the northern boundary of this SAC. The proposed works may result in the localised release of sediments or silt laden waters to the surrounding environment. It is considered that this does not comprise a significant pathway for water quality impacts to these European Sites, in view of the tenuous connectivity distance of separation between the site and the European Site boundaries. In addition, the estuarine and sand dune habitats associated with and supporting this species
Presence on transect Occurrence Adult or sub-adult snails are present in four of the grassland zones on the transect where optimal or sub-optimal habitat occurs (minimum 5 samples)	
Presence Occurrence Adult or sub-adult snails are present in at least 6 other places at the site with a	



Attribute / Measure / Target	Potential Impact of proposed works
wide geographical spread (minimum of 8 sites or 75% of sites sampled) Transect habitat quality Metres At least 75m of habitat along the transect is classed as optimal and 150m of habitat along the transect is classed as suboptimal or optimal Transect optimal wetness Metres Soils, at time of sampling, are damp (optimal wetness) and covered with a layer of humid thatch for more than 130m along the transect Habitat extent Hectares 12-15ha of the site optimal and a further 11-14ha suboptimal. Optimal habitat is defined as fixed dune, species-rich grassland dominated by red fescue (<i>Festuca rubra</i>), with sparse marram grass (<i>Ammophila arenaria</i>), lady's bedstraw (<i>Galium verum</i>), eyebright (<i>Euphrasia</i> sp.), mouse ear-hawkweed (<i>Pilosella officinarum</i>) and other low growing herbs. Vegetation height 10-30cm. Habitat growing on damp, friable soil covered with a layer of humid, open structured thatch. Sub-optimal habitat is defined as for optimal but either vegetation height is less than 10cm or between 30 and 50cm; or the vegetation contains mounds of moss or willow (<i>Salix</i> spp.) scrub; or the soil is dry and sandy; or the thatch is wetter with a denser structure	are accustomed to routine fluctuations in sediment levels following or during ongoing tidal cycles. In addition, the proposed works will not impact the presence, extent or supporting habitat quality or extent for this species.
1130 Estuaries	
Habitat area Hectares The permanent habitat area is stable or increasing, subject to natural processes.	There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result in the direct loss or disturbance, disruption or fragmentation of



Attribute / Measure / Target	Potential Impact of proposed works
Community distribution Hectares Maintain the extent of the <i>Zostera</i> -dominated community, subject to natural processes	European Sites and their associated habitats of qualifying interest. The proposed works may result in the release of construction phase pollutants to the receiving environment which supports tenuous hydrological connectivity to Sligo Harbour and its constituent European Sites; Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC & Cummeen Strand SPA. It is considered that this does not comprise a significant pathway for water quality impacts to these European Sites, in view of the tenuous connectivity distance of separation between the site and the European Site boundaries. In addition, such impacts and consequent effects are unlikely to affect the habitat area or the community distribution of this transitional / estuarine Annex I habitat which is accustomed to mobile estuarine / coastal interactions with regular and ongoing fluctuations of nutrient, sediment and particulate levels in the water column.
Community structure: <i>Zostera</i> density Shoots/m ² Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes	
Community structure: <i>Mytilus edulis</i> density Individuals/m ² Conserve the high quality of the Mytilidae-dominated community complex, subject to natural processes	
Community distribution Hectares Conserve the following community types in a natural condition: Intertidal fine sand with <i>Peringia ulvae</i> and <i>Pygospio elegans</i> community complex; Estuarine mixed sediment to sandy mud with <i>Hediste diversicolor</i> and oligochaetes community complex; Fine sand with <i>Angulus</i> spp. and <i>Nephtys</i> spp. community complex; Sand to mixed sediment with amphipods community; Intertidal reef community	
1140 Mudflats and sandflats not covered by seawater at low tide	
Habitat area Hectares The permanent habitat area is stable or increasing, subject to natural processes.	There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result in the direct loss or disturbance, disruption or fragmentation of European Sites and their associated habitats of qualifying interest.
Community extent Hectares Maintain the extent of the <i>Zostera</i> - dominated community and the	



Attribute / Measure / Target	Potential Impact of proposed works
Mytilidae-dominated community complex, subject to natural processes. Community structure: <i>Zostera</i> density Shoots/m² Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes Community structure: <i>Mytilus edulis</i> density Individuals/m² Conserve the high quality of the Mytilidae-dominated community complex, subject to natural processes Community distribution Hectares Conserve the following community types in a natural condition: Intertidal fine sand with <i>Peringia ulvae</i> and <i>Pygospio elegans</i> community complex; Estuarine mixed sediment to sandy mud with <i>Hediste diversicolor</i> and oligochaetes community complex; Fine sand with crustaceans and <i>Scololepis</i> (<i>Scololepis</i>) <i>squamata</i> community complex; Fine sand with <i>Angulus</i> spp. and <i>Nephtys</i> spp. community complex	The proposed works may result in the release of construction phase pollutants to the receiving environment which supports tenuous hydrological connectivity to Sligo Harbour and its constituent European Sites; Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC & Cummeen Strand SPA. It is considered that this does not comprise a significant pathway for water quality impacts to these European Sites, in view of the tenuous connectivity distance of separation between the site and the European Site boundaries. In addition, such impacts and consequent effects are unlikely to affect the habitat area or the community distribution of this transitional / estuarine Annex I habitat which is accustomed to mobile estuarine / coastal interactions with regular and ongoing fluctuations of nutrient, sediment and particulate levels in the water column.
1365 Harbour Seal <i>Phoca vitulina</i>	
Access to suitable habitat Number of artificial barriers Species range within the site should not be restricted by artificial barriers to site use	The proposed works will be restricted to the proposed AbbVie development site. The proposed works are not located within the footprint or the immediate environs of a European Site. Furthermore, habitats within the works footprint do not support suitable habitat for this species, a coastal species using the open water estuarine habitats of Ballysadare Bay and Sligo Bay.
Breeding behaviour Breeding sites Conserve the breeding sites in a natural condition	The proposed works may result in the localised release of sediments to the surrounding environment. However, the estuarine and open water habitats associated with this species are accustomed to routine fluctuations in sediment levels following or during ongoing tidal cycles. In addition, the proposed works will not impact the presence, extent or supporting habitat quality or extent for this species. Any such release of sediments will be readily assimilated into this estuarine environment and its component habitats which are formed through ongoing accretion and erosion of sediment and particulate matter. In addition, the proposed works and any consequent impacts will not restrict access to suitable habitat or
Moulting behaviour Moult haul-out sites Conserve the moult haul out sites in a natural condition	
Resting behaviour Resting haul-out sites Conserve the resting haul out sites in a natural condition	
Disturbance Level of impact	



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Attribute / Measure / Target	Potential Impact of proposed works
Human activities should occur at levels that do not adversely affect the harbour seal population at the site	restrict the use of these habitats for breeding, moulting or resting by Harbour Seal.
2110 Embryonic shifting dunes	
Habitat area Hectares Area stable or increasing, subject to natural processes, including erosion and succession.	There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result in the direct loss or disturbance, disruption or fragmentation of European Sites and their associated habitats of qualifying interest. There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works may result in the release of construction phase pollutants to the receiving environment which supports tenuous hydrological connectivity to Sligo Harbour and its constituent European Sites; Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC & Cummeen Strand SPA. It is considered that this does not comprise a significant pathway for water quality impacts to these European Sites, in view of the tenuous connectivity distance of separation between the site and the European Site boundaries. In addition, such impacts and consequent effects are unlikely to affect the habitat area or the community distribution of this transitional / estuarine Annex I habitat which is accustomed to mobile estuarine / coastal interactions with regular and ongoing fluctuations of nutrient, sediment and particulate levels in the water column.
Habitat distribution Occurrence No decline or change in habitat distribution, subject to natural processes	
Physical structure: functionality and sediment supply Presence/ absence of physical barriers Maintain the natural circulation of sediment and organic matter, without any physical obstructions	
Vegetation structure: zonation Occurrence Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
Vegetation composition: plant health of foredune grasses Percentage cover More than 95% of sand couch (<i>Elytrigia juncea</i>) and/or lyme- grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	
Vegetation composition: typical species and sub-communities Percentage cover Maintain the presence of species-poor communities with typical species: sand couch (<i>Elytrigia juncea</i>) and/or lyme-grass (<i>Leymus arenarius</i>)	
Vegetation composition: negative indicator species Percentage cover Negative indicator species (including non-natives) to represent less than 5% cover	



Attribute / Measure / Target	Potential Impact of proposed works
2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes')	
Habitat area Hectares Area stable or increasing, subject to natural processes including erosion and succession	There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result in the direct loss or disturbance, disruption or fragmentation of European Sites and their associated habitats of qualifying interest. There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works may result in the release of construction phase pollutants to the receiving environment which supports tenuous hydrological connectivity to Sligo Harbour and its constituent European Sites; Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC & Cummeen Strand SPA. It is considered that this does not comprise a significant pathway for water quality impacts to these European Sites, in view of the tenuous connectivity distance of separation between the site and the European Site boundaries. In addition, such impacts and consequent effects are unlikely to affect the habitat area or the community distribution of this transitional / estuarine Annex I habitat which is accustomed to mobile estuarine / coastal interactions with regular and ongoing fluctuations of nutrient, sediment and particulate levels in the water column.
Habitat distribution Occurrence No decline or change in habitat distribution, subject to natural processes	
Physical structure: functionality and sediment supply Presence/ absence of physical barriers Maintain the natural circulation of sediment and organic matter, without any physical obstructions	
Vegetation structure: zonation Occurrence Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
Vegetation composition: plant health of dune grasses Percentage cover More than 95% of marram (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>) should be healthy (i.e. green plant parts above ground and flowering heads present)	
Vegetation composition: typical species and sub-communities Percentage cover at a representative number of monitoring stops Maintain the presence of species-poor communities dominated by marram (<i>Ammophila arenaria</i>) and/or lyme-grass (<i>Leymus arenarius</i>)	
Vegetation composition: negative indicator species Percentage cover Negative indicator species (including non-natives) to represent less than 5% cover	
2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes')	
Habitat area	



Attribute / Measure / Target	Potential Impact of proposed works
Hectares Area increasing, subject to natural processes including erosion and succession	There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result in the direct loss or disturbance, disruption or fragmentation of European Sites and their associated habitats of qualifying interest. There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works may result in the release of construction phase pollutants to the receiving environment which supports tenuous hydrological connectivity to Sligo Harbour and its constituent European Sites; Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC & Cummeen Strand SPA. It is considered that this does not comprise a significant pathway for water quality impacts to these European Sites, in view of the tenuous connectivity distance of separation between the site and the European Site boundaries. In addition, such impacts and consequent effects are unlikely to affect the habitat area or the community distribution of this transitional / estuarine Annex I habitat which is accustomed to mobile estuarine / coastal interactions with regular and ongoing fluctuations of nutrient, sediment and particulate levels in the water column.
Habitat distribution Occurrence No decline or change in habitat distribution, subject to natural processes	
Physical structure: functionality and sediment supply Presence/ absence of physical barriers. Maintain the natural circulation of sediment and organic matter, without any physical obstructions	
Vegetation structure: zonation Occurrence Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	
Vegetation structure: bare ground Percentage cover Bare ground should not exceed 10% of fixed dune habitat, subject to natural processes	
Vegetation structure: sward height Centimeters Maintain structural variation within sward	
Vegetation composition: typical species and sub-communities Percentage cover at a representative sample of monitoring stops Maintain range of sub-communities with typical species listed in Ryle et al. (2009)	
Vegetation composition: negative indicator species (including <i>Hippophae rhamnoides</i>) Percentage cover Negative indicator species (including non-natives) to represent less than 5% cover	



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Attribute / Measure / Target	Potential Impact of proposed works
Vegetation composition: scrub/trees Percentage cover No more than 5% cover or under control	
5130 <i>Juniperus communis</i> formations on heaths or calcareous grasslands	
Formation area Hectares Area stable or increasing, subject to natural processes	There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result in the direct loss or disturbance, disruption or fragmentation of European Sites and their associated habitats of qualifying interest. There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works may result in the release of construction phase pollutants to the receiving environment which supports tenuous hydrological connectivity to Sligo Harbour and its constituent European Sites; Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC & Cummeen Strand SPA. It is considered that this does not comprise a significant pathway for water quality impacts to these European Sites, in view of the tenuous connectivity distance of separation between the site and the European Site boundaries. In addition, such impacts and consequent effects are unlikely to affect the habitat area or the community distribution of this transitional / estuarine Annex I habitat which is accustomed to mobile estuarine / coastal interactions with regular and ongoing fluctuations of nutrient, sediment and particulate levels in the water column.
Habitat distribution Occurrence No decline. Known locations shown on map 7	
Juniper population size Number At least 50 plants per population	
Formation structure: cover and height Percentage and metres Well-developed structure with an open to closed cover of juniper up to or exceeding 0.45m in height with associated species	
Formation structure: community diversity and extent Hectares Appropriate community diversity and extent	
Formation structure: cone bearing plants Percentage At least 10% of plants bearing cones	
Formation structure: seedling recruitment Percentage At least 10% of juniper plants within the formation are seedlings	
Formation structure: amount of each plant dead Mean percentage Mean percentage of each juniper plant dead not more than 10%	



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Attribute / Measure / Target	Potential Impact of proposed works
Vegetation composition: typical species Occurrence A variety of typical native species with a minimum of 10 species present (excluding negative Indicator species)	
Vegetation composition: negative indicator species Occurrence Negative indicator species, particularly non-native invasive species, absent or under control	
6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates(Festuco-Brometalia) (* important orchid sites)	
Habitat area Hectares Area stable or increasing, subject to natural processes	There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result in the direct loss or disturbance, disruption or fragmentation of European Sites and their associated habitats of qualifying interest. There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works may result in the release of construction phase pollutants to the receiving environment, which supports remote and extremely tenuous connectivity with Sligo Harbour and its component European Sites. However such impacts and consequent effects are unlikely to affect the habitat area, distribution, physical structure and vegetation composition of this Annex I habitat which is terrestrial habitat situated above the floodline / coastal tideline and will not be impacted by potential water quality deterioration associated with the proposed works.
Distribution Occurrence No decline, subject to natural processes	
Vegetation composition: positive indicator species Number at a representative number of 2m x 2m monitoring stops; within 20m surrounding area of monitoring stops At least seven positive indicator species present in monitoring stop or, if five to six present in stop, additional species within 20m of stop; this includes at least two 'high quality' positive indicator species present in stop or within 20m of stop	
Vegetation composition: negative indicator species Percentage cover at a representative number of 2m x 2m monitoring stops Negative indicator species collectively not more than 20% cover, with cover of	



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Attribute / Measure / Target	Potential Impact of proposed works
an individual species not more than 10%	
Vegetation composition: nonnative species Percentage cover at a representative number of 2m x 2m monitoring stops. Cover of non-native species not more than 1%	
Vegetation composition: woody species and bracken Percentage cover at a representative number of 2m x 2m monitoring stops. Cover of woody species (except certain listed species) and bracken (<i>Pteridium aquilinum</i>) not more than 5%	
Vegetation structure: broadleaf herb:grass ratio Percentage at a representative number of 2m x 2m monitoring stops. Broadleaf herb component of vegetation between 40% and 90%	
Vegetation structure: sward height Percentage at a representative number of 2m x 2m monitoring stops. At least 30% of sward between 5cm and 40cm tall	
Vegetation structure: litter Percentage cover at a representative number of 2m x 2m monitoring stops. Litter cover not more than 25%	
Physical structure: bare soil Percentage cover at a representative number of 2m x 2m monitoring stops. Not more than 10% bare soil	
Physical structure: grazing or disturbance Area in local vicinity of a representative number of monitoring stops Area of the habitat showing signs of serious grazing or disturbance less than 20m ²	
7220 Petrifying springs with tufa formation (Cratoneurion)*	
Habitat area Square metres Area stable or increasing, subject to natural processes	There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works are not located within the footprint or the immediate environs of a European Site. Therefore, the proposed works will not result



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Attribute / Measure / Target	Potential Impact of proposed works
Habitat distribution Occurrence No decline	in the direct loss or disturbance, disruption or fragmentation of European Sites and their associated habitats of qualifying interest.
Hydrological regime: height of water table; water flow Metres; metres per second Maintain appropriate hydrological regimes	There will be no reduction of habitat area to this Annex I habitat as a result of the proposed development. The proposed works may result in the release of construction phase pollutants to the receiving environment which supports tenuous hydrological connectivity to Sligo Harbour and its constituent European Sites; Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC & Cummeen Strand SPA. It is considered that this does not comprise a significant pathway for water quality impacts to these European Sites, in view of the tenuous connectivity distance of separation between the site and the European Site boundaries. In addition, such impacts and consequent effects are unlikely to affect the habitat area or the community distribution of this transitional / estuarine Annex I habitat which is accustomed to mobile estuarine / coastal interactions with regular and ongoing fluctuations of nutrient, sediment and particulate levels in the water column.
Water quality Water chemistry measures Maintain oligotrophic and calcareous conditions	
Vegetation composition: typical species Occurrence Maintain typical species	
Cummeen Strand SPA (004035)	
A46 Brent Goose <i>Branta bernicla hrota</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A162 Redshank <i>Tringa totanus</i> A999 Wetlands	
Population trend Percentage change Long term population trend stable or increasing	The proposed development site is located 1.3km north-east of this SPA and does not support suitable foraging, roosting or feeding habitat for these SCI species, most of which are utilise coastal and estuarine habitats and adjoining areas of expansive pastoral lands for foraging and roosting purposes. Therefore, the proposed development will not result in ex-situ impacts to the SCI species of this European Site in terms of changes to population trends or population distribution. The proposed works may lead to indirect hydrological impacts which could result in the deterioration of wetland habitat quality in terms of nutrient enrichment or increased sedimentation. Such impacts would not result in the reduction of wetland habitat area.
Distribution Range, timing and intensity of use of area No significant decrease in the range, timing and intensity of use of areas by SCI species (Brent Goose, Oystercatcher and Redshank), other than that occurring from natural patterns of variation	
A999 Wetlands & Waterbirds	
Habitat area Hectares The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of	The proposed development will not reduce the size or coverage of wetland habitat area for this SPA. The proposed works may lead to indirect hydrological impacts which could result in the deterioration of wetland habitat quality in terms of nutrient



Attribute / Measure / Target	Potential Impact of proposed works
1732 hectares, other than that occurring from natural patterns of variation.	enrichment or increased sedimentation, but not wetland habitat area.



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6.2 Best Practice Design & Mitigation Measures

A description of the proposed works are presented in **Section 3.1**. The project design seeks to retain and/or regulate all potential pollution resources at source, restricting their unregulated release to the surrounding environment. The implementation of these design measures are such that they will avoid the release of potential pollution sources, primarily water borne pollutants, to the receiving environment and by extension interconnected European Sites.

The best practice design and mitigation measures outlined below will be implemented to ensure that any impacts on the receiving environment, will be avoided during the project's construction and operational phases. They will also ensure that all potential pollutant sources will be retained to the proposed development footprint and will not enter the surrounding environment and those European Sites within the project Zone of Influence. Mitigation refers to measures taken to avoid or reduce negative impacts and effects (CIEEM, 2024)¹⁴.

6.2.1 Proposed Works Monitoring

AbbVie will appoint an Environmental Officer to oversee the appropriate implementation of the mitigation measures presented in this document. The Environmental officer will liaise with and report to the Site Manager. Ground staff and technical staff will set out all management works protocols in advance of their commencement and will maintain ongoing correspondence with the Environmental Officer. They will ensure the successful implementation of all mitigation measures included in this NIS and will have the authority to stop works or temporarily halt or delay ongoing works where further consideration or on-site improvements of management measures may be necessary.

The works will be supervised and monitored by the Environmental Officer whom will undertake inspections of the works to ensure compliance with planning conditions and relevant reports. The duration of frequency of monitoring will be informed by the nature, scale and locations of the proposed works. Monitoring frequency and duration will be greatest at project set up and at certain works practices such as works near drains or works during or following extreme weather conditions.

Toolbox Talks

The Environmental Officer will prepare and deliver site induction or toolbox talks and training to construction personnel, in liaison with the Resident Engineer or Site Manager. The Environmental Officer will undertake a confirmatory site walkover survey, with the contractor site manager, in advance of the proposed works to determine and identify the following:

- Works deemed to be most at risk of rutting or ground compaction and resultant habitat loss;
- Sections at risk of run-off from the proposed works. Identification of areas requiring silt fencing and other siltation control measures, in advance of the proposed works.

6.2.2 Site Compound

For the provision of a site compound, the project will make use of an existing hard standing area within the AbbVie campus (outside the red line boundary for this development). The construction works compound will

¹⁴ CIEEM (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, Version 1.3 Updated September 2024. Chartered Institute of Ecology and Environmental Management, Winchester



have designated areas for the storage of building materials, plant machinery and for delivery of materials and fuel shall be provided during the works.

The following elements and designations shall be contained within the construction works compound:

- Diesel generator;
- Temporary site office – Portakabin or similar;
- Employee Parking;
- Portaloo' type toilet facilities with suitable welfare and washing facilities. This will be positioned in the construction works compound. Any wastewaters generated from the construction works compound shall be discharged to self-contained storage tanks and shall be removed via a licenced contractor to a suitable wastewater disposal facility. No wastewaters generated within the works compound shall discharge to surface watercourses or to ground;
- Bunded re-fuelling area. It is not proposed to store any fuel, oils or chemicals within the construction works compound area or any other area within the site. Where re-fuelling of plant or machinery is required fuel will be delivered to site via a standard commercial fuel vehicle or a mobile fuel browser. Re-fuelling shall only be undertaken within the designated bunded refuelling area;
- Potable water supply to site office and welfare facilities.
- A water tanker to supply water used for other purposes;
- Designated areas for gravel, subsoil, topsoil and sand stockpiling; and
- Contractor lock-up facility.

6.2.3 Further Measures to Ensure Protection of Water Quality

- There will be no storage of machinery fuel in areas prone to flooding or within 50m of any drain or watercourse;
- Storage tanks shall have secondary containment provided by means of an above ground bund (minimum bund capacity of 110%) to capture any oil leakage irrespective of whether it arises from leakage of the tank itself or from associated equipment such as filling and off-take points, sighting gauges, etc., all of which should be located within the bund. Bund specification should conform to the current best practice for oil storage (Enterprise Ireland, BPGCS005);
- Oil booms and oil soakage pads (Spill kits) should be maintained on-site to enable a rapid and effective response to any accidental spillage or discharge;
- Waste oils and hydraulic fluids shall be collected in suitable leak-proof containers and transported from the Site and Off-Site Areas for disposal or recycling to a licenced facility;
- Machinery used on Site shall be regularly inspected to ensure there is no leakage from them and to ensure the machinery shall not cause contamination of watercourses;
- Protection measures shall be put in place by the Contractor to ensure that all hydrocarbons used during the works are appropriately handled, stored and disposed of in accordance with recognised standards as detailed by the Environmental Protection Agency; and
- Guidelines for minimising impacts on water quality and fisheries in relation to Construction shall be implemented including, but not limited to, CIRIA C532 "Control of water pollution from construction sites - Guidance for consultants and contractors", Inland Fisheries Ireland guidelines and TII guidelines.



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6.2.4 Further Measures to Ensure Control of Sediments

- There will be no direct or indirect discharge of unattenuated surface or ground water generated during the proposed works to any surface water feature;
- In accordance with standard CIRIA Good Practice On-Site Guidelines (C741), run-off from the proposed works areas will be intercepted and managed in order to avoid indirect sedimentation impacts on any nearby surface waters. These standard measures may include suitably designed settlement tank, silt sock or silt bag along with other pollution control measures such as silt fences. Pumping and transport of water off-site in tankers may be required if volumes prevent effective control by other means. The contractor will be obliged to maintain any water management system in satisfactory working order throughout the period of construction activities. Sediment controls will be monitored and maintained by the appointed Environmental Officer (See **Section 6.2.1** above) during the proposed works to protect the receiving riverine environment;
- Groundworks shall not take place during periods of heavy precipitation (Yellow Status rain warning or greater);
- If required, silt fencing specification and installation will comply with key techniques and materials to improve standard silt fences as detailed by Caraco (2000); and
- To protect the drainage channel near the southern boundary of the site, it is proposed to erect and maintain a double lined silt fence between the works areas and this drainage channel throughout the construction phase. This will capture any movement of silt laden water from the site to surrounding environment during the project construction phase. The locations and extent of silt fencing required will be determined by the Environmental Officer at project start up. The installation of required silt fencing will be secured in advance of commencing any site works.

6.2.5 Soils

In order to reduce the impacts on the soils and geological environment a number of mitigation measures will be adopted as part of the construction works on site. The measures would address the main activities of potential impact which include:

- Specialist machinery (such as tracked machinery) will be used to minimise compaction of the subsoils. Excavations will be backfilled as soon as is possible to prevent any infiltration of potentially polluting compounds to the subsurface and the aquifer.
- Stockpiling of soil will be positioned at least 25m from a watercourse or drainage channels. Soil stockpiling will be positioned on level or gently sloping ground and will be covered as appropriate and secured by double lined silt fencing if requested by the Environmental Officer.
- For a development of this scale, there is not projected to be any importation of soils. In the unlikely event that it is necessary to store topsoil for a significant period of time, it will be sown with grass seed to prevent any windblow or water erosion and subsequent run-off. Such stores will be subject to on-going monitoring. Subject to the identification of invasive alien species present at any of the sites, machinery will be cleaned between infested sites (including footwear and tools).
- The majority of new material brought to site will be used immediately or will be stored within the site boundary (if applicable). Other materials such as asphalt or concrete will be brought directly to the construction site when required and immediately placed.
- Dust suppression measures (e.g. damping down during extended dry periods), vehicle wheel washes, road sweeping, and general housekeeping will ensure that the surrounding environment is free of nuisance dust and dirt on roads.



- All fill and aggregate will be sourced from reputable supplies as per the Construction Works Contractor's Contract and Procurement Procedures.

6.2.6 Mitigation Measures when working with cement

Given the nature of the project, it is not anticipated that large volumes of concrete will be required for the project construction phase. If ground conditions prevent piling of the solar panel mounting systems, concrete may be required to install and secure some solar panel infrastructure. Should work with concrete be required, the below best practice and mitigation measures will be required.

- Concrete pouring shall be carried out as per the triggers agreed between the Environmental Officer and Contractor. In accordance with best practice, this will need to be undertaken in dry conditions.
- All concrete pouring will be undertaken in accordance with CIRIA C532, 'Control of water pollution from construction sites – Guidance for consultants and Contractors'.
- Raw or uncured waste concrete shall be removed from the site and disposed in an appropriately licenced facility.
- Wash water from cleaning ready mix concrete lorries and mixers may be contaminated with cement and is therefore highly alkaline. Lorries and mixers shall not be washed out on-site and shall be washed in an appropriate designated facility where treatment is provided and there are no direct surface water connections.
- Formwork and shuttering, for use in forming concrete structures, will be designed so that all joints between panels achieve a good close fit. Alternatively, they should be sealed to prevent grout loss. This will reduce the risk of contamination of the ground by the constituent cementitious materials.
- Where shuttering is used, measures will be put in place to prevent against shutter failure and control storage, handling and disposal of shutter oils. Biodegradable shutter oil shall be used. All shuttering shall be securely installed and inspected for leaks prior to concrete being poured.
- Supply lines shall be positioned as far away from waterbodies and drains as possible.
- The end of pump hoses must be secured by means of a rope during concreting adjacent to waters to prevent the discharge hose accidentally depositing concrete away from the pour site.
- Concrete skips, concrete pumps and machine buckets will not be allowed to slew over water.
- Sandbag barriers will be constructed around grout mixing areas (if such areas are necessary), supply lines and around working areas and stockpiles of slurry arisings to prevent escape.

6.2.7 Management of Machinery and associated Materials

The appointed contractor will prepare and securely store all potential pollutants within the site compound.

- All refuelling operations and mechanical repairs should be carried out at least 50m from the nearest aquatic zone on a dry, elevated site. Where this is not possible, on-site refuelling will be undertaken with every precaution taken to avoid spillage including the use, where practicable of bunding, drip trays and absorbent materials.
- Spent oil must be collected and retained for correct off-site disposal.
- Where possible, biodegradable oil should be used as a substitute for mineral oil.
- A spill kit including absorbent material and floating booms will be on site with mechanical equipment at all times. The operators should be familiar with its use.
- Under no circumstances will chemicals, fuels or machine oils be discharged into an aquatic zone.



- Construction plant and equipment shall only be parked over-night within the construction works compound area. Construction plant and equipment shall be checked daily for any visual signs of oil or fuel leakage, as well as wear and tear.
- Waste oils, empty oil containers and other hazardous wastes will be disposed of in accordance with the requirements of the Waste Management Act, 1996.

6.2.8 Protection of Soil, Surface Waters and Groundwater During Construction Stage

The following measures will be implemented to protect surface and groundwater during the project construction phase:

- All liquids, solids and powder containers will be clearly labelled and stored in sealable containers;
- All liquid and hazardous material will be stored in a designated and temporarily bunded area with appropriate signage. The temporary bunded area shall be located within the designated storage area located in the southern area of the site;
- There will be no discharge of effluent to groundwater or surface water during the construction phase. All wastewater from the construction facilities will be stored before removal off site for disposal and treatment;
- Spill kits will be provided in areas where liquids are stored and refuelling area;
- Site personnel will be responsible for ensuring the regular maintenance of construction plant and equipment, to prevent leaks;
- Spill kits will be available to deal with accidental spillages;
- A regular review of weather forecasts for heavy rainfall will be required and the contractor will be required to prepare a contingency plan for before and after such events;
- The delivery point for concrete will be within the bunded designated construction compound area.
- Any compressors or generators used for connecting operations will be fitted with drip trays to collect any potential fuel and oil spills;
- Washing of tools or machinery with wet concrete will take place off-site at an appropriate dedicated wash facility that will pose no threat to surface waters;
- Overburden material shall only be stockpiled within a designated construction works compound area, and at least 25m metres from a watercourse or drainage channel. Separate stockpiles will be designated for different materials; and
- Building materials (sand, aggregates etc) shall only be stockpiled within site compound and laid out to minimise exposure to wind.

6.2.9 Wet weather / potential flood procedures

Substantial ground works (such as site clearance and cable routes) will only be carried out during periods of low rainfall, and therefore minimum surfacewater runoff rates. This will minimise the risk of entrainment of suspended sediment in surface water runoff, and transport via this pathway to surface watercourses.

The works programme for the construction stage of the development will also take account of weather forecasts and predicted rainfall and consequent flood events in particular. Construction works will be suspended or scaled back if heavy rain is forecast. The extent to which works will be scaled back or suspended will relate directly to the amount of rainfall forecast.

The following forecasting systems are available and will be used on a daily/weekly basis, as required, to allow site staff to direct proposed and planned construction activities:



- General Forecasts: Available on a national, regional and county level from the Met Éireann website (www.met.ie/forecasts). These provide general information on weather patterns including rainfall, wind speed and direction but do not provide any quantitative rainfall estimates;
- MeteoAlarm: Alerts to the possible occurrence of severe weather for the next 2 days. Less useful than general forecasts as only available on a provincial scale;
- 3-hour Rainfall Maps: Forecast quantitative rainfall amounts for the next 3 hours but does not account for possible heavy localised events;
- Rainfall Radar Images: Images covering the entire country are freely available from the Met Éireann website (www.met.ie/latest/rainfall_radar.asp). The images are a composite of radar data from Shannon and Dublin airports and give a picture of current rainfall extent and intensity. Images show a quantitative measure of recent rainfall. A 3-hour record is given and is updated every 15 minutes. Radar images are not predictive; and,
- Consultancy Service: Met Éireann provide a 24-hour telephone consultancy service. The forecaster will provide interpretation of weather data and give the best available forecast for the area of interest.

Using the safe threshold rainfall values will allow planned works to be safely executed (from a water quality perspective) in the event of forecasting of an impending high rainfall intensity event. Construction works will be suspended if forecasting suggests any of the following is likely to occur:

- >10 mm/hr (i.e., high intensity local rainfall events);
- >25 mm in a 24-hour period (heavy frontal rainfall lasting most of the day); or,
- >half monthly average rainfall in any 7 days.
- Prior to earthworks being suspended the following control measures will be completed:
- Secure all open spoil excavations;
- Provide temporary or emergency drainage to prevent back-up of surface runoff; and,
- Avoid working during heavy rainfall and for up to 24 hours after heavy events to ensure drainage systems are not overloaded.

6.2.10 Dust Control

To ensure mitigation of the effects of dust nuisance, a series of measures will be implemented. These are outlined below.

- All stockpiles on site will be covered with a waterproof cover to prevent mobilisation of the stockpile material. Stockpiled soils and aggregates will not be located within 25m of the drainage channels or other viable hydrological vectors within the proposed development site or its surrounding environs.
- Building materials (sand, etc) shall only be stockpiled within site compound and laid out to minimise exposure to wind. Sand and other aggregates will be stored in bunded areas and will not be allowed to dry out, unless this is required for a particular process. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods. Stored building materials (except blocks, bricks, etc) will be provided with water-proof covers when not being used. Bulk cement and other fine powder materials (if required) will be delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
- No concrete production will take place on-site due. Concrete will be supplied to the site using ready mix lorries. No washing down of lorries or any other construction vehicles shall take place on-site;



- Where possible, concrete will be carefully placed by the use of a hydraulic pump to minimise the risk of concrete spillages. The ends of pump hoses will be secured during concreting to prevent the discharge hose accidentally depositing concrete away from the pour site;
- The delivery point for concrete will be within the bunded designated area. This will prevent potential concrete spillage from truck mixers contaminating the ground and leaching out into the groundwater. Compressors or generators used for connecting operations will be fitted with drip trays to collect fuel and oil spills that might otherwise contaminate the groundwater and lead to pollution of the watercourses; and
- Concrete delivery vehicles will be precluded from washing out at or in the environs of the site, or at such location as would result in a discharge to surface waters.

6.2.11 Noise Control

Best practice noise and vibration control measures will be employed by the contractor during the construction phase in order to avoid significant impacts to sensitive receptors. Environmental Noise arising from activities on site will be controlled in accordance with the requirements of British Standard BS5228.

The following noise control measures for generated noise shall be implemented during the construction works:

- a. The hours of construction will be subject to the requirements and prior agreement with Sligo County Council.
- b. All contractors will ensure that the plant and construction methods employed are the quietest available for the required purpose insofar as practicable.
- c. All contractor vehicles will use existing site access roads and construction compound area (surfaces of hard standing).
- d. Site roads will be maintained in a clean condition and the site speed limit of 15 km/hr will be strictly adhered to.
- e. Engines, vehicles and equipment will be switched off when not in use.
- f. Machinery having rotating parts will be serviced according to supplier recommendations to prevent friction induced sound.
- g. Materials should be lowered, not dropped, insofar as practicable and safely.
- h. Use of enclosures and screens around noise sources (if required).
- i. Liaison with the public

6.2.12 Refuelling

- Construction plant and equipment shall only be parked over-night within the construction works compound area. Construction plant and equipment shall be checked daily for any visual signs of oil or fuel leakage, as well as wear and tear.
- Fuel will not be stored on-site for the duration of the construction phase. Fuel will only be brought to site via a mobile double skinned fuel bowser. For any liquid other than water, this shall include storage in suitable tanks and containers which shall be housed in the designated area surrounded by bund walls of sufficient height and construction so as to contain 110 per cent (110%) of the total contents of all containers and associated pipework. The floor and walls of the bunded areas shall be impervious to both water and oil. The pipes should vent downwards into the bund.
- All liquids, solids and powder containers will be clearly labelled and stored in sealable containers.



- Where contractors are required to refuel vehicles on-site, this will be carried out at the designated refuelling location by competent personnel. All refuelling areas will be on areas of hard standing at designated areas agreed by an appropriately qualified person. Spill kits will be provided in areas in all areas where liquids are stored and any refuelling areas.
- The local authority shall be informed immediately of any spillage or pollution incident that may occur on-site during the construction phase.
- All small plant will be positioned as far as practicable from watercourses. All small plant such as generators and pumps will be stood in drip trays, capable of holding 110% of their tank contents.
- All small plant will be positioned as far as practicable from the watercourses.
- Waste oils, empty oil containers and other hazardous wastes will be disposed of in accordance with the requirements of the Waste Management Act, 1996.

6.2.13 Solar Panel Support Structure

The proposed solar panel arrays shall be fixed to a galvanised metal frame structure that shall be supported by small diameter driven steel piles in order to ensure that the panel arrays are adequately elevated above existing ground levels.

The steel support piles are driven directly into ground using a small tracked pile driver. There are no arisings or excess subsoil materials produced as part of the pile driving procedure.

All steel support frames are pre-fabricated and no cutting or welding is proposed at the location of each solar array.

6.2.14 1 no. 10 – 35 kV Transformer

The proposed development shall require the construction of 1 No. transformer enclosure.

These structures shall primarily be constructed onto a concrete base placed above existing ground levels. The concrete base shall be supported on a 0.25m deep compacted hardcore formation base that shall be constructed below existing ground levels.

In consideration to the transformer enclosure, the total volume of excavated subsoil material arising from the formation base of this structure will be approximately 32m³. It is expected that this subsoil material will be inert in nature and where required will be utilised for general landscaping works within the overall site boundary. Any excess subsoil material that cannot be utilised or reused within the site shall be disposed of at suitable licenced facility. Excavated subsoil material shall be inspected by the on-site ecological supervisor.

Any concrete or cements required for the construction of the transformer enclosure shall be brought to site by an external supplier as and when required. No mixing or production of concrete or cements shall take place on-site.

A minimum 5m buffer zone shall be delineated around the location of the transformer enclosure. This buffer zone shall be bounded by a silt fence system, if requested by the Environmental Officer, that shall remain in place until completion of these structures. A minimum 50m buffer zone from defined natural watercourses will be maintained for any concrete works.



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6.2.15 Trenching Ducting and DC Cabling Work

Ducting and cable laying and fixing associated with the proposed development shall either be undertaken via standard and typical underground trench excavation techniques.

Underground trench excavation techniques shall in general be undertaken utilising the following methodology:-

Underground:

This method of laying cables involves the excavation of a trench. Initially the trench width will be marked with line marking spray paint, for the areas where the cables are to be placed. The width of the trench will vary depending on the number of cables running in parallel, as each individual solar panel array comprises its own cable, it is anticipated that the width of the trench will range from 500mm to 1250mm.

To avoid extensive portions of ground being excavated at one time, a method of cut and cover will be used, whereby section by section of the site will be excavated; the cables are put in place; the trench backfilled, at a time.

A small excavator will be required to excavate a trench of depth 600mm. The topsoil (top 150mm) will be kept separate from other subsoil material. The excavated soil material can be temporarily placed along the side of the trench, the topsoil on one side of the trench and the other subsoil material on the other side of the trench.

Any disturbance to the soil will require adequate backfilling and grading to match the contours of the surrounding land. If necessary, the area will be reseeded or re-vegetated appropriately. Any surplus soil material will be removed to a designated storage area within the construction compound.

Care will be taken close to the various watercourses within the site. No excavated material will be placed near or within any buffer zone allocated to each watercourse or drainage channel (including dry drainage channels). This will prevent material or water runoff from entering the various watercourses or drainage channel.

A minimum 15m buffer zone from defined natural watercourses will be maintained for any trenching and cabling works.

6.2.16 Biosecurity Invasive Species Best Practice Measures

Biosecurity is the prevention of disease causing agents entering or leaving any place where they can pose a risk to farm animals, other animals, humans, or the safety and quality of a food product.

There is potential that aquatic and/ or terrestrial invasive species (e.g. Japanese knotweed or giant hogweed) or pathogens (e.g. crayfish plague) may be accidentally introduced to a location via contaminated vehicles and equipment, in particular tracked vehicles, which were previously used in locations that contained invasive species. Adapted from the Irish Water Guidance (2016), the following best practice avoidance measures will help to contain and/or prevent the introduction of invasive species on a site as follows:

- Prior to arrival on site, the contractor's vehicles and equipment will be thoroughly cleaned and then dried using high-pressure steam cleaning, with water >65 °C, in addition to the removal of all vegetative material. Items difficult to soak/spray will be wiped down with a suitable disinfectant (e.g. solution of 1% Virkon® Aquatic);



- Evidence that all machinery has been cleaned will be required to be on file for review by the statutory authorities. The level of evidence required of the Contractor will be actual registration plates of vehicles onsite and a register of when, how and where each of these were cleaned before they arrived on site;
- Visual inspections will be carried out on all machinery and equipment for evidence of attached plant or animal material, or adherent mud or debris. Any attached or adherent material will be removed before entering or leaving the site, securely stored (away from traffic) for removal to an appropriate waste storage area the end of the work day;
- No removed material or run-off will be allowed to enter a water body of any sort;
- Following cleaning, all equipment and vehicles will be visually inspected to ensure that all adherent material and debris has been removed manually;
- Each field vehicle must carry a 'disinfection box'. This will contain Virkon Aquatic or another proprietary disinfectant, a spraying mechanism, cloths or sponges, a scrubbing brush and protective gloves. Protective gloves must be worn when using any disinfectant solution;
- Records of supplies and cleaning of delivery vehicles will be kept and regularly inspected by the Environmental Officer;
- Spot checks on the adequacy of cleaning will be carried out by the Environmental Officer;
- It is recommended to apply disinfectant to the undercarriage and wheels of any vehicles used after cleaning if the vehicles have been used in streams or rivers. (This does not apply to vehicle or machinery use in wetlands or peatland areas). Disinfectants must be used strictly in accordance with the manufacturer's instructions. They must be disposed of safely and never close to open waters such as drains etc.
- For any material entering the site, the supplier must provide an assurance that it is free of invasive species;
- Ensure all site users are aware of biosecurity and treatment methodologies. This can be achieved through "toolbox talks" before works begin on the site;
- Adequate site signage, hoarding and fencing will be erected in relation to the management of non-native invasive species.

6.2.17 Landscaping Plan

The landscaping plan for the proposed development seeks to establish native trees and shrubs around the proposed development as screen planting. The proposed landscaping plan is presented in **Appendix C**. The establishment and subsequent development of these landscaping measures will partially offset the loss of wet grassland and recolonising ground under the project footprint under the project footprint. As these landscaping measures establish, they will provide suitable foraging and breeding habitat for avifauna and small mammals over the short to medium term and will represent an improved assemblage of habitat types, in terms of botanical diversity and ecosystem service.



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6.2.18 Lighting

Lighting is not required or proposed for the solar panel installation. Therefore, there is no requirement for lighting mitigation for the proposed project.

6.2.19 Decommissioning

A Decommissioning Plan (See **Appendix B**) has been prepared and submitted with the application. This has been reviewed and confirms that decommissioning will broadly mirror the short-term construction phase, with similar temporary risks of runoff or dust. These will be controlled by the same best practice measures set out in this NIS and accompanying EclA, ensuring no additional pathways or impacts to European sites or ecological receptors arise during decommissioning.

6.2.20 Other Legislation

- The works activities shall be carried out in such a manner as to prevent nuisance or pollution of any type, such as water, noise, odour, dust, visual, light, etc.
- The requirements of the Planning Acts, Public Health Acts, Fisheries Acts, Wildlife Acts, etc must be fully complied with.

6.2.21 Implementation of Mitigation Measures

The Mitigation Measures (Project Design measures, Management Plans, Environmental Emergency Procedures and Best Practice Measures) will be implemented by the Site Manager during the construction stage and will be monitored and supervised by the appointed Environmental Officer as required.

All protection measures have been designed in line with Best Practice and constitute the Best Available techniques following scientific literature and field baseline verification. As such there is a very high degree of confidence in their likely success.

Implementation of the mitigation measures will be the responsibility of AbbVie and their appointed contractors. The supervision of the works will be carried out by the Environmental Officer, ground staff and technical staff with experience in carrying out works on sensitive watercourses and will have 'stop works' authority.

6.2.22 Degree of confidence in the likely success of the mitigation measure

All protection measures have been designed in line with Best Practice and constitute the Best Available techniques following scientific literature and field baseline verification. As such there is a very high degree of confidence in their likely success.

6.2.23 How any mitigation failure will be addressed

The Mitigation measures prepared specifically for this project have been designed in line with Best Practice and constitute the Best Available techniques following scientific literature and Best Practice. The Mitigation Measures are considered to be robust and proven measures which will avoid adverse effects to European Sites.

On this basis, it can be confidently concluded that failures in the mitigation measures and their prescribed outcomes will be avoided.

Nonetheless contingency measures will be in place for unforeseen events such as oil/fuel spillages, water pollution or any inadvertent release of sediment. This will ensure any unforeseen potentially adverse effects are identified in a timely manner and appropriate remedial action taken immediately. The ground staff and



technical staff with experience in carrying out works on sensitive watercourses will have 'stop works' authority. Where required, they will temporarily stop works should mitigation measures not be complied with or following an unforeseen environmental event. Works will not be allowed to re-commence until the issue is resolved.

6.3 Residual Effects

Provided that the recommended mitigation measures set out in **Section 6.2** are implemented in full, it is not expected that significant impacts will result to the qualifying features identified for appraisal in this NIS and thus it is not expected that the proposed works will have an adverse impact on the integrity of European Sites.

The NIS has examined and analysed in the light of the best scientific knowledge with respect to Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC (000627) and Cummeen Strand SPA (004035) the potential impact sources and pathways, how these could impact on the site's conservation objectives and whether the predicated impacts would adversely affect the integrity of the said European sites. There is no other European site at risk of effects from the proposed development.

It has been objectively concluded, following an examination, analysis and evaluation of the relevant information, including the nature of the predicted impact from the proposed development, that the proposed development will not adversely affect (either directly or indirectly) the integrity of these European Sites, either alone or in combination with other plans or projects. Potential residual effects are considered to be imperceptible following the implementation of mitigation measures. There is no reasonable scientific doubt in relation to this conclusion.

7 NIS Conclusion

This Natura Impact Statement has been prepared to provide sufficient objective scientific information in support of the proposed development, in order to allow an Appropriate Assessment determination in the context of Article 6(3) of the Habitats Directive. The report has been prepared in order to evaluate the significance of potential effects on European sites from the proposed development, alone and in-combination with other developments.

The AA Screening (see **Section 5**) found that it could not be excluded, on the basis of objective scientific information that the proposed works, individually or in combination with other plans or projects, would not have a potential contributory effect on a European site without the implementation of best practice measures and standard operating procedures being implemented. Therefore, a NIS (presented in Section 6) was undertaken to ascertain whether the proposed works would have an adverse effect on the integrity of European sites within the project Zol.

Other relevant projects and plans within the project zone of influence that may give rise to in-combination effects was considered in **Section 5** and **Table 5.2**. This assessment found that the proposed development would not give rise to in-combination or cumulative effects to European Sites.

Best Practice Measures and mitigation measures for the proposed works (as outlined within **Section 6.2**) have been identified to ensure that potential pollutant sources are not released from the proposed works to the receiving environment. With the implementation of these measures there will be no risk of adverse effects on these Qualifying Features / Special Conservation Interests of European sites within this project's Zol. As the proposed works support tenuous indirect hydrological connectivity to Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC (000627) and Cummeen Strand SPA (004035) via potential overland flow to drainage channels and eventually the Willsborough stream located to the south-west of the site, best practice and mitigation measures have been devised to retain all potential aqueous emissions to the project footprint and away from the receiving environment.

There are no significant effects identified which would adversely affect the Special Conservation Interests or conservation objectives of the various SPAs under consideration with regard to the densities, range or conservation status of the waterbird species and their supporting wetland habitats.

There are no significant effects identified which would adversely affect the Qualifying Interests or conservation objectives of the various SAC's under consideration with regard to the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

The provisions of Article 6 of the 'Habitats' Directive 92/43/EC (2000) defines integrity as the 'coherence of the sites ecological structure and function, across its whole area, or the habitats, complex of habitats and/or population of species for which the site is classified'. It is clear that, given the application of prescribed protective measures for the avoidance of impacts and the implementation of the required mitigation measures, the proposed development will not give rise to adverse effects on the integrity of any of the identified European sites evaluated herein.



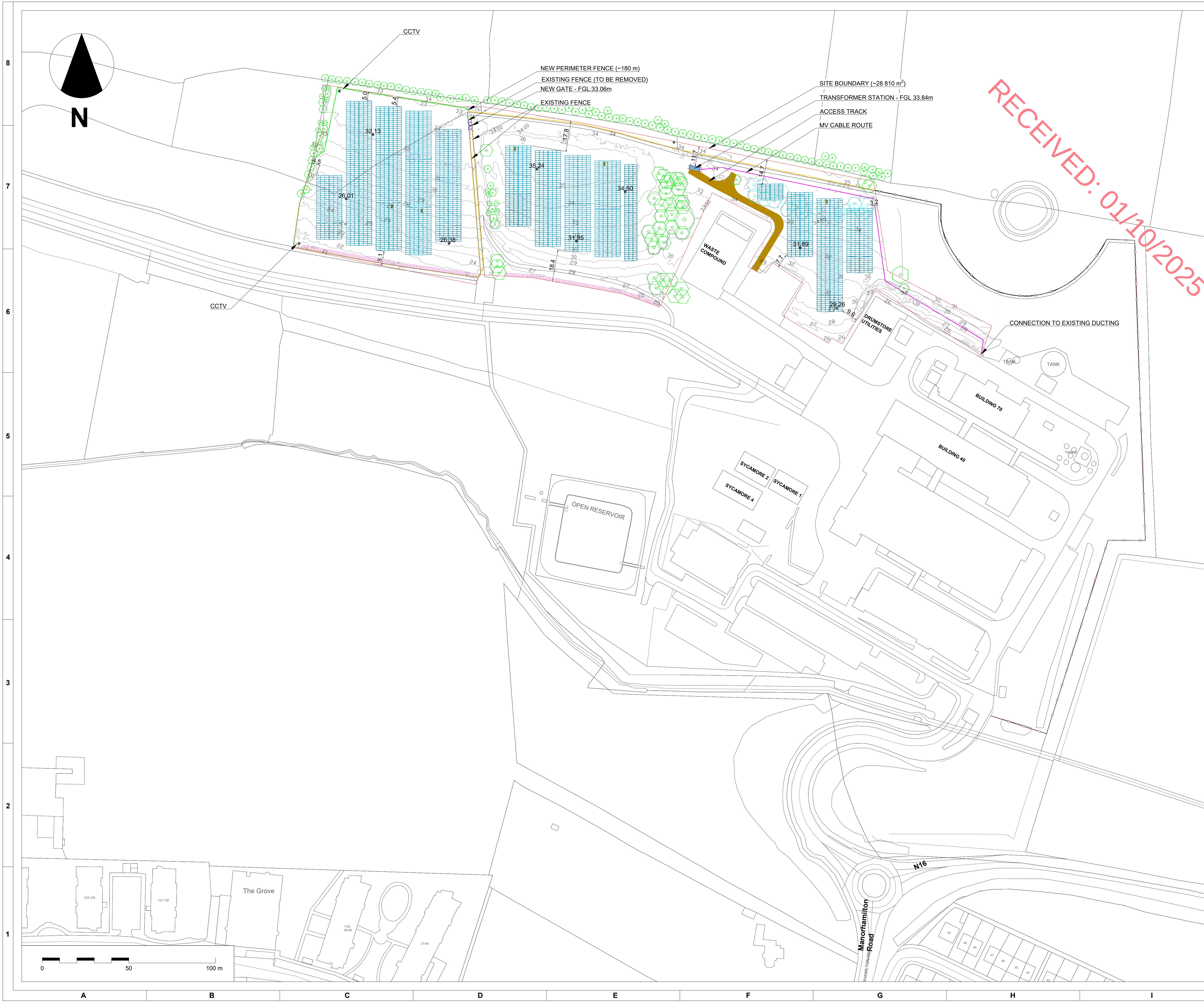
It has been concluded that the proposed works individually or in combination with other plans and projects will not adversely affect the integrity of a European site, and there is no reasonable scientific doubt in relation to this conclusion.

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APPENDIX A – PROPOSED SITE LAYOUT



DRAWING OWNER



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• Phone: +353 (0) 525 3006

• Web: www.astatine.ie

• Astatine LinkedIn

• Address: Guinness Enterprise Centre, Dublin 8, D08 TWY, Suite 303,304

CLIENT

abbvie

GENERAL NOTES

1) ALL DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO INSTALLATION.

2) ALL DIMENSIONS ARE INDICATIVE ONLY AND IN METERS UNLESS OTHERWISE SPECIFIED.

3) MALIN HEAD DATUM IS USED FOR THE HEIGHT ABOVE SEA LEVEL REFERENCES.

4) INVERTER LOCATIONS ARE INDICATIVE AND SUBJECT TO FINAL DESIGN.

LEGEND

Site boundary

Perimeter fence (~180 m)

Existing Fence (To be retained)

MV cable route

Access track

Transformer Station (14.77m2)

Solar PV Module

Gate

CCTV

Existing fence (To be removed)

Existing trees (to be retained)

Existing trees (to be removed)

1m Contour Elevation Data

Spot Heights

Proposed Hedgerows

Provisional Inverter Location

Existing Fence (Outside of Planning Boundary)

LAYOUT INFORMATION

Power Model: CIGRIW05GYP-BH

Power Panels: (50Wp)

Modules per string: 24

No. Panels: 3,640

Total DC Capacity (kWp): 2,438 kWp

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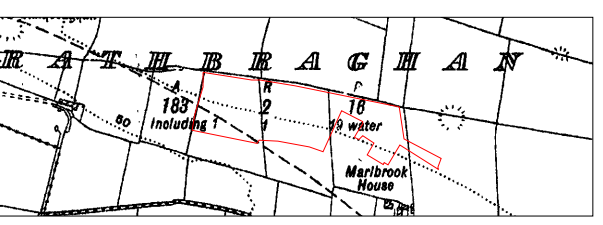
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KEY PLAN





PROJECT NAME

Abbie Manorhamilton

LOCATION

Manorhamilton Rd,
Rathfragh,
Sligo
54.28581, -8.45433

PROJECT No.

P465

SCALE

1:1000 @A1

REV No.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	APPROVED BY
P1	16/09/2025	FIRST ISSUE	FC	CC	AS

SHEET NAME

PROPOSED SITE LAYOUT

DRAW. OWNER

ASTATINE

DISCIPLINE

PLANNING

SHEET No.

01

DRAWING REF.

0465-PL-603-A01-LAY

DRAWING TYPE

☒ NOT RELEASED FOR CONSTRUCTION

☐ RELEASED FOR CONSTRUCTION

☐ AS-BUILT



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APPENDIX B – DECOMMISSIONING PLAN

RECEIVED: 01/10/2025

AbbVie Manorhamilton
Solar PV Development
Decommissioning & Site
Restoration Management Plan

September 2025



Issue Status

Revision	Description	Date	Prepared by	Reviewed by
1	Initial Document	09/09/2025	RD	SM
2	Site Description Update	23/09/2025	RD	SM
3	Updated Layout	29/09/2025	RD	SM

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4.	Decommissioning & Restoration	7

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1. Introduction

AbbVie Ireland NL B.V. ("the Applicant") have applied for planning permission for the AbbVie Manorhamilton Solar PV development. This decommissioning and restoration plan was prepared as part of this planning application. The development proposed will consist of the construction of a solar PV development with an installed capacity of up to 2.5 MWp DC (MEC=0) to provide electrical power to the existing building comprising approximately 3,840 no. photovoltaic panels on ground mounted frames within a site area of approximately 2.88 hectares and associated ancillary development including 1 no. transformer station, 5 inverters, 2 no. CCTV security cameras, enhanced security fencing (2.4 metres high), installation of underground cable to connect the transformer station and the AbbVie facility and site works required to facilitate the development including the provision of a permeable access track for vehicular access.

The solar development will have an operational lifetime of 35 years, after which it will be decommissioned within 6-8 weeks of operation cessation, with all associated lands returned to their original use.

1.1 Objectives

The objective of this Decommissioning and Site Restoration Management Plan is:

- To identify and outline the process and timeline required to decommission the Solar PV development and fully restore the site to its original use in accordance with all conditions of the Planning Permission and best industry practice at the time.
- To identify the specific environmental aspects of the decommissioning works and implement specific mitigation measures, environmental controls, and procedures to be followed for the duration of the works.

2. Site Location & Description

2.1 Site Location

The application site is located on the northern side of the applicant's landholding located in Rathbraghan, Sligo (outlined in red in Figure 1). The applicant's landholding is bordered by agricultural lands, and the south of the site is accessed from the N16 national road.



Figure 1: Location of proposed development (Source: Google Earth)

2.2 Site Description

The application site comprises a total of 2.88 hectares made up of three parcels of land separated by existing hedgerows and trees. There are no houses nearby from which the proposed development could be easily viewed.

3. Description of Development

The proposed development will involve the construction of a Solar PV Development to provide electricity to the existing AbbVie facility with an installed capacity of 2,438 kWp and a maximum export capacity (MEC) of 0 MW comprising:

- Circa 3,840 no. photovoltaic panels.
- 1 no. modular transformer station (c14.77m²).
- 5 no. inverters
- c4.5 metre wide maintenance access track constructed with 150 mm hardcore.
- Underground cable to connect the transformer station and the AbbVie facility .
- 2 no. CCTV cameras
- Enhanced security fencing including 2 no. site entrances (c2.4m high).
- New access gate (c2m high).
- All ancillary works.

It is anticipated that the overall installation and construction phase of the proposed development will be approximately 4 months.

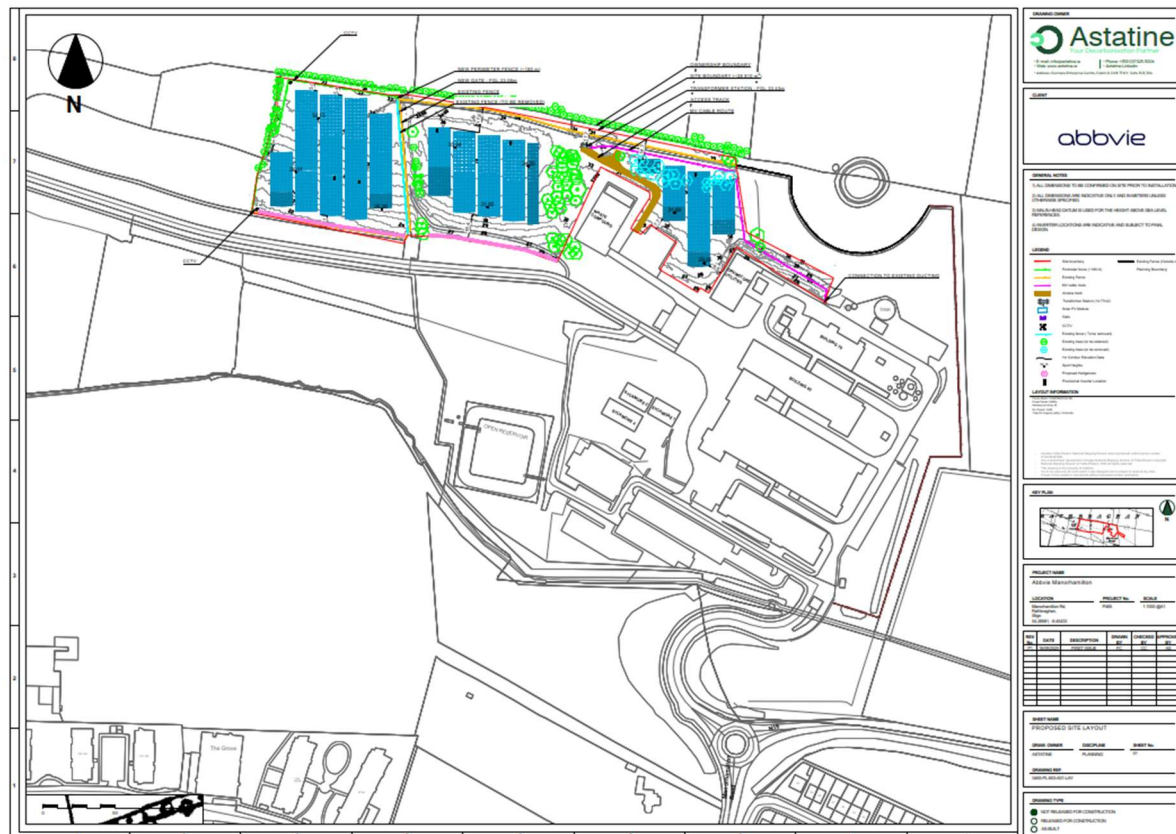


Figure 2: Indicative Proposed Development.

4. Decommissioning & Restoration

The following section outlines the infrastructure to be decommissioned, any potential environmental impacts and the options available for the materials arising. An estimated timeframe for the required work to be carried out is also presented. The solar PV plant consists of numerous recyclable materials, including glass, semiconductor material, steel, aluminium, and copper. When the solar PV plant reaches the end of its operational life, the component parts can be easily dismantled and then recycled. The Solar PV plant components will be carefully dismantled and removed from site using a minimal impact approach, with as many components as possible being recycled or disposed of safely and in accordance with any applicable legislation.

4.1 Decommissioning and Restoration Scenarios

Solar PV Plants have an expected operational life of 30-40 years starting from the first date of commercial energy production. This is based on current industry guidance. The Applicant has applied for planning permission for 35 years of operation. On expiry of this 35-year period, the Applicant may choose to pursue one of the following options:

Option 1:

The Applicant will be responsible for leading the dismantling of equipment for the purposes of end-of-life asset disposal under the supervision of an environmental consultant, followed by restoration of the existing site.

Option 2:

The Applicant may consider extending the operational lifetime of the solar PV plant if the plant experiences minimal degradation and maintains high energy output. This option would require obtaining new or extended planning approval and would be subject to the requirements of Sligo County Council at that time.

Option 3:

The Applicant may consider replacing the existing solar PV technology and repowering the site with new PV technology. In this scenario, the Applicant would submit an application to the local authority prior to the decommissioning date. This option would also be subject to the requirements of Sligo County Council at that time.

4.2 Assumptions for Decommissioning & Restoration

- It will be the responsibility of the Applicant to arrange for decommissioning of the Solar farm. During the decommissioning and restoration process, the Applicant will ensure that all activities are carried out with appropriate care and diligence to minimize or eliminate any environmental risks. To develop a comprehensive and cost-effective decommissioning plan, several assumptions have been made:
 - The decommissioning will occur at the end of the operational period, with the solar PV plant completely dismantled and the site restored to its pre-construction condition.
 - The Applicant will oversee the entire decommissioning and restoration process.
 - The Applicant will provide sufficient internal and external resources to manage and undertake all necessary activities required by the Decommissioning and Restoration Plan.
 - The decommissioning date will be known well in advance of the activation of the Decommissioning and Restoration Plan.
 - All stored fluids or solid materials, such as chemicals, greases, or oils, will either be returned to suppliers or disposed of off-site at licensed waste facilities.
 - Off-site disposal will utilize licensed removal contractors, equipment, and reception facilities where necessary.
 - A record will be maintained of all plants, equipment, materials, and fluids removed from the site.

- All contractors engaged in the Decommissioning and Restoration Plan will be fully licensed, experienced, and approved for the specific activities they undertake.
- Upon completion of the decommissioning, a report will be prepared and submitted to Sligo County Council to demonstrate that the site is suitable for future use and poses no risk to public health or the environment. The site will be deemed fully decommissioned only after the Council confirms satisfaction with the report's findings.

4.3 Decommissioning and Restoration Process Overview

The decommissioning of the solar array at the end of its operational life will be similar to the installation procedure, but in reverse. This process will be managed in accordance with relevant CDM/HSA legislation, with appropriate project management and supervision throughout.

The decommissioning process involves the following steps:

1. **Pre-Decommissioning Preparation:**

- A site office and secure compound will be established to monitor, and control phased decommissioning activities. A safe and secure area for construction vehicles and equipment can be set up in the client's yard, near the site. A designated storage and dispatch area will be created for the used solar panels and associated equipment being dismantled.
- The Safety File compiled during the construction phase will be made available to all personnel involved in decommissioning.

2. **Electrical Disconnection:**

- Decommissioning will begin with the cessation of all electrical output from the site. All circuits and equipment will be made electrically safe ("dead") before any equipment is removed.

3. **Dismantling and Removal of Equipment:**

- *Solar Panels and Racking:*
 - All solar PV modules will be unbolted from their racking, boxed, and transported to a local recycling facility.
 - The panels will be sent to a specialist recycling facility to recover materials such as glass, and ferrous and non-ferrous metals, in compliance with the Waste Electrical and Electronic Equipment Regulations 2006.
- *Electrical Cables:*
 - All connection and distribution cables will be cut at suitable points, removed, and packaged for transport.
 - Cables buried underground will be dug up, and any ducting and cables will be removed. Cables attached to racking will be removed manually and separated into their component parts for recycling.
 - Trenches will be refilled, and the land will be restored to its original condition.
- *Solar Array Structure:*
 - The solar array, including piles and racking, will be dismantled using machinery, and metal components will be placed in a recycling skip for transport to a recycling facility.
- *Electrical and Electronic Equipment:*
 - All electrical and electronic equipment, including transformers, inverter stations, and associated buildings, will be removed and recycled as necessary.
 - Any waste oil from transformers will be drained, stored in a bunded facility, and transported for recycling.
 - Depending on their condition, inverters, transformers, and ring main units will either be refurbished and reused or disassembled and recycled. They will be disconnected and transferred to a suitable vehicle for removal.
- *Concrete Plinths and Foundations:*

- The remaining concrete pad foundations or supporting blocks will be removed for recycling. The land will then be filled and re-seeded for full reinstatement.
- **Fencing and CCTV Systems:**
 - The security fence, depending on its condition, will either be recycled or reused, and any holes will be refilled.
 - The CCTV system will be disconnected and the poles will be removed, with the holes refilled and the land restored.
- **Access Track:**
 - Access tracks will be removed, and the aggregate will be transported off-site for recycling.

4. Site Restoration:

- After all equipment has been removed, the land will be restored to its original condition.
- This restoration will include replacing topsoil in areas where it was initially removed (e.g., around the transformer plinth, trenches) and replenishing any topsoil that was removed or disturbed during decommissioning. A grass seed mixture will be replanted, and the Applicant will monitor vegetation growth. Any areas showing poor growth will be re-ploughed and re-seeded as needed.

5. Preservation of Existing Drains:

- All existing drains will be maintained in their original condition throughout the solar farm's operational period. If any drains or ditches are damaged during decommissioning, they will be repaired.

4.4 Estimated Timeline

The Applicant will coordinate with Sligo County Council approximately 12 months in advance of the decommissioning process beginning and come to an agreement on the final Decommissioning & Restoration Plan. A table detailing the expected duration for the decommissioning of various plant equipment is provided below. Some overlap may occur between these activities. The anticipated overall decommissioning and restoration program is estimated to take 6-8 weeks.

Plant Equipment	Indicative Timeframe for Removal
PV Modules	2 weeks
Mounting Structures and Foundations	2 weeks
Electrical Cabling	1-2 weeks
Inverter/Transformer Stations	1-2 weeks
Site Security Equipment	1 week

A periodic monitoring programme will be undertaken after the decommissioning of the facility, to ensure that the above site restoration works discussed are successful. It is anticipated that the monitoring will be undertaken for up to two years after the decommissioning of the facility is complete. A suitable qualified environmental professional will be engaged to oversee the monitoring program and initiate any further restoration works that will be required.

4.5 Environmental Considerations

The decommissioning and restoration plan will be carried out in accordance with the environmental conditions specified in the Planning Permission. Before final decommissioning and restoration, the Applicant will consult with Sligo County Council to agree on any additional requirements.

Given the minimal infrastructure associated with the solar farm, it is unlikely that decommissioning will cause significant adverse effects. Nevertheless, decommissioning will be conducted following best

practices and applicable legislation. The Applicant aims to reuse or recycle as many components as reasonably practicable. All residual waste will be handled by a licensed contractor and transported to a licensed waste facility.

4.5.1 Ecology & Water Quality

To mitigate potential negative environmental effects from decommissioning, the following measures will be implemented:

- Use of erosion and sediment control measures.
- Maintenance of existing buffers (e.g., hedgerows, treelines, drainage ditches).
- Scheduling of decommissioning works to avoid interference with wildlife breeding and nesting periods.
- Measures to quickly establish vegetative cover on disturbed areas.

4.5.2 Noise

While significant adverse noise effects are not anticipated, there may be temporary increases in noise levels near the decommissioning activities. Overall, noise impacts will be localized and temporary.

4.5.3 Traffic

Traffic generated by the decommissioning works will be confined to the site itself and is not expected to cause local road traffic issues. Access routes used during decommissioning will be the same as those used during the construction phase.

4.5.4 Waste

All waste produced will be either reused, sent to an approved/licensed recycler, or returned to the manufacturer for appropriate recycling/disposal. Efforts will be made to maximize the reuse and recycling of development components. Residual waste will be managed by a licensed contractor and transported to a licensed waste facility. The volume of residual (non-recyclable) waste is expected to be minimal.

4.5.5 Landscape

It is anticipated that the removal of structures and compounds will not leave open excavations. Where necessary, the ground will be re-graded to its original contours using onsite materials.

4.5.6 Health and Safety

A suitably qualified contractor will be appointed by the Applicant to oversee the decommissioning and restoration works. This contractor will fulfil the roles of PSDP (Project Supervisor for Design Process) and PSCS (Project Supervisor for Construction Stage). They will receive all relevant safety documents, including the Health and Safety Plan and the Site Safety File completed by the original site contractor. The Site Safety File will be updated and maintained by the Operations and Management Contractor throughout the solar farm's operational life.

A temporary construction compound will be set up for the duration of the decommissioning and restoration works, located in the same area as the construction compound used previously. This compound will include all necessary welfare facilities for the construction crew during the works.

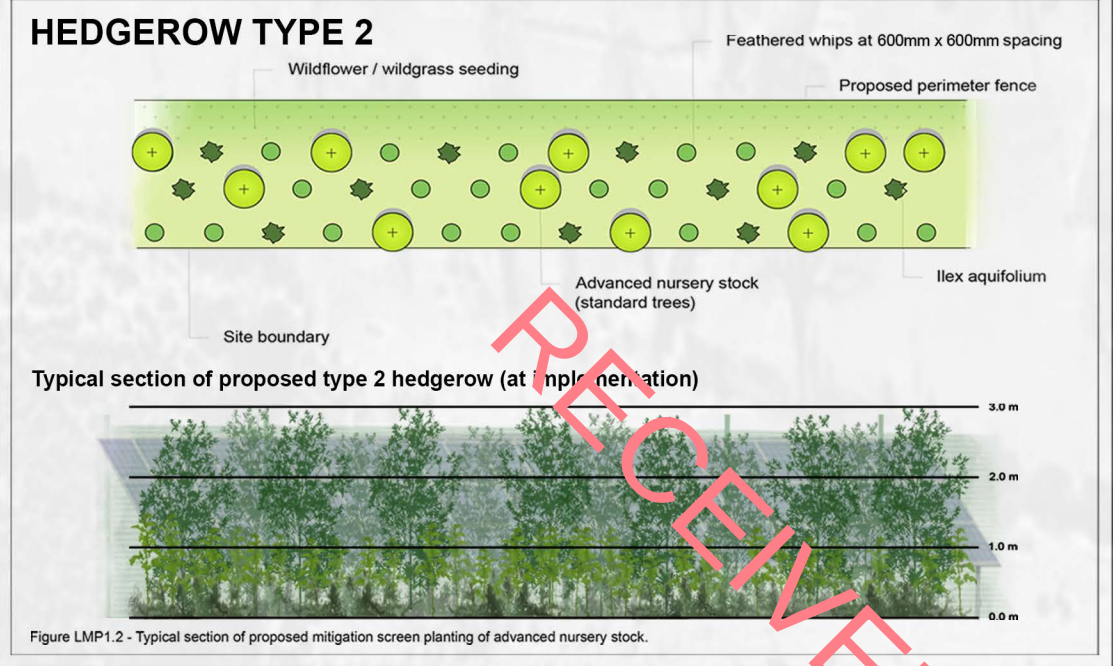


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APPENDIX C – LANDSCAPING PLAN

NATIVE HEDGEROW MIX:

%	mix	Species	Min.Height (cm)	Root Condition
45%		Primary Structure		
45		Crataegus monogyna (Hawthorn)	90-120	BR, 1+1 Transplant - seed raised /8-10cm girth trees (BR)
35%		Secondary Structure		
10		Alnus glutinosa (Alder)	90-120	BR, 1+1 Transplant - seed raised
10		Ilex aquifolium (Holly)	90-120	BR/Container 2L, leader with laterals
15		Prunus spinosa (Blackthorn)	90-120	BR, 1+1 Transplant- Seed raised
20%		Shrub species Structure		
2.5		Coryllus avellana (Hazel)	60-80	BR, 1+1 Transplant- Seed raised
2.5		Rhamnus frangula(Alder Buckthorn)	60-80	BR, 1+1 Transplant- Seed raised
2.5		Viburnum opulus (Guelder Rose)	60-80	BR, 1+1 Transplant- Seed raised
2.5		Prunus padus (Wild Cherry)	90-120	BR, BR, 1+1 Transplant- Seed raised
5		Sambucus nigra (Elder)	60-80	BR, 1+1 Transplant- Seed raised
5		Ulex europaeus (Gorse)	60-80	BR/Container 2L, leader with laterals



LEGEND:

- Proposed Hedgerow (Type 2)
- Wildflower Meadow
- Proposed fenceline
- Red line boundary

NOTES:

The primary function of the proposed mitigation planting is to reduce the visual impact of the development, whilst also staying consistent with the landscape character. However, new planting also seeks to enhance ecological corridors and reinforce characteristic landscape features that are in decline across the wider landscape.

In addition to retaining existing trees and hedgerows within and around the site, it is proposed to plant new sections of hedgerow (Hedgerow Type 2) around the perimeter fencelines and as 3-5m buffers along the internal existing hedgerows. The indicative hedgerow lengths proposed include:

New sections of hedgerow, will consist of a triple staggered row of whips and advanced nursery stock at 600mm spacing. All native species will be planted as whips, with the primary and secondary structure species to be of a minimum height of 900mm and other species of a minimum height of 600mm. Advanced nursery stock to be provided as Hawthorn (Crataegus monogyna) at 8-10cm girth bare root standard trees.

The proposed mitigation is to be planted in the first growing season prior to the commencement of development. Where not already exceeded by existing vegetation, it is intended to manage hedgerows to a height of 3-4m.

Proposed landscape figures:

- Hedgerow Type 2 - c. 195 linear meters

Any land disturbed around panels and other areas to be grazed, are to be seeded with an appropriate grassland seed mix suitable for grazing. Field margins, and those areas shown on the plan, are to be seeded with a native flower/grass seed mix, with a minimum width of 2m recommended. Field margin management techniques and wildflowers have been shown to increase biodiversity on solar farms, with numbers of pollinators clearly benefiting from these food sources and an increased presence of other animals in these margins being evident as well when compared to improved grassland margins managed more intensely.

Stock fencing will be used internally within the perimeter fencing to protect hedgerows and native flower/grass seeded areas from sheep grazing and browsing. A full management regime in accordance with best practice will be adhered to.

Species and grassland mix to be finalised in conjunction with the project ecologist, but will be a Republic of Ireland native flower/grass mix sown.

New section of hedgerow comprised of native whips and advanced nursery stock. Hedgerows managed at 3-4m



Ground Floor, Hibernia House
Cherrywood Business Park
Loughlinstown, Dublin 18
Ireland
00353 (01) 2303585
info@macroworks.ie

PROJECT:

Abbie Solar Farm,
County Sligo

CLIENT:

Gravis Planning

DRAWING:

Landscape Mitigation Plan - Sheet 1

SCALE:

1:750

DATE:

September 2025

DWN BY:

RAH

CKD BY:

RB

SHEET SIZE:

A1 (landscape)

DWG No.

LD.ABBIE-SLR 3.1