



Screening for Appropriate Assessment (AA) Report

Mill Farm Solar 110kV Substation

Document Reference: 23991-6004-B

Client: Mill Farm Solar Project Ltd.

April 2024

Contents

1.	Summary of Findings	1
1.1	Screening for Appropriate Assessment	1
2.	Introduction	2
2.1	Purpose of the Assessment	2
2.2	Context	2
2.3	Statement of Competency	2
2.4	Project Overview	3
2.4.1	Proposed 110kV Substation Compound	3
2.4.2	Overhead loop-in Grid Connection	4
2.4.3	Drainage	4
2.4.4	Construction Compound	4
2.5	Legislative Context	5
2.6	Stages of Appropriate Assessment	5
3.	Methodology	5
3.1	Appropriate Assessment Guidance	5
3.2	Desktop Study	6
3.2.1	Data Requests and Database Searches	6
3.3	Field Surveys	6
3.3.1	Habitats and Flora	7
3.3.2	Non-native/Invasive Species	7
3.3.3	Otter	7
3.4	Screening for Appropriate Assessment	7
4.	Screening for Appropriate Assessment	7
4.1	Management of Natura 2000 Sites	8
4.2	Description of Project	8
4.2.1	Site Location and Context	8
4.2.2	Purpose of the Project	10
4.2.3	Brief Project Description	10
4.2.4	Description of Existing Site	10
4.2.4.1	General Site Description	10
4.2.4.2	Hydrology and Hydrogeology	11
4.2.4.3	Habitats and Flora	12
4.2.4.4	Invasive Species	15
4.2.4.5	Otter	16
4.3	Characteristics of the Project	16
4.4	Identification of Other Projects or Plans or Activities	25
4.4.1	Plans	25
4.4.2	Permitted and Proposed Developments in the Locality	25
4.4.3	EPA Licenced/Registered Facilities	26
4.4.4	Existing Land-use and On-going Activities	26
4.5	Identification of Natura 2000 Sites	27
4.5.1	Zone of Influence	27
4.5.2	Identification of Natura 2000 Sites within the potential ZOI	27
4.5.3	Characteristics of Natura 2000 Sites	29
4.5.4	Conservation Objectives	30
4.6	Identification of Potential Impacts	31
4.7	Assessment of Significance of Potential Impacts	33
4.7.1	Natura 2000 sites outside the likely Zone of Influence	33
4.7.2	Natura 2000 sites within the likely Zone of Influence	33
4.7.3	Water Quality	34
4.7.4	Habitat Loss and Alteration	35
4.7.4.1	Dundalk Bay SAC and Dundalk Bay SPA	35
4.7.4.2	River Boyne and River Blackwater SAC	35
4.7.5	Disturbance and/or Displacement of Species	36

4.7.5.1	River Boyne and River Blackwater SAC	36
4.7.5.2	Dundalk Bay SAC and SPA	37
4.7.6	Habitat or Species Fragmentation	38
4.7.7	In-combination Effects	38
4.8	Conclusion of Screening Stage	38
5.	References	40

Tables

Table 4-1: Desktop records of non-native/invasive species of flora within hectad N88.....	16
Table 4-2: Characteristics of the proposed development	17
Table 4-3: List of granted and/or on-going planning applications within the vicinity of townland of Ricetown within the last 5 years.	25
Table 4-4: Natura 2000 Sites within the potential ZOI.....	27
Table 4-5: Qualifying features of conservation interest of Natura 2000 sites within the potential ZOI	29
Table 4-6: Description of elements of the project likely to give rise to potential ecological impacts	31
Table 4-7: Direct, indirect or secondary ecological impacts of the construction and operational phases (either alone or in combination with other plans or projects) which have the potential for having significant effects....	32
Table 4-8: Natura 2000 Sites excluded from further consideration.	33
Table 4-9: Natura 2000 sites included for further evaluation	33

Figures

Figure 4-1: Aerial view of the proposed development site outlined in red shown with the permitted solar farm (outlined in blue).	9
Figure 4-2: Watercourses within the vicinity of the proposed development site (Adapted from EPA map viewer)	12
Figure 4-3: Habitat map of the proposed development site and study area	13
Figure 4-4: Proposed Site Layout	24
Figure 4-5: Natura 2000 sites within the ZOI of the proposed development site	28

Plates

Plate 4-1: View of the small woodland near the proposed development site (left) and a view of the undulating landscape of the adjoining hinterland (right), both as seen from the proposed development site.	8
Plate 4-2: View of the site.....	11
Plate 4-3: Arable Crops (BC1) habitat (left). Common poppy was abundant throughout the site (right).	13
Plate 4-4: Depositing/lowland River (FW2) and access road watercourse crossing to the site	15

Appendices

Appendix 1 – Stages of Appropriate Assessment

Appendix 2 – Site Synopses

Project No.	Doc. No.	Rev.	Date	Prepared By	Checked By	Approved By	Status
23991	6004	A	February 2024	OV/RP	AR	OH	Issue
23991	6004	B	April 2024	RP	OH	OH	Updated Issue

MWP, Engineering and Environmental Consultants
Address: Park House, Bessboro Road, Blackrock, Cork, T12 X251
www.mwp.ie



1. Summary of Findings

1.1 Screening for Appropriate Assessment

Project Title	Screening for Appropriate Assessment for the Application for a 110kV Substation at Ricetown, Co. Meath
Project Proponent	Mill Farm Solar Project Ltd.
Project Location	Ricetown, Co. Meath
Screening for Appropriate Assessment	The Screening for Appropriate Assessment report is undertaken to determine the potential for likely significant effects of the proposed project, individually, or in combination with other plans or projects, on Natura 2000 sites, in view of the conservation objectives of the Natura 2000 sites.
Conclusion	<p>It cannot be objectively concluded, at this stage, that significant adverse impacts to the following designated Natura 2000 site, will not occur:</p> <ul style="list-style-type: none">• River Boyne and River Blackwater SAC (Site code: 002299)• Dundalk Bay SAC (Site code: 000455)• Dundalk Bay SPA (Site code: 004232) <p>Therefore, it is necessary to proceed to Appropriate Assessment and as such a Natura Impact Statement (NIS) must be prepared for the proposed development.</p>

2. Introduction

2.1 Purpose of the Assessment

Mill Farm Solar Project Ltd. (the “applicant”) is applying to An Bord Pleanála (ABP) for planning permission for the development of 1 No. 110kV onsite Eirgrid substation with associated electrical plant, 2 No. Over Head Line (OHL) End Mast structures, electrical equipment, security palisade fencing, an IPP building and a transformer (the “proposed development”), associated with an approved Solar PV Development (the “permitted development”) at Ricetown Co. Meath (the “proposed development site”).

MWP have been engaged by the applicant to prepare this screening for Appropriate Assessment (AA) report in order to determine whether the proposed development is likely to have a significant effect on any Natura 2000 Site (i.e. European Sites), in view of the sites’ conservation objectives. This report has been undertaken by a staff ecologist from MWP. This document will be submitted as part of the planning application.

2.2 Context

The adjacent Solar PV development was approved by Meath County Council (MCC) under reference number 22/1044 on 14th February 2023. The approved development consists of:

‘Permission for a period of 10 years to construct and complete a Solar PV development with a total site area of circa 97.05 hectares, to include solar panels mounted on steel support structures, associated cabling and ducting, 12 No. Transformers, 1 No. Storage Container, maintenance tracks, perimeter fencing and gates, 61 No. CCTV, 4 No. Weather Stations, 3 No. Bunds associated landscaping and ancillary works, with an operational life of 40 years.’

The Solar Development will have the energy capacity to power approximately 20,000 homes. The proposed 110kV substation, which is the subject of this report, will be connected to the National Grid by looping into 110kV overhead powerlines above the site.

In support of the planning application for the permitted development the following environmental assessments were undertaken by Neo Environmental Ltd. (Neo) were considered for this assessment:

1. Natura Impact Statement (NIS)
2. Ecological Impact Assessment (EclA)
3. Flood Risk and Drainage Impact Assessment
4. Construction Traffic Management Plan (CTMP)
5. Noise Impact Assessment
6. Outline Construction Environmental Management Plan (OCEMP)

2.3 Statement of Competency

This screening for Appropriate Assessment Report has been prepared by Orla van der Noll (MSc, BSc) Ecologist and Roman Puotkalis (MSc, BSc, MIEMA) Environmental Consultant at MWP.

Orla has been working in the ecology sector since March 2021 where she has completed numerous ecological reports for a range of projects across Ireland. In 2020 Orla qualified with a first-class honours Master’s degree in Marine Biology from Bangor University, Wales, and a Bachelors (hons) degree in Ecology and Environmental

Biology from University College Cork in 2018. Orla is registered with the Chartered Institute of Ecology and Environmental Management (CIEEM) as a Qualifying member.

Roman (BSc, MSc, MIEMA) has been working in the environmental sector since 2019. He has completed numerous environmental and ecological reports for a range of projects across Ireland including AA Screening Reports, Natura Impact Statements, Construction Environmental Management Plans and environmental compliance monitoring and reporting.

2.4 Project Overview

The proposed development site comprises agricultural land on a site of approximately 3.6 Ha within the townland of Ricetown approximately 12 km north of Navan, Co. Meath.

It is proposed to construct a 110kV loop-in substation and associated works in the townland of Ricetown, County Meath to connect the permitted Mill Farm Solar Project to the National Grid. The proposed site layout drawing (**Figure 4-5**) shows substation infrastructure, internal access tracks and overhead grid connection.

The proposed development will comprise:

- A 110 kilovolt (kV) Air Insulated Switchgear (AIS) loop-in substation with associated compound, including control and operational buildings, electrical plant, equipment, cabling, lighting, CCTV, lightning masts, drainage infrastructure, security palisade fencing, and all associated and ancillary works necessary to facilitate the development.
- Erection of 2 no. overhead line end masts (c. 20m high) and 2 no. lattice gantries (c. 16m high) and associated overhead cabling to enable a loop-in/loop-out grid connection to National grid via the existing the Meath Hill-Gorman 110kV overhead powerlines located above the site.

The works will include site drainage and permanent signage associated with the new construction. The road layout for the proposed project makes use of the existing onsite access road and tracks, associated with the adjacent permitted solar farm development, where possible. The proposed development is compatible and does not in any way impede or alter the permitted Mill Farm Solar Farm.

There will be a requirement to excavate approximately 7,000m³ of clean, natural topsoil and subsoil. This material will be reused, where feasible, to create berms and used for landscaping on the adjacent permitted solar farm site. Excess clean soil material will be deposited permanently in 2 No. soil deposition areas (1,600m²) located adjacent to the western boundary of the site.

Where surplus material is to be reused on the adjacent permitted solar farm site as a by-product (not as a waste), this will be done in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) (as amended) and having regard for the Circular Economy and Miscellaneous Provisions Act 2022 and any such legislative requirements that may be required later.

2.4.1 Proposed 110kV Substation Compound

The overall substation compound will have an area of c.11,572m² divided into two adjoining sections: an EirGrid section (c. 9,262m² in area) and an IPP (Independent Power Producer) section (c.2,310 m² in area), each of which are enclosed within a 2.6m high palisade fence. An additional outer concrete post and rail fence (1.4m in height) will be installed around the perimeter of the EirGrid compound.

Each section will contain a control building and an outdoor electrical yard including electrical equipment such as electrical pylons, over and underground ducting & cables, busbars, disconnects, breakers, sealing ends, lightning

and lighting masts. The IPP section will also contain 1 No. bundled transformer with a back up emergency diesel generator and associated diesel storage tank also located within the bund. Both buildings will be a block built single story building approximately 6.5m in height, with pitched roof and an external blockwork and plastered finish.

The overall substation compound will consist of a 50mm compound stone finish. The max height of the substation is 8.55m. 10 No. Lightning masts of 18m high will be erected within the compound.

2.4.2 Overhead loop-in Grid Connection

The electrical connection required from the proposed substation development will be facilitated by Overhead 110kV Loop-in Interface Masts. The erection of 2 No. Over Head Line (OHL) End Mast structures (c. 20m high) are required under the existing Meath Hill-Gorman 110kV OHL. There is also a requirement for the installation of 2 No. lattice gantries (c. 16m high).

The existing OHL will be terminated and 2 new towers will be erected to create 2 new OHL circuits. The new interface mast structure locations are to be selected based on ground surveys, ground profiles, allowable angles and ruling span checks. A foundation is excavated for each tower location and the placement of excavation material is temporarily stored in designated deposition areas. Any excess excavation material will be utilised as berms, deposited at the permanent deposition area and for landscaping purposes on the adjacent permitted solar farm. Reinforcing bars are placed into each excavation and the body of each tower assembled adjacent to the excavation. Concrete is poured directly into each excavation and allowed to cure until a preformed metal panel is set in place. The foundations are then backfilled individually. At this stage, the existing OHL is de-energized and construction of the 2 towers take place. An earth mat is laid and is a requirement for the electrical connection of the tower. A hardstand area is made available for the use of a crane to guide and position each section of the towers together. Once all sections of the towers are bolted securely the conductor can be centred and installed. All other associated equipment such as down dropper conductors and shackles are positioned before the electrical circuit can be tested in both directions to confirm OHL is re-energised.

2.4.3 Drainage

Foul sewage from the temporary facilities will be routed to covered precast concrete watertight 5m³ tanks designed for receiving and storing sewage with no outlet. The tanks will be sized to suit the expected use and will be installed in a location remote from water courses. Contents and residues will be regularly emptied by a competent operator for safe disposal to an approved treatment works.

Surface water runoff from the roofs of the substation buildings, and hard-surfaced areas within the electrical yard, including areas where a risk of a contaminant leak or spill may be present (such as the transformer bund), will be collected in a series of filter drains, roof guttering and downpipes and routed to an underground gravity drainage network. All runoff collected in the stormwater sewer network will pass through an oil/petrol Interceptor prior to discharging to an attenuation unit on the north-eastern side of the compound. The attenuation unit will provide attenuation of the increased volumes of surface water runoff generated from the hard surfaces of the development when compared to the current greenfield condition. The attenuated surface water runoff is then proposed to overflow at a controlled rate equal to the greenfield runoff rate to an existing vegetated land drain on the southern side of the compound.

2.4.4 Construction Compound

A suitably surfaced contractor's temporary construction compound and laydown area will be provided for the duration of the site works on the permitted adjacent Solar Farm. The construction compound will consist of temporary site offices, equipment storage and construction staff welfare facilities, as well as car parking areas for staff and visitors. A potable water supply will be provided by a water tanker.

2.5 Legislative Context

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats of wild fauna and flora by the designation of Special Areas of Conservation (SACs) and the Birds Directive (79/409/EEC) seeks to protect birds of special importance by the designation of Special Protection Areas (SPAs). It is the responsibility of each member state to designate SPAs and SACs, both of which form part of Natura 2000, a network of protected sites throughout the European Community. The Habitats Directive has been transposed into Irish law and the relevant Regulations are the European Communities (Birds and Natural Habitats) Regulations 2011. The requirement for Appropriate Assessment of the implications of plans and projects on the Natura 2000 network of sites comes from the Habitats Directive (Article 6(3)).

Under the European Communities (Birds and Natural Habitats) Regulations 2011, the Competent Authority is required to carry out a screening for Appropriate Assessment of a proposed development prior to issuing consent to assess, in view of best scientific knowledge and the sites conservation objectives, if that project or plan, individually or in combination with other plans or projects, is likely to have a significant effect on a Natura 2000 site. The screening for Appropriate Assessment will determine whether an Appropriate Assessment of the proposed development is required.

If it cannot be excluded, on the basis of the above objective information, that the proposed development will have a significant effect on a Natura 2000 site, then Appropriate Assessment of the proposed development is required and in this case a Natura Impact Statement (NIS) must be prepared.

The information presented in this screening for Appropriate Assessment report will be used by the Competent Authority, in this case ABP, to assist them in undertaking their own screening for Appropriate Assessment of the proposal.

2.6 Stages of Appropriate Assessment

The Appropriate Assessment process is a four-stage process with issues and tests at each stage. The purpose of the screening assessment is to record in a transparent and reasoned manner the likely effects on Natura 2000 sites of a proposed development. 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 stages are set out in **Appendix 1**. This proposal has proceeded as far as **Stage 2 – Natura Impact Statement**.

3. Methodology

3.1 Appropriate Assessment Guidance

This screening for Appropriate Assessment report has been undertaken in accordance with the European Commission Methodological Guidance on the provision of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2001), the European Commission Guidance ‘*Managing Natura 2000 Sites*’ (EC, 2018), and ‘*Appropriate Assessment of Plans & Projects - Guidance for Planning Authorities*’ prepared by the NPWS (DoEHLG, 2010).

3.2 Desktop Study

In order to complete the screening for Appropriate Assessment report certain information on the existing environment is required. A desk study was carried out to collate available information on the proposed development site's natural environment. This comprised a review of the following publications, data and datasets:

- Ordnance Survey Ireland (OSI) Aerial photography and 1:50000 mapping
- National Parks and Wildlife Service (NPWS) on-line datasets and literature
- National Biodiversity Data Centre (NBDC) (on-line mapping)
- BirdWatch Ireland on-line resources
- Teagasc soil area maps (NBDC website)
- Geological Survey Ireland (GSI) area maps
- Environmental Protection Agency (EPA) water quality data and on-line mapping
- Eastern River Basin District (ERBD) datasets (Water Framework Directive)
- Review of requested records from NPWS Rare and Protected Species database
- Meath County Development Plan 2021 - 2027¹
- Other information sources and reports footnoted in the course of the report.
- NIS prepared as part of the planning application for the adjacent permitted solar farm.

3.2.1 Data Requests and Database Searches

The proposed development area lies within the Ordnance Survey Ireland (OSI) National Grid hectad N88. Concise and site-specific information on species records available in this hectad was retrieved from the National Biodiversity Data Centre (NBDC) online database and reviewed.

On the 6th of October 2023, a request was made to NPWS for Sensitive Data Access for hectad N88. Data for species records within the hectad was received from the NPWS on the 11th October 2023 and was used to help inform the impact assessment in relation to the proposal.

Information received via the NPWS and the NBDC in response to the data requests and database searches was used to help inform the baseline surveys and impact assessment in relation to the proposal.

3.3 Field Surveys

The desk top study was supplemented by multi-disciplinary ecological walkover survey of the study area. The ecological field survey was undertaken at the proposed development site on the 20th September 2023 by MWP ecologists to establish the site's ecological features and resources, particularly any rare/protected species and habitats occurring within the study area. The survey was carried out to assess the habitat of the study area and identify any ecological features and resources that may potentially be impacted by the proposed development. The study area included all habitats within the site boundary (see **Figure 4-1** below).

Summaries of the field survey methodologies employed are provided in the following sub-sections.

¹ <https://www.meath.ie/council/council-services/planning-and-building/development-plans/meath-county-development-plan> Accessed: 5th October 2023

3.3.1 Habitats and Flora

Baseline habitat and flora surveys were carried out as part of the MWP multi-disciplinary ecological walkover surveys (20th September 2023) and were undertaken within the optimum flora survey period. The habitat surveys had regard to 'Best Practice Guidance for Habitat Survey and Mapping' (Smith *et al.*, 2011) and 'A Guide to Habitats in Ireland' (Fossitt, J. A., 2000). Habitats within the study area were categorised to Level 3 according to Fossitt (2000).

Habitats occurring were assessed for their potential suitability for faunal species such as otter.

3.3.2 Non-native/Invasive Species

The presence of Invasive Alien Plant species (IAPS) including species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended) was determined within the study area during the initial multi-disciplinary ecological walkover surveys undertaken by MWP.

3.3.3 Otter

Walkover surveys for mammals including otter were undertaken by MWP within the study area on the 20th September 2023. With regard to otter, the survey had a particular focus on any watercourses occurring within or next to the study area, as outlined in 'Monitoring the Otter *Lutra lutra*' (Chanin, 2003).

3.4 Screening for Appropriate Assessment

As set out in the NPWS guidance, the task of establishing whether a plan or project is likely to have an effect on a Natura 2000 site(s) is based on a preliminary impact assessment using available information and data, including that outlined above, and other available environmental information, supplemented as necessary by local site information and ecological surveys. This is followed by a determination of whether there is a risk that the effects identified could be significant. The precautionary principal approach is required.

Once the potential impacts that may arise from the proposal are identified the significance of these is assessed through the use of the following key indicators:

- Water quality
- Habitat loss and alteration
- Disturbance and/or displacement of species
- Habitat or species fragmentation

4. Screening for Appropriate Assessment

The purpose of the screening assessment is to record in a transparent and reasoned manner the likely effects, on relevant Natura 2000 Sites, of the project, and whether these likely effects are significant.

Screening for Appropriate Assessment (Stage 1) determines the need for a full Appropriate Assessment (Stage 2) and consists of a number of steps, each of which is addressed in the following sections of this report:

- 4.1 Establish whether the project is necessary for the management of a Natura 2000 site
- 4.2 Description of the project (110 kV Substation, Ricetown, Co. Meath)
- 4.3 Identification of other plans, projects and activities with which the proposed development could interact to create in-combination effects
- 4.4 Identification of Natura 2000 sites potentially affected

- 4.5 Identification and description of potential individual and cumulative impacts (in-combination effects) of the project
- 4.6 Assessment of the significance of the impacts on Natura 2000 sites
- 4.7 Conclusion of screening stage

4.1 Management of Natura 2000 Sites

The proposal is not connected with or necessary to the conservation management of a Natura 2000 Site.

4.2 Description of Project

4.2.1 Site Location and Context

The proposed C. 3.6 ha development site is situated in a rural area approximately 12 km north of Navan, Co. Meath within the townland of Ricetown. The proposed development site is agricultural land utilised to grow crops. The site is elevated and the adjoining hinterland is gently undulating farmland (see **Plate 4-1**, below) with a few one-off dwellings nearby. There is a small section of woodland a few metres from the proposed development site to the southwest partially within the redline boundary (see **Plate 4-1**, below). There is a drainage ditch running along the southwest and southeast boundary of the agricultural field the proposed development site is located within. This drainage ditch may convey surface water towards the Killary Stream. A farmyard with cowsheds sits within 50m north of the proposed development site, and a decommissioned sand and gravel extraction pit exists approximately 650m northeast of the proposed development site.

The proposed substation development is located adjacent to the permitted Mill Farm Solar Project site. The neighbouring townlands include Stokesquarter, Painestown, Killary, Ricetown and the nearest small villages are Lobinstown (2km north-east) and Castletown K.P. (2.6km southwest), Co. Meath (see **Figure 4-1**, below). The nearest large towns are Navan (12 km south), Ardee in Co. Louth (12km north-east), Kells (14.5km southwest) and Drogheda (22.5km south-east).



Plate 4-1: View of the small woodland near the proposed development site (left) and a view of the undulating landscape of the adjoining hinterland (right), both as seen from the proposed development site.

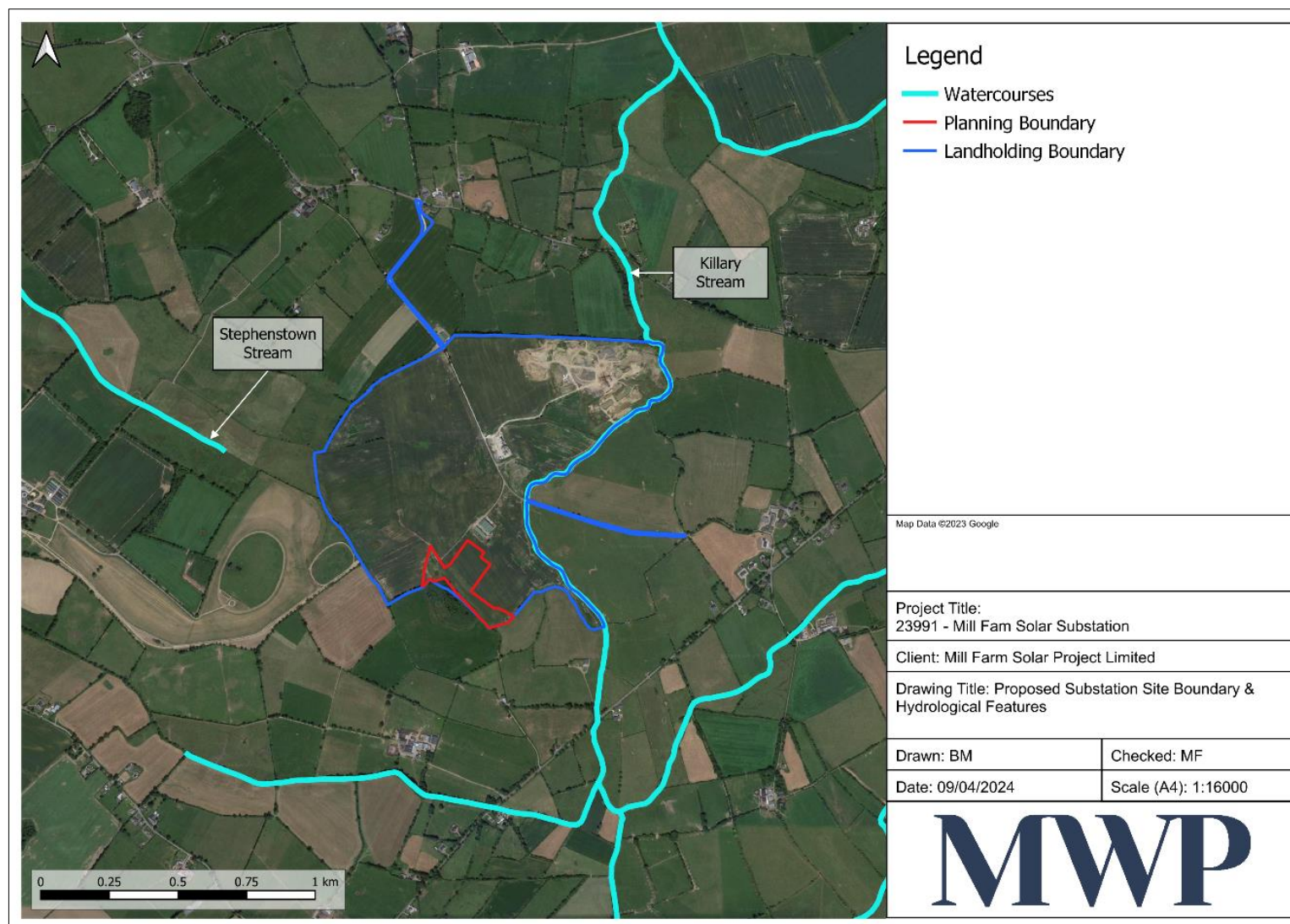


Figure 4-1: Aerial view of the proposed development site outlined in red shown with the permitted solar farm (outlined in blue).

4.2.2 Purpose of the Project

The purpose of the proposed project is to develop a 110kV substation with associated electrical plant, electrical equipment, security palisade fencing, an IPP building and a transformer to serve the permitted solar farm development.

4.2.3 Brief Project Description

The proposed development will comprise:

- A 110 kV AIS loop-in substation with associated compound, including control and operational buildings, electrical plant, equipment, cabling, lighting, CCTV, lightening masts, drainage infrastructure, security palisade fencing, and all associated and ancillary works necessary to facilitate the development.
- Erection of 2 no. overhead line end masts (c. 20m high) and 2 no. lattice gantries (c. 16m high) and associated overhead cabling to enable a loop-in/loop-out grid connection to National grid via the existing the Meath Hill-Gorman 110kV overhead powerlines located above the site.

The works will include site drainage and permanent signage associated with the new construction. The road layout for the proposed project makes use of the existing onsite access road and tracks, associated with the adjacent permitted solar farm development, where possible. The proposed development is compatible and does not in any way impede or alter the permitted Mill Farm Solar Farm.

There will be a requirement to excavate approximately 7,000m³ of clean, natural topsoil and subsoil.. This material will be reused, where feasible, to create berms and used for landscaping on the adjacent permitted solar farm site. Excess clean soil material will be deposited permanently in 2 No. soil deposition areas (1,600m²) located adjacent to the western boundary of the site.

Where surplus material is to be reused on the adjacent permitted solar farm site as a by-product (not as a waste), this will be done in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) (as amended) and having regard for the Circular Economy and Miscellaneous Provisions Act 2022 and any such legislative requirements that may be required later.

4.2.4 Description of Existing Site

4.2.4.1 General Site Description

The proposed development site is located within the Electoral Divisions (ED) of '006 Killary'. CSO data indicates that in 2016, '006 Killary' had a total population of 1,248² residents.

The CORINE (2018) landcover data series (available on EPA's interactive map viewer) indicates that landcover at the proposed development site is classified as 'Agricultural Areas, Arable Land, and Non-irrigated arable land' (Code: 211).

² <https://visual.cso.ie/?body=entity/ima/cop/2016&boundary=C03786V04535&guid=2AE19629183F13A3E055000000000001>



Plate 4-2: View of the site

According to the Geological Survey Ireland (GSI) online map viewer, the proposed development site is underlain predominantly by calcareous red-mica greywacke of the Clontail Formation.

Soils at the proposed development site are categorised predominantly as 'Fine loamy drift with limestones'. Subsoils at the proposed development site are classified as 'Limestone sands and gravels (Carboniferous)'.

The underlying GSI bedrock aquifer at most part of the site is categorized as 'Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones'.

The groundwater vulnerability of the aquifer is recorded as 'High Vulnerability'. The GSI define groundwater vulnerability as "a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities".

The proposed development site is not located within a Special Area of Conservation (SAC) or Special Protection Area (SPA) collectively known as Natura 2000 sites. SPAs and SACs occurring within 15 km of the proposed or that are considered to have a connection to the proposed development site are identified in **Section 4.4** below.

4.2.4.2 Hydrology and Hydrogeology

The site lies within the Dee_SC_030 Water Framework Directive (WFD) Sub-Catchment (ID: 06_4) which is within the Newry, Fane, Glyde and Dee WFD Catchment (ID: 06). The EPA records the presence of three River Waterbodies near the proposed development site; 'Killary_Water_20' (European Code: IE_NB_06K010500), 'Killary_Water_10' (European Code: IE_NB_06K010100), and 'DEE_040' (European Code: IE_NB_06D010360) approximately 190m east, 680m south, and 840m northwest of the proposed site respectively (see **Figure 4-2**, below).

The River Waterbody WFD status of Killary_Water_020 for the 2016-2021 period was classified as 'Moderate' and it's WFD Risk status is categorised as 'At risk'. The River Waterbody WFD status of Killary_Water_010 for the 2016-2021 period was classified as 'Poor' and it's WFD Risk status is categorised as 'At risk'. The River Waterbody WFD status of DEE_040 for the 2016-2021 period was classified as 'Good' and it's WFD Risk status is categorised as 'Not at risk'. The WFD River Waterbodies Risk Status represents the risk for each waterbody of failing to meet their Water Framework Directive (WFD) objectives by 2027.

All data relating to water features was obtained from the Environmental Protection Agency (EPA) interactive map viewer.

The nearest EPA river water quality monitoring stations to the proposed development site are the 'Killary Br Upper' and 'Killary Br Lower', both located along the Killary (Water) (segment code: 06_1603). The most recent

(2020) evaluation for each station indicates that the watercourse is considered to have biological water quality value, or Q value, of 'Moderate status', indicating that the river condition is unsatisfactory, and slightly polluted. This evaluation is based on the composition and abundance of the invertebrate community in the stream at this location.

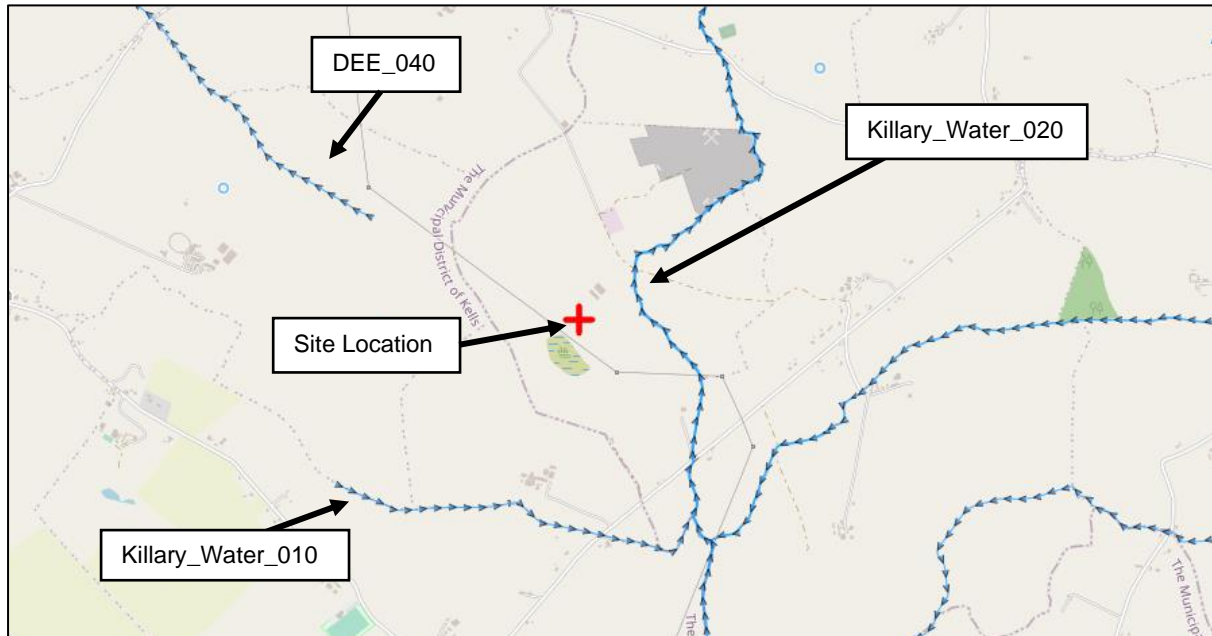


Figure 4-2: Watercourses within the vicinity of the proposed development site (Adapted from EPA map viewer)

4.2.4.3 Habitats and Flora

The majority of the footprint of the proposed development site is **Arable crops (BC1)**. A **Drainage Ditch (FW4)** and **Wet Willow-Alder-Ash Woodland (WN6)** are partially located within the proposed development site on the southwest, **Hedgerow (WL1)** borders the south of the proposed development, and **Arable crops (BC1)** border the rest of the site boundary. **Buildings and Artificial Surfaces (BL3)**, in the form of farm shed buildings, are found within 50m to the northeast of the site boundary. **Watercourse (FW2)** habitat in the form of the Killary Water occurs to the east (see **Figure 4-3** below).



Plate 4-3: Arable Crops (BC1) habitat (left). Common poppy was abundant throughout the site (right).

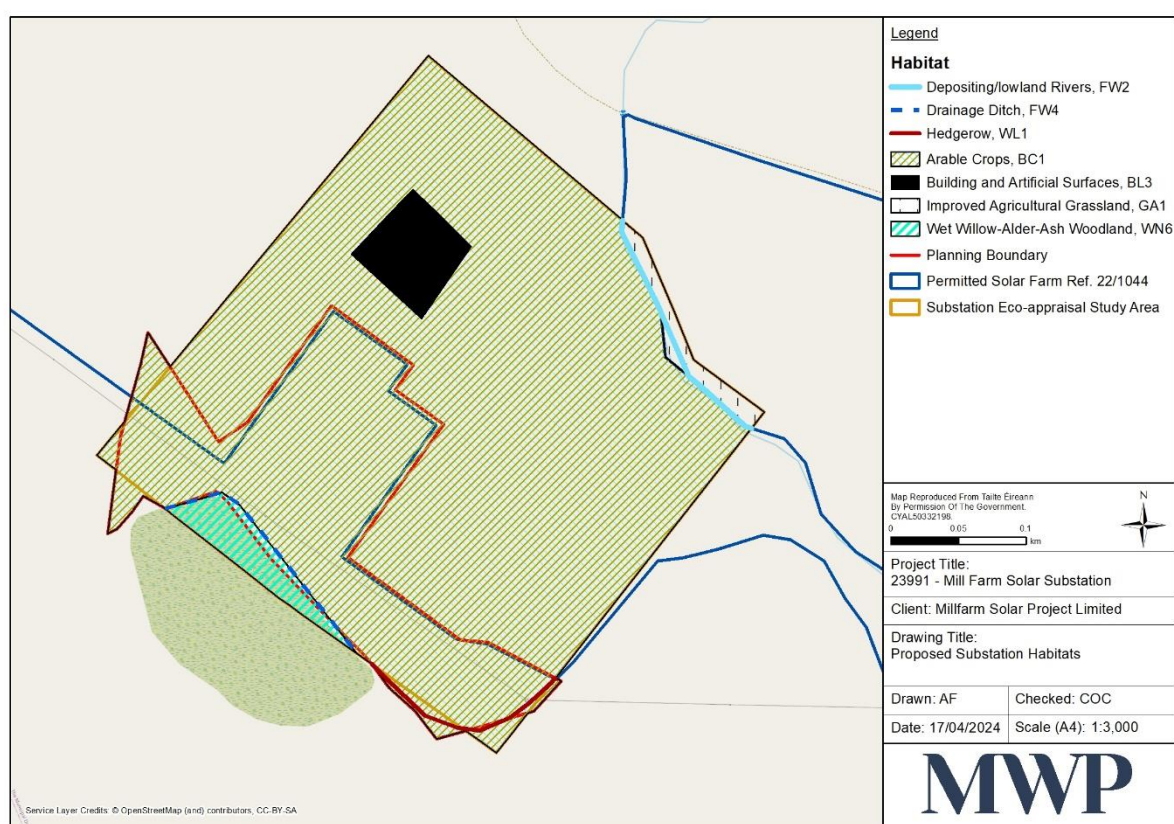


Figure 4-3: Habitat map of the proposed development site and study area

4.2.4.3.1 Arable crops (BC1)

Arable crops (BC1) covers the majority of the footprint of the proposed development site. This habitat is cultivated and managed for the production of arable crops. This land was used to produce cereal crops. This habitat is considered to be of low ecological value. Common poppy (*Papaver rhoeas*), a typical flora species found within the habitat, was abundantly present on site. Horsetail (*Equisetum* spp.) was also present in this habitat indicating the potential presence of **Wet grassland (GS4)** habitat if the land was not utilised for agriculture.

4.2.4.3.2 Drainage Ditches (FW4)

A drainage ditch was recorded within the southwest and southeast of the proposed development site. This drainage ditch may convey surface water towards the Killary Stream. This category includes artificially constructed

linear water bodies or wet channels, and some sections of natural watercourses that have been excavated or modified to enhance drainage and control the flow of water. Drainage ditches should either contain water (flowing or stagnant) or be wet enough to support wetland vegetation. Dry ditches that lack wetland plants are not included. Water levels typically undergo seasonal fluctuations. The drainage ditch within the study area was approx. 1.5m to 2m in width, and approx. 1m to 2m deep. Plant life found in the ditch included wetland species such as Horsetails (*Equisetum* spp.), and yellow iris (*Iris pseudacorus*).

4.2.4.3.3 Wet Willow-Alder-Ash Woodland (WN6)

This habitat is located partially within the proposed development site boundary to the southeast. The woodland is approximately 2.26Ha. This broad habitat category describes woodlands of permanently waterlogged sites that are dominated by willows (*Salix* spp.), alder (*Alnus glutinosa*) or ash (*Fraxinus excelsior*), or by various combinations of some or all of these trees. The species identified in the woodland near the proposed development site were willows and alder.

4.2.4.3.4 Buildings and Artificial Surfaces (BL3)

This broad category incorporates areas of built land and includes all buildings (domestic, agricultural, industrial and community). It also includes areas of land that are covered with artificial surfaces of tarmac, cement. For the proposed development this habitat represents the agricultural buildings found near the proposed development site. Farm sheds and associated concrete surfaces found near the proposed development site fall under this habitat category.

4.2.4.3.5 Depositing/lowland River (FW2)

The Killary Water occurs within 190m of the proposed development site boundary, and runs through the permitted solar farm development. An existing access road to the proposed development site includes a crossing point at this watercourse (see **Plate 4-4**, below). This habitat category includes watercourses, or sections of these, where fine sediments are deposited on the riverbed. Depositing conditions are typical of lowland areas where gradients are low and water flow is slow and sluggish. These rivers vary in size but are usually larger and deeper than those above. In a natural state these rivers erode their banks and meander across floodplains. Because of this, most have been modified to some extent to control water flow, facilitate navigation or prevent flooding and erosion. Plant and animal communities are influenced by numerous factors including substratum type, water force, nutrient status, water quality, channel size, water depth, human impact, disturbance and shade.

The Killary Water has been drained as part of an arterial drainage scheme. The Office of Public Works (OPW) are responsible for maintaining drained channel. The OPW reference code for the Killary Water to the east of the proposed development site is C2(28). This reach of the river was found to be of trapezoidal cross section and physically modified, with generally low physical heterogeneity.



Plate 4-4: Depositing/lowland River (FW2) and access road watercourse crossing to the site

4.2.4.3.6 Hedgerows (WL1)

Hedgerows (WL1), of predominantly hawthorn (*Crataegus monogyna*) and bramble (*Rubus fruticosus*), border the proposed development site. Hedgerows are typically composed of linear strips of shrubs, with the occasional tree. Hedgerows typically form boundaries of property or fields. The hedgerow onsite are low in biodiversity and are kept short.

4.2.4.4 Invasive Species

During MWP multi-disciplinary ecological field surveys of the site, no invasive alien plant species (IAPS) listed under the Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2015) were recorded.

Documented NBDC records of high/medium impact invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended) exist within the hectad N88. Hectad records exist for five high-impact species and one medium-impact species. Four of the IAPS are listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended) (see **Table 4-1**, below).

Table 4-1: Desktop records of non-native/invasive species of flora within hectad N88.

Species Common Name	Scientific name	Closest Species Record to Development Site	Invasiveness NBDC ³	Listed on Regulation S.I. 477 ⁴
Canadian Waterweed	<i>Elodea canadensis</i>	Approximately 6.2 km north of the proposed development site	High impact	Third Schedule listed
Cherry Laurel	<i>Prunus laurocerasus</i>	Approximately 8.1 km northwest of the proposed development site	High impact	No
Giant Hogweed	<i>Heracleum mantegazzianum</i>	Approximately 6.8 km north of the proposed development site	High impact	Third Schedule listed
Japanese Knotweed	<i>Fallopia japonica</i>	Approximately 3.7 km northwest of the proposed development site	High impact	Third Schedule listed
Rhododendron	<i>Rhododendron ponticum</i>	Approximately 8.1 km northwest of the proposed development site	High impact	Third Schedule listed
Sycamore	<i>Acer pseudoplatanus</i>	Approximately 3.7 km north of the proposed development site	Medium impact	No

4.2.4.5 Otter

There are nine documented records held by the NBDC, and nine records held by the NPWS of otter within the hectad N88. None of these records are within the proposed development site. The closest of these otter records is 1.2 km northeast of the proposed site boundary⁵.

There were no watercourses or evidence of otter (including breeding or resting sites) recorded within the site boundary of the proposed development site during the ecological field survey. The Killary watercourse that flows past the site is not within the site boundary and at its closest point is approximately 190m from the proposed development site (see **Figure 4-2** in **Section 4.2.4.2**, above). The habitat within the site is considered to be sub-optimal for otter and is likely to be restricted to commuting otter. The stream and area around the watercourse offers suitable foraging and commuting habitat for otter.

4.3 Characteristics of the Project

Characteristics of the proposed development are provided in **Table 4-2**. The proposed site layout is shown in **Figure 4-4**.

³ Species Profile Browser · Species Profile (biodiversityireland.ie)

⁴ Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended)

⁵ <https://maps.biodiversityireland.ie/Map> (Accessed 21/10/2023)

Table 4-2: Characteristics of the proposed development

<p><i>Size, scale, area, land-take</i></p>	<p>The compound will consist of 1 No. 110kV onsite Eirgrid substation with associated electrical plant, electrical equipment, security palisade fencing, an IPP building and a transformer. The overall compound will have an area of c.11,572m² divided into two adjoining sections: an EirGrid section (c.9,262m² in area) and an IPP (Independent Power Producer) section (c.2,310m² in area), each of which are enclosed within a 2.6m high palisade fence. An additional outer concrete post and rail fence (1.4m in height) will be installed around the perimeter of the EirGrid compound.</p> <p>Each section will contain a control building and an outdoor electrical yard including electrical equipment such as electrical pylons, over and underground ducting & cables, busbars, disconnects, breakers, sealing ends, lightning and lighting masts. The IPP section will also contain 1 No. banded transformer with a back up emergency diesel generator and associated diesel storage tank also located within the bund. Both buildings will be a block built single storey building approximately 6.5m in height, with pitched roof and an external blockwork and plastered finish.</p> <p>The overall substation compound will consist of a 50mm compound stone finish. The max height of the substation is 8.55m. 10 No. Lightning masts of 18m high will be erected within the compound.</p> <p>The electrical connection required from the proposed substation development will be facilitated by Overhead 110kV Loop-in Interface Masts. The erection of 2 No. OHL End Mast structures (c. 20m high) are required under the existing Meath Hill-Gorman 110kV 110kV OHL. There is also a requirement for the installation of 2 No. lattice gantries (c. 16m high).</p> <p>There is no spatial overlap with any Natura 2000 site; therefore, there will be no land take within any Natura 2000 site.</p>
<p><i>Details of physical changes that will take place during the various stages of implementing the proposal</i></p>	<p><u>Preliminary Works</u></p> <ul style="list-style-type: none"> • Site investigation and establishment of demarcation works and benchmarks prior to commencement of any physical works. • Completion of detailed ground investigations. • Installation of suitable protection measures (e.g. silt curtain) around the development site boundaries to control and treat any run-off.

	<ul style="list-style-type: none"> Track clearing, grubbing and removal of surface vegetation/soil removal (topsoil/sub-soil/shrubs) using excavator and dump-truck. Topsoil will be stripped to agreed depths in conjunction with site specifications and design drawings before careful segregation of the material and transportation to an agreed temporary deposition point. <p><u>Construction Phase Works – Substation</u></p> <ul style="list-style-type: none"> Use of temporary construction compound on solar farm site. The compound will include a bunded storage area and an enclosed wastewater management system with a holding tank. Construction of new entrance and open-graded stone track to facilitate access to the proposed substation site. Construction activities will include vegetation clearing, topsoil stripping, excavation, placement of geogrid/geotextile layer and aggregate, compaction, grading, and landscaping. Topsoil/vegetative removal will be kept to a minimum to minimise silt/sediment runoff during heavy rainfall. The granular fill to be used for the access track or widening works will be delivered to the required work area and spread out locally with the use of excavators on top of the geogrid/geotextile material. This will be compacted with the use of a roller which will roll the stone aggregate in maximum 250 mm layers to achieve the required design strength. A drainage system will be installed along all internal site access roads, storage areas, substation hardstand areas to attenuate run-off, guard against soil erosion and safeguard downstream water quality. The system will include check dams, settlement ponds, silt traps, and an attenuation pond adjacent to the temporary compound areas on the permitted solar farm site. Substation compound will be marked out with ranging rods or wooden posts and topsoil stripped and removed to temporary storage area for later use in landscaping. Bulk excavation of the substation site will be carried out using tracked excavators while dump/tipper trucks will transport excavated material to a designated temporary on-site storage area for future use. Imported stone will be placed over the excavated area and compacted to agreed formation level. To facilitate installation of the control building, transformer, transformer bund, HV/LV equipment, lighting and ancillary equipment, it will be necessary to construct concrete bases or plinths. This will involve excavation to correct level and use of in-situ reinforced concrete or precast concrete. Earth mats will be installed within the substation compound which will have earth electrodes buried to between approximately 0.6 m and 1 m below finished ground level.
--	--

	<ul style="list-style-type: none"> Blockwork walls for the control building will be built up and the floor slab constructed. Roof slabs and timber roof trusses will be lifted into position using an adequately sized mobile crane (or telescopic loader) before the roof trusses are finally felted, battened, tiled and sealed against the weather. Major electrical equipment will then be installed along with palisade fencing around the compound perimeter.
<p><i>Description of resource requirements for the construction/operation and decommissioning of the proposal (water resources, construction material, human presence etc)</i></p>	<p><u>Construction Resources</u></p> <p>Mechanical machinery and electrical equipment typically used for construction projects will be required to facilitate the proposed development. The following is a non-exhaustive list of plant that is typically heavy civil engineering work and may be used in this proposed development:</p> <ul style="list-style-type: none"> 30-50T Excavators; 15-30T Excavator; Rubber Tired 15-20T Excavator; 3-10T Mini Diggers; Low Ground Pressure Excavators (Bog master); Mobile Crane for construction; Telescopic Handler; Tractors and trailers; Road grader; Double contained fuel bowsers; 12T Rollers; Diesel powered generators; and Water bowsers.

	<p>The following is a non-exhaustive list of materials, and approximate quantities, that are expected to be used during the construction phase:</p> <p><u>Materials</u></p> <ul style="list-style-type: none"> • Imported stone for access road; • Concrete; • Reinforced steel. <p><u>Labour</u></p> <p>Typically, 20 construction employees will be present on site daily for the duration of the works. This will fluctuate from time to time as different phases of the construction take place and specialist services such as electricians or landscaping are required.</p> <p>A suitably surfaced contractor's temporary construction compound and laydown area will be provided for the duration of the site works on the permitted adjacent Solar Farm.</p> <p>The construction compound will consist of temporary site offices, equipment storage and construction staff welfare facilities, as well as car parking areas for staff and visitors.</p> <p>Container storage units will be provided for holding tools and materials. The compound will be fenced with chain-link fencing on wooden posts and will have a lockable gate.</p> <p>A potable water supply will be provided by a water tanker.</p> <p>Foul sewage from the temporary facilities will be routed to covered precast concrete watertight 5m³ tanks designed for receiving and storing sewage with no outlet. The tanks will be sized to suit the expected use and will be installed in a location remote from water courses. Contents and residues will be regularly emptied by a competent operator for safe disposal to an approved treatment works.</p>
<p><i>Description of timescale for the various activities that will take place as a result of implementation (including likely start and finish date)</i></p>	<p>It is expected that the development will commence upon receipt of planning permission. It is estimated that the duration of the construction works will be approximately 14-18 months.</p> <p>The proposed hours of work on site will be stipulated in the planning conditions attached to the planning grant. Any working hours outside the normal construction working hours will be agreed with the Local Authority.</p> <p>Construction working hours will be limited to 7.00am to 7.00pm Monday to Friday and from 8.00am to 2.00pm on Saturdays with no work on Sundays.</p>

	<p>All traffic movements will be carried out between the hours of 7.00am to 7.00pm Monday to Friday and from 8.00am to 2.00pm on Saturdays . Outside of these times works are limited to:</p> <ul style="list-style-type: none"> •Commissioning and testing; and •Works required in an emergency where there is the potential of harm or damage to personnel, plant, equipment, or the environment, Deliveries will also be scheduled to avoid peak times where relevant, e.g. avoiding rush hours and after school pick up times. <p>The working day may extend at times when critical elements of work need to be advanced. Longer working days can occur when there is a planned concrete pour etc.</p> <p>In the event that activities outside of normal working time are needed, the Contractor shall prepare a suitable Method Statement and the Contractor will seek the approval of the Local Authority and if required, the directly affected residents/other.</p>
<i>Description of wastes arising and other residues (including quantities) and their disposal</i>	<p><u>Construction Phase Waste</u></p> <p>Miscellaneous/incidental waste materials will be generated during construction including concrete, pallets, packaging, spare steel reinforcement, shuttering timber, food waste, unused oil, and building materials. Waste will be collected at regular intervals during the construction phase and taken off site by licenced waste contractor to be reused, recycled and disposed of in accordance with best practice procedures at an approved facility.</p> <p>Plastic waste will be removed for recycling by an approved contractor and disposed or recycled at an approved facility.</p> <p><u>Spoil</u></p> <p>There will be a requirement to excavate approximately 7,000m³ of clean, natural topsoil and subsoil. This material will be reused, where feasible, to create berms and used for landscaping on the adjacent permitted solar farm site. Excess clean soil material will be deposited permanently in 2 No. soil deposition areas (1,600m²) located adjacent to the western boundary of the site.</p> <p>Where the surplus material is to be reused on the adjacent permitted solar farm site as a by-product (not as a waste), this will be done in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) (as amended) and having regard for the Circular Economy and Miscellaneous Provisions Act 2022 and any such legislative requirements that may be required later. Vegetation, green waste will be removed by licenced waste contractor to an authorised green waste facility.</p> <p><u>Effluent</u></p> <p>The project will include an enclosed wastewater management system at the temporary site construction compound capable of managing demand during the construction phase.</p>

	<p>Wastewater from on-site welfare facilities will drain to the wastewater holding tanks associated with the toilet units. When required, the stored effluent will be collected by a permitted waste contractor and removed from the site to an appropriately authorised waste facility for treatment and disposal.</p> <p><u>Other Construction Phase Wastes/Residues</u></p> <p>Fuels/oils - Waste oil & waste oil drums will be collected and stored in containers on bunded tray at the temporary construction compound on the adjacent solar farm site.</p> <p><u>Waste Management Plan</u></p> <p>A Construction and Environmental Management Plan (CEMP) which includes procedures for management of all wastes has been developed and will be implemented for the duration of the works. As part of this, individual waste streams will be identified at source and stored in dedicated skips for subsequent disposal to licensed landfill or to recycling.</p> <p>A Surface Water Management Plan is also included in the CEMP and describes detailed measures for the management of all surface water and run-off on the site, for the protection of watercourses and in particular, sediment and erosion control.</p>
<p><i>Identification of wastes arising and other residues (including quantities) that may be of particular concern in the context of the Natura 2000 network</i></p>	<ul style="list-style-type: none"> • Wastewater and effluent from temporary onsite welfare facilities. • Fuels/oil/lubricants associated with plant and machinery. • Concrete associated with construction and cable laying. • Spoil from excavations
<p><i>Description of any additional services required to implement the project or plan, their location and means of construction</i></p>	<p>The temporary construction compound on the adjacent permitted solar farm site will be used for construction phase car parking, a secure storage area for construction materials, waste materials and also contain temporary site accommodation units to provide welfare facilities for site personnel. Facilities will include offices, meeting rooms, a canteen and a drying room.</p> <p>A bunded containment area will be provided within the construction compound for the storage of lubricants, oils and site generators etc.</p> <p>A designated lined concrete wash-out area will be installed within the temporary compound to facilitate washing of concrete mixer chutes only. Washing of concrete mixer barrels will not be permitted.</p> <p>A self-contained port-a-loo with an integrated waste holding tank will be used on site for toilet facilities. This will be maintained by the Contractor on a regular basis and will be removed from the site on completion of the construction phase. Foul sewage from the temporary facilities will be routed to covered precast concrete watertight 5m³ tanks designed for receiving and storing sewage with no outlet. The</p>

	<p>tanks will be sized to suit the expected use and will be installed in a location remote from water courses. Contents and residues will be regularly emptied by a competent operator for safe disposal to an approved treatment works.</p> <p>Prior to construction commencing consultation with Meath County Council will take place to discuss and agree measures related to traffic management, waste management and diversions or road closure required to facilitate the works.</p>
--	--



4.4 Identification of Other Projects or Plans or Activities

4.4.1 Plans

With regards to the potential for in-combination effects, the Meath County Development Plan (2021-2027) was considered. This Plan was adopted on the 22nd of September 2021 and came into effect on the 3rd of November 2021.

One element of this plan, within Volume 1, Chapter 10 – Climate Change Strategy, indicates a move towards the increase in renewable energy sources. This element is considered to have the potential to interact with the proposal in the context of potential in-combination effects. The objective of this element of the plan is to encourage the uptake of more renewable energy sources ‘by facilitating the development and exploitation of renewable energy sources such as solar, wind, geothermal, hydro and bio-energy at suitable locations within the County where such development does not have a negative impact on the surrounding environment (including water quality), landscape, and biodiversity’⁶.

4.4.2 Permitted and Proposed Developments in the Locality

A search of Meath County Council’s online planning enquiry system⁷ for granted or on-going planning applications for the townland the proposed development site lies within, was undertaken on the 15th April 2024 (see **Table 4-3**, below). A planning application for a sand and gravel pit located within the permitted development site boundary was finalised in 2003 for sand and gravel processing but is no longer active. A planning application for a solar PV energy development to the southeast of the proposed development site was received by MCC on 27 November 2023.

Table 4-3: List of granted and/or on-going planning applications within the vicinity of townland of Ricetown within the last 5 years.

Application No.	Applicant	Location	Proposed Development	Decision	Grant Date
231082	Highfield Solar Limited	Killary, Lobinstown, Navan, Rathkenny , Navan, Co. Meath	the development will consist of a 10-year permission for the construction of a solar PV energy development within a total site area of approximately 131.93ha, to include solar PV panels ground mounted on steel support structures, electrical transformer/inverter station modules, storage containers, CCTV cameras, access tracks, fencing and associated electrical cabling, ducting and ancillary infrastructure. A Natura Impact Statement accompanies this application	Pending - Further Information Requested on 29/01/2024	n/a
221044	Mill Farm Solar Project Ltd	Stokesquarter, Painestown, Killary, Ricetown, Castletown K.P., Navan, Co. Meath	The development will consist of permission for a period of 10 years to construct and complete a Solar PV development with a total site area of circa 97.05 hectares, to include solar	Conditional	14/02/2023

⁶ <https://consult.meath.ie/en/consultation/meath-adopted-county-development-plan/chapter/10-climate-change-strategy>

⁷ <https://www.eplanning.ie/MeathCC/SearchTypes>

Application No.	Applicant	Location	Proposed Development	Decision	Grant Date
			panels mounted on steel support on steel support structures, associated cabling and ducting, 12 No. Transformers, 1 No. Storage Container, maintenance tracks, perimeter fencing and gates, 61 No. CCTV, 4 No. Weather Stations, 3 No. Bunds associated landscaping and ancillary works, with an operational life of 40 years. The application is accompanied by a Natura Impact Statement (NIS). Significant further information/revised plans submitted on this application.		
23465	Santrax Ltd	Stokesquarter/Ricetown, Lobinstown, Navan, Co. Meath	The construction of a machinery storage shed along with all ancillary site works.	Conditional	26/03/2024

4.4.3 EPA Licenced/Registered Facilities

A review of EPA licensed operators within the area located two licenced facilities within 10 km of the proposed development. The closest Industrial Emission Licensed (IEL) premises is 'C&N Oils Limited' (Licence No. P0043-01) at Ardcaif, Slane, Meath. This licenced facility is approximately 7.6 km southeast of the proposed development site. The second is 'College Proteins Unlimited Company' (Licence No. P0037-04) at College Road, Nobber, and is approximately 9 km northwest of the proposed development site.

The Lobinstown Urban Wastewater Treatment (UWWT) Plant (Active License Number: A0052-01) is situated in Lobinstown, approximately 1.8 km east of the proposed development site. The Castletown UWWT Plant (Active License Number: A0044-01) is situated in Castletown, approximately 2.3 km west of the proposed development site. Neither of the plants have a hydrological connection to the proposed development.

In light of the characteristics of the proposed development site and its surrounds, being located within a rural area surrounded by agricultural land and having no hydrological connection with any EPA licenced/registered facilities, and considering the size and scale of the proposal, it is not envisaged that the project has any potential for interaction with any EPA licences/registered facilities, which could result in significant in-combination effects on Natura 2000 sites. However, based on the precautionary approach, the potential for in-combination effects as a result of the proposal will be evaluated in **Section 4.7.7** below.

4.4.4 Existing Land-use and On-going Activities

Existing land-use within the proposed development site is agricultural. Due to the nature, scale and location of the project, significant in-combination effects with existing land-use and on-going activities are not anticipated. An assessment of the potential for significant in-combination effects is discussed further in **Section 4.7.7** below.

4.5 Identification of Natura 2000 Sites

4.5.1 Zone of Influence

The screening stage of Appropriate Assessment involves compiling a 'long list' of Natura 2000 sites within a potential zone of influence (ZOI). The ZOI of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the conservation interests of a Natura 2000 site.

Adopting the precautionary principle in identifying potentially affected Natura 2000 sites, it has been decided at this stage to include all SACs and SPAs with potential ecological or hydrological links to site (**Section 4.5.2** below). These sites are characterised in the context of the rationale for designation and the qualifying features.

During later analysis, the list of Natura 2000 sites is evaluated in terms of the likely ZOI of the proposed development. The likely ZOI is established using the Source-Pathway-Receptor model. In order for an impact to occur there must be a risk initiated by having a 'source' (e.g. excavation), and an impact pathway between the source and the receptor (e.g. a waterbody which connects the proposal site to the protected species or habitats). An evaluation based on these factors to determine which Natura 2000 sites are the plausible ecological receptors for potential impacts of the proposed development is conducted in **Sections 4.7.1** and **4.7.2** below.

Once the Natura 2000 sites within the likely ZOI have been identified, an assessment is made in relation to these sites of the likely significance of the potential effects associated with the proposal (see **Sections 4.7.3** to **4.7.7** below). As described above, the test for the screening for Appropriate Assessment is to assess, in view of best scientific knowledge, if the development, individually or in combination with other plans/projects, is likely to have a significant effect on a Natura 2000 site. If, following the assessment, there are any significant, potentially significant, or uncertain effects, it will be necessary to proceed to Appropriate Assessment and submit an NIS.

4.5.2 Identification of Natura 2000 Sites within the potential ZOI

Designated SACs and SPAs within the potential ZOI of the proposal, including their proximity, are shown in **Table 4-4** below. The locations of these designated sites in relation to the proposed development site are shown on a map in **Figure 4-5** below.

Table 4-4: Natura 2000 Sites within the potential ZOI

Designated Site	Site Code	Proximity of Designated Site to Nearest Point of Proposed development site	Hydrological / Ecological Connection? (Yes/No)
River Boyne and River Blackwater SAC	002299	10.2 km south	Potential ecological connection due to potential for commuting otter to utilise habitats within the zone of influence
River Boyne and River Blackwater SPA	004232	10.7 km south	No
Dundalk Bay SAC	000455	24.5 km northeast	Hydrological connection
Dundalk Bay SPA	004026	24.5 km northeast	Hydrological connection

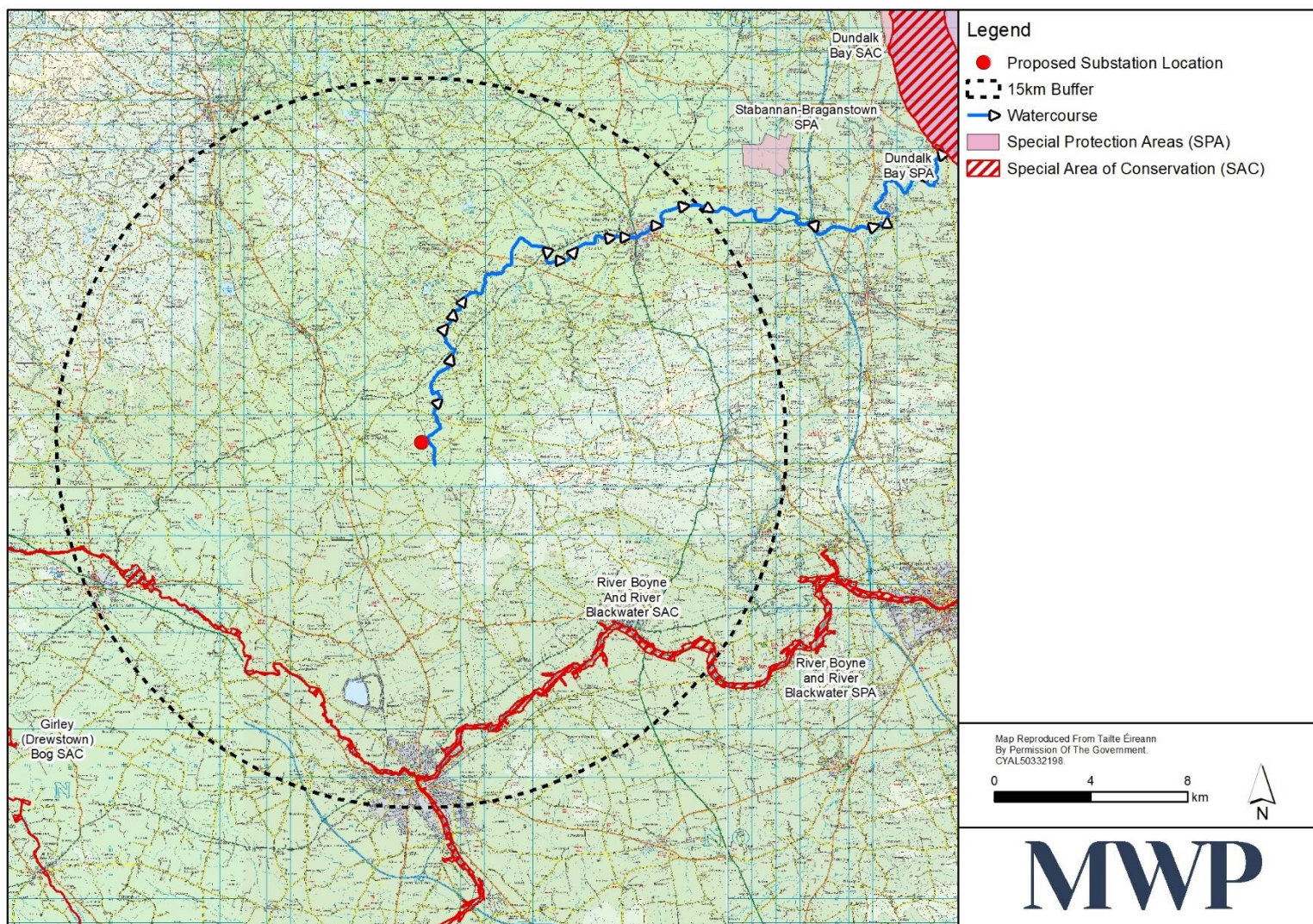


Figure 4-5: Natura 2000 sites within the ZOI of the proposed development site

4.5.3 Characteristics of Natura 2000 Sites

Table 4-5 lists the qualifying features of conservation interest for the Natura 2000 sites identified in the previous table. Information pertaining to the Natura 2000 sites is from site synopses, conservation objectives and other information available on www.npws.ie.

Table 4-5: Qualifying features of conservation interest of Natura 2000 sites within the potential ZOI

Designated Site	Site Code	Qualifying features of conservation interest
River Boyne and River Blackwater SAC	002299	<ul style="list-style-type: none"> Alkaline fens [7230] Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0] <i>Lampetra fluviatilis</i> (River Lamprey) [1099] <i>Salmo salar</i> (Salmon) [1106] <i>Lutra lutra</i> (Otter) [1355]
River Boyne and River Blackwater SPA	004232	<ul style="list-style-type: none"> Kingfisher (<i>Alcedo atthis</i>) [A229]
Dundalk Bay SAC	000455	<ul style="list-style-type: none"> Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Perennial vegetation of stony banks [1220] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]
Dundalk Bay SPA	004026	<ul style="list-style-type: none"> Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] Greylag Goose (<i>Anser anser</i>) [A043] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Teal (<i>Anas crecca</i>) [A052] Mallard (<i>Anas platyrhynchos</i>) [A053] Pintail (<i>Anas acuta</i>) [A054] Common Scoter (<i>Melanitta nigra</i>) [A065] Red-breasted Merganser (<i>Mergus serrator</i>) [A069] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Lapwing (<i>Vanellus vanellus</i>) [A142] Knot (<i>Calidris canutus</i>) [A143] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Common Gull (<i>Larus canus</i>) [A182] Herring Gull (<i>Larus argentatus</i>) [A184] Wetland and Waterbirds [A999]

4.5.4 Conservation Objectives

According to the Habitats Directive, the *conservation status of a natural habitat* will be taken as 'favourable' within its biogeographic range when:

- its natural range and areas 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 as defined below.

According to the Habitats Directive, the conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' within its biogeographical range when:

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

Individual conservation objectives for each site are available on www.npws.ie. These have been accessed for the sites listed in the tables above on the 5th October 2023.

Site-specific conservation objectives were available for the following sites:

- River Boyne and River Blackwater SAC (002299). Version 1.0. Produced December 2021.
- River Boyne and River Blackwater SPA (004232). Version 1.0. Produced October 2022.
- Dundalk Bay SPA (0004026). Version 1.0. Produced July 2011.
- Dundalk Bay SAC (000455). Version 1.0 Produced July 2011.

All conservation objectives together with other designated site information are available on www.npws.ie/protectedsites.

The site synopses for the Natura 2000 sites within the Zol of the proposed development are provided in **Appendix 2**.

4.6 Identification of Potential Impacts

Potential likely direct, indirect or secondary ecological impacts arising from the proposed development (either alone or in combination with other plans or projects) are identified in **Tables 4-6** and **4-7**.

Table 4-6: Description of elements of the project likely to give rise to potential ecological impacts

Construction Phase
<ul style="list-style-type: none"> • Human presence: Sustained increase in human activity (Increased human activity, noise, lighting, dust) during daylight hours for the duration of the works • Increased noise and air emissions associated with construction activity • Site set-up, mobilisation, ground clearance • Excavation works • Construction activity • Temporary surface water flow management systems for specific engineering elements as required at various locations • Importation/Stockpiling of material • Generation of waste/spoil/construction run-off • Use of plant, machinery, tools etc • Use of fuels/oils/lubricants/chemicals/concrete/cementitious material • Temporary storage of excavated spoil • Temporary site compound • Erection of substation. Introduction of large physical structure in a previously unoccupied space
Operational Phase
<ul style="list-style-type: none"> • Increased human presence, activity, noise from staff • Operational and maintenance works
Decommissioning Phase
<ul style="list-style-type: none"> • Increased human activity, increased noise and air emissions. • Permanent disassembly and removal of substation and substation components. • Permanent disposal and storage of excavated materials. • Temporary site compound.

Table 4-7: Direct, indirect or secondary ecological impacts of the construction and operational phases (either alone or in combination with other plans or projects) which have the potential for having significant effects

<p><i>Describe any likely direct, indirect or secondary ecological impacts of the project (either alone or in combination with other plans or projects) by virtue of:</i></p> <ul style="list-style-type: none"> • <i>Size and scale;</i> • <i>Land-take;</i> • <i>Distance from Natura 2000 Site or key features of the Site;</i> • <i>Resource requirements;</i> • <i>Emissions;</i> • <i>Excavation requirements;</i> • <i>Transportation requirements;</i> • <i>Duration of construction, operation etc.; and</i> • <i>Other.</i> 	<p>There is no overlap with any Natura 2000 site or direct hydrological connection between the proposed development site and any Natura 2000 site.</p> <p>Construction Phase</p> <p><u>Habitat loss/alteration/fragmentation</u></p> <ul style="list-style-type: none"> • There will be direct habitat loss/alteration (low value habitat) within the construction works footprint, but no overlap with Natura 2000 sites (no loss of Annex I qualifying habitat). <p><u>Water quality</u></p> <p>Impacts may potentially occur through:</p> <ul style="list-style-type: none"> • Erosion and run-off of sediment and silt from excavation areas, disturbed ground, plant and machinery etc. into nearby drainage ditch • Use of chemical herbicides for treatment of invasive plant species. • Ingress of fuels/oils, cementitious material, or other such substances to groundwater via leaching. • Use of on-site temporary toilets and washing facilities. <p><u>Species disturbance/displacement</u></p> <p>Impacts to habitats and species may potentially occur through:</p> <ul style="list-style-type: none"> • construction noise/vibration/lighting. • increased human presence. • impacts on prey availability. • loss of and alteration of breeding/resting/foraging/commuting or other required habitat <p>Operational Phase</p> <p><u>Water quality</u></p> <ul style="list-style-type: none"> • Increase in stormwater runoff. <p><u>Species disturbance/displacement</u></p> <p>Impacts may potentially occur through:</p> <ul style="list-style-type: none"> • increased human presence/noise. • increased light levels. • indirect alteration of foraging/commuting habitat.
--	--

4.7 Assessment of Significance of Potential Impacts

This section considers the list of sites identified in **Section 4.5.2** above, together with the potential ecological impacts identified in the previous section and determines whether the project is likely to have significant effects on a Natura 2000 site. When assessing impact, Natura 2000 sites are only considered relevant where a credible or tangible source-pathway-receptor link exists between the proposed development and a protected species or habitat type. The evaluation takes cognisance of the scope, scale, nature and size of the project, its location relative to the Natura 2000 sites listed identified in **Section 4.5.2** above, and the degree of connectedness that exists between the project and each Natura 2000 site's potential ecological receptors.

4.7.1 Natura 2000 sites outside the likely Zone of Influence

With regards to the proposal, it is considered that certain Natura 2000 sites are located outside the likely ZOI of the proposal due to the absence of plausible impact pathways and/or the attenuating effect of the distance intervening, and as such the works do not include any element that has the potential to significantly affect the conservation objectives for which these sites are designated.

Therefore, it is objectively concluded that significant effects on the conservation objectives of these sites are not reasonably foreseeable as a result of the proposed development described in **Section 4.3**. These sites, which are listed in **Table 4-8** below, along with their distance from the proposed development site and the rationale for exclusion, are excluded from further consideration within this report.

Table 4-8: Natura 2000 Sites excluded from further consideration.

Designated Site	Site Code	Proximity of Designated Site to Nearest Point of Proposed development site	Rationale for Exclusion
River Boyne and River Blackwater SPA	004232	10.7 km south	<ul style="list-style-type: none"> - There is no spatial overlap or hydrological connection between the proposed development site and the SPA. - No plausible impact pathways for either habitats or species effects have been identified. - No potential for significant effects.

4.7.2 Natura 2000 sites within the likely Zone of Influence

The assessment of significance of potential effects that follows focuses on the three remaining Natura 2000 sites identified in **Table 4-5** above, as it is considered that these sites have the potential to be impacted by the proposal. The rationale for inclusion for further consideration and evaluation for these sites is outlined in **Table 4-9** below.

Table 4-9: Natura 2000 sites included for further evaluation

Designated Site	Site Code	Proximity of Designated Site to Nearest Point of Proposed development site	Rationale for Inclusion
River Boyne and River Blackwater SAC	002299	10.2 km south	- Plausible impact pathways for otter have been identified.
Dundalk Bay SAC	000455	24.5 km northeast	- Hydrological connection via the Killary watercourse
Dundalk Bay SPA	004026	24.5 km northeast	- Hydrological connection via the Killary watercourse

The likelihood of significant effects from the project to the Natura 2000 sites outlined above was determined based on several indicators including:

- Water quality

- Habitat loss/alteration
- Disturbance and/or displacement of species
- Habitat or species fragmentation

The likelihood of significant in-combination effects is assessed in **Section 4.7.7**.

4.7.3 Water Quality

There is no direct hydrological connection between the proposed development site and any Natura 2000 Sites within 15km of the proposed development site. However, the Killary watercourse, which flows its course near the proposed development site (see **Section 4.2.4.2** above), enters the river network and flows for approximately 34km into Dundalk Bay SAC and Dundalk Bay SPA. The land in and around the proposed development site is undulating and slopes towards the Killary watercourse, creating an indirect hydrological connection via any water runoff from the proposed development site and via the onsite drainage ditch which convey flow towards the Killary Stram. Any water runoff from the proposed development site entering the Killary watercourse, which is within 190m of the proposed development site, will potentially flow downstream into Dundalk Bay SAC and Dundalk Bay SPA.

Therefore, there is an indirect hydrological connection between the proposed development site and the Dundalk Bay SAC and Dundalk Bay SPA, both located approximately 24.5 km from the proposed development site. Aquatic systems and the species/habitats which are dependent on these systems are sensitive to pollution/contamination of surface waters. Therefore, these two sites have been considered further in the impact assessment section.

Potential impacts for ecological features associated with a Natura 2000 designated site from the construction, operation and decommissioning of the proposed development may occur from the contamination of surface and/or ground waters. Those features (species) which are ecologically connected to the proposed development site, and are mobile, may be impacted through disturbance as well as loss of habitat through contamination of surface waters.

With regard to the proposal, there is potential for indirect impacts on water quality on Dundalk Bay SAC and SPA during the construction phase and operational phase if no mitigation measures are put in place.

With regard to potential indirect water quality impacts via siltation, it is considered that the proposed construction works will potentially generate localised run-off towards the Killary watercourse via overland flow or on site drainage ditches due to the sloping nature of the land. Implementation of construction industry best practice guidelines (Construction Industry Research and Information Association – CIRIA guidance) and the CEMP which has been prepared for the development is noted.

Construction works in general can pose a risk to the aquatic environment via a number of mechanisms. Excavation works, ground movement and disturbance, and the storage and stockpiling of materials can result in sediment erosion and run-off which can lead to siltation of the aquatic environment. The use of plant and machinery poses a risk of accidental ingress of fuel, oils, lubricants to the aquatic environment, as does on-site storage of these and other such substances. Use of concrete and other cementitious materials, generation of washout and use of chemicals also poses a risk to water quality. In general, such materials can enter the aquatic environment via direct discharges to drainage features, overland flow and/or leaching to groundwater in the event of a spillage/leakage.

In the absence of adequate management, potential negative effects include weathering and erosion of the surface soils, increased dust levels or pollutants from the construction processes, and accidental spills of fuels and chemicals etc and impacted runoff resulting in adverse water quality effects. Such activities can directly or

indirectly affect habitats, including changes in physio-chemical parameters (e.g. temperature and turbidity) or physical modification to the hydrology of a waterbody.

With regard to potential indirect water quality impacts associated with the generation of sewage/wastewater from the use of temporary welfare facilities during the construction phase, it is noted that these facilities will be maintained accordingly by an approved and permitted contractor who will remove effluent to a licenced facility for disposal. Therefore, this aspect of the proposal is not considered to have any potential for significant effects to Natura 2000 sites.

Runoff from site into Killary Stream from operational activities can lead to changes to the chemical balance and may be harmful to fish and other wildlife. This may lead to indirect impacts for aquatic species (including otter), or indirect through loss of prey resources.

Otter (*Lutra lutra*) are a qualifying feature of the River Boyne and River Blackwater SAC. Otter is a highly mobile species and can hold territories from 2km to 20km. It is therefore likely that otter could potentially be present within the proposed development site. Potential impacts for otter include the loss of habitat, disturbance, fragmentation of habitat and pollution via water quality impacts.

4.7.4 Habitat Loss and Alteration

4.7.4.1 Dundalk Bay SAC and Dundalk Bay SPA

There is no spatial overlap or direct hydrological connection between the proposed development site and the Dundalk Bay SAC and Dundalk Bay SPA. Therefore, there will be no direct loss/alteration of any of the qualifying habitats of conservation interest for which the sites are designated.

4.7.4.2 River Boyne and River Blackwater SAC

Ecological connectivity exists between this SAC and the proposed development site. Otter (*Lutra lutra*) are a qualifying feature of the River Boyne and River Blackwater SAC. Otter is a highly mobile species and can hold territories from 2km to 20km. It is therefore likely that otter could potentially be present within the proposed development site. Potential impacts for otter include the loss of habitat, disturbance, fragmentation of habitat and pollution.

Most habitats within the proposed development site are considered to be sub-optimal for otter, as these are predominantly agricultural grassland, bound by hedgerows and treelines. Therefore, use of the proposed development site is likely to be restricted to commuting otter. The Killary stream offers suitable habitat for otter.

Loss of habitat directly under the proposed development site will be relatively low, and will mainly comprise agricultural grassland, which is of low value for otter.

Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* and alkaline fens are both qualifying features of the River Boyne and River Blackwater SAC. These habitats are not found within the proposed development site, and there is no hydrological pathway between the proposed development site and the SAC. There will be no loss or contamination of any of the qualifying habitats of the SAC from the proposed development. The proposed development will not result in significant adverse effects for qualifying habitat features of the SAC.

4.7.5 Disturbance and/or Displacement of Species

4.7.5.1 River Boyne and River Blackwater SAC

The following are qualifying species of interest for the SAC:

- Otter (*Lutra lutra*) [1355]
- River Lamprey (*Lampetra fluviatilis*) [1099]
- Salmon (*Salmo salar*) [1106]

There is no spatial overlap or direct hydrological connection between the proposed development site and the River Boyne and River Blackwater SAC. Therefore, of the three species listed above, only otter is potentially present in nearby watercourses. Otter is a species listed on Annex II of the EU Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna) and is therefore protected through the designation of SACs.

Habitats within the proposed development site are considered to be sub-optimal for otter and use of the proposed development site is likely to be restricted to commuting otter. However, it does provide connectivity between suitable habitats. Otter are a highly mobile species and can hold territories from 2km to 20km. It is therefore likely that otter could be utilising the proposed development site for commuting purposes between nearby watercourses, such as the Killary watercourse which offers suitable habitat for otter.

Potential impacts for otter include the loss of habitat, disturbance, fragmentation of habitat, and pollution.

There are no existing records from the NBDC or NPWS of otter within the site boundary of the proposed development. Disturbance and/or displacement of this species due to direct potential impacts is therefore unlikely to occur. The closest record of otter within hectad N88, as described in **Section 4.2.4.5**, is 1.2 km northeast of the site boundary. N88.

Otter is known to be sensitive to water pollution and records from the NBDC show the species occurring nearby the Killary watercourse, a potential receptor of water pollution from the proposed development site. However, as per **Section 4.7.3**, significant water quality impacts within the River Boyne and River Blackwater SAC are not envisaged and therefore significant disturbance and/or displacement of otter as a result of the proposed development is not likely. No works will occur within or directly adjacent to waterways. Methods for controlling the movement of surface water within the proposed development form an integral part of the proposed development design. Movement of surface water will be managed by a Sustainable Drainage System (SuDS) following best practice guidelines on the use of SuDS. Surface water runoff from the roofs of the substation buildings, and hard-surfaced areas within the electrical yard, including areas where a risk of a contaminant leak or spill may be present (such as the transformer bund), will be collected in a series of filter drains, roof guttering and downpipes and routed to an underground gravity drainage network. All runoff collected in the stormwater sewer network will pass through an oil/petrol Interceptor prior to discharging to an attenuation unit on the north-eastern side of the compound. The attenuation unit will provide attenuation of the increased volumes of surface water runoff generated from the hard surfaces of the development when compared to the current greenfield condition. The attenuated surface water runoff is then proposed to overflow at a controlled rate equal to the greenfield runoff rate to an existing vegetated land drain on the southern side of the compound. These measures will significantly reduce the potential for contaminated surface waters entering the aquatic environment. Therefore, it is concluded that the proposed development will not result in significant effects for otter. The proposed development will not result in significant effects to the integrity of the River Boyne and River Blackwater SAC.

4.7.5.2 Dundalk Bay SAC and SPA

The Killary stream, which flows approximately 190m east of the site, enters the wider river network and eventually (after travelling approximately 34km) flows into the Dundalk Bay.

Dundalk Bay is comprised of estuary and intertidal sand and mud flat habitats. The site is of high importance for wintering waterfowl.

As detailed in **Section 4.7.3** there is an indirect hydrological connection between the proposed development site and the Dundalk Bay SAC and Dundalk Bay SPA, both located approximately 24.5 km from the proposed development site. Aquatic systems and the species/habitats which are dependent on these systems are sensitive to pollution/contamination of surface waters. With regard to the proposed development there is potential for indirect impacts on water quality on Dundalk Bay SAC and SPA during the construction phase and operational phase if no mitigation measures are put in place and therefore disturbance and/or displacement of species/habitats. Therefore, these two sites have been screened in for further assessment.

4.7.6 Habitat or Species Fragmentation

Habitat fragmentation has been defined as 'reduction and isolation of patches of natural environment' (Hall *et al.*, 1997 cited in Franklin *et al.*, 2002) which results in spatial separation of habitat areas which had previously been in a state of greater continuity. Adverse effects of habitat fragmentation on species include the increased isolation of populations which can detrimentally impact on the resilience or robustness of the populations.

The preceding sections have concluded that there is no potential for direct habitat loss/alteration. Therefore, the potential for significant habitat or species fragmentation effects can be ruled out at this stage, and thus further assessment is not required.

4.7.7 In-combination Effects

As well as singular effects, the potential for in-combination effects also need to be considered. A cumulative impact arises from incremental changes caused by other past, present or reasonably foreseeable future actions together with the proposed development. The proposal was considered in combination with other relevant plans, projects and activities in the area, identified in **Section 4.4** above.

No significant cumulative impacts are predicted with the Meath County Development Plan as the plan has a range of environmental and natural heritage policy safeguards in place. These safeguards that protect the natural environment and Natura 2000 Sites will also apply to the proposal described in this report.

The planning developments listed in **Table 4-3**, in **Section 4.4.1**, above include the permitted development and another proposed solar farm (Killary Solar Farm) which both will have mitigation measures in place to ensure no impacts to the connected designated sites occur. Planning permission for the permitted development has been granted on the basis that it will not cause harm to any designated sites. Planning permission for the Killary Solar Farm is pending following a Further Information Request but the application included a NIS which concluded that no likely significant cumulative effects of any Natura 2000 sites are expected as a result of the development.

Potential in-combination effects are considered possible as a result of interaction between the proposed development and the permitted solar development.

No other in-combinations effects between the proposed development and any other identified plans or projects are considered likely to occur.

4.8 Conclusion of Screening Stage

In conclusion, to determine any potential impacts of the proposed project on nearby Natura 2000 sites, a screening process for Appropriate Assessment was undertaken.

It has been objectively concluded during this screening process that the proposed construction and operation of the proposed development at Ricetown, Co. Meath either individually or in combination with other plans or projects, is not likely to have significant effects on the following Natura 2000 site located within the zone of potential influence of the proposed development in view of those sites' Conservation Objectives and further assessment is deemed unnecessary:

- River Boyne and River Blackwater SPA (004232)

It cannot be objectively concluded at this stage that without mitigation measures the proposed development will not result in significant effects on the following designated Natura 2000 sites due to the potential impacts identified in **Sections 4.7**, above:

- River Boyne and River Blackwater SAC (Site code: 002299)

- Dundalk Bay SAC (Site code: 000455)
- Dundalk Bay SPA (Site code: 004232)

Therefore, it has been concluded that, in respect of these European sites, the project should proceed to Stage 2 of the Appropriate Assessment process and as such, a Natura Impact Statement has been completed). It is concluded that all other European sites have been correctly screened out or excluded from further consideration based on objective information that the project, individually or in-combination with other plans or projects, will have no, or no appreciable, effects on those sites.

Reasons for Conclusion

- There is an indirect hydrological connection between the proposed development site and two Natura 2000 sites. Significant water quality effects on Natura 2000 sites arising as a result of the proposed development are possible due to the topography and the short distance (c. 190m) from the Killary watercourse, there is a potential risk to the watercourse and the two Natura 2000 sites it connects with.
- Otter (*Lutra lutra*) are a qualifying feature of the River Boyne and River Blackwater SAC. Otter are a highly mobile species and can hold territories from 2km to 20km. It is therefore likely that otter could potentially be present within the proposed development site. Potential impacts for otter including the loss of habitat, disturbance, fragmentation of habitat and pollution via water quality degradation from the proposed development cannot be ruled out.

5. References

- Alves, J.A., Sutherland, W.J. and Gill, J.A., 2012. Will improving wastewater treatment impact shorebirds? Effects of sewage discharges on estuarine invertebrates and birds. *Animal Conservation*, 15(1), pp.44-52.
- Chanin P (2003). Monitoring the Otter *Lutra lutra*. *Conserving Natura 2000 Rivers Monitoring Series No. 10*, English Nature, Peterborough.
- Department of the Environment, Heritage and Local Government (DoEHLG) (2010). *Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities*. Department of 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. Luxembourg: Office for Official Publications of the European Communities.
- European Commission (EC) (2001). 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. Luxembourg: Office for Official Publications of the European Communities.
- Fossitt, J. A. (2000). A Guide to Habitats in Ireland. Kilkenny, The Heritage Council.
- Franklin, Alan B., Noon, Barry R. & Luke George T., (2002). What is Habitat Fragmentation?, *Studies in Avian Biology* No. 25: 20-29.
- NPWS, 2019. The Status of EU Protected Habitats and Species in Ireland. Volume 3: Species Assessments. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neill. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
- NPWS, 2014. Site Synopsis, Dundalk Bay SAC Site Code 000455. Version date 31.01.2014.
- NPWS, 2014. Site Synopsis, Dundalk Bay SPA Site Code 004026. Version date 07.07.2014.
- NPWS, 2014. Site Synopsis, River Boyne and River Blackwater SAC Site Code 002299. Version date 06.01.2014.
- NPWS, 2011. Conservation Objectives for Dundalk Bay SAC and SPA. Version 1.0 dated 19 July 2011.
- NPWS, 2021. Conservation Objectives for River Boyne and River Blackwater SAC. Version 1 Date 02 December 2021.
- Smith, G., O'Donoghue, P., O'Hora, K. & Delaney, E., 2011. Best Practice Guidance for Habitat Survey and Mapping, Kilkenny, Ireland: The Heritage Council.

Appendix 1

Stages of Appropriate Assessment

Stage 1 - Screening

This is the first stage of the Appropriate Assessment process and that undertaken to determine the likelihood of significant impacts as a result of a proposed project or plan. It determines need for a full Appropriate Assessment.

If it can be concluded that no significant impacts to Natura 2000 Sites are likely then the assessment can stop here. If not, it must proceed to Stage 2 for furthermore detailed assessment.

Stage 2 - Natura Impact Statement (NIS)

The second stage of the Appropriate Assessment process assesses the impact of the proposal (either alone or in combination with other projects or plans) on the integrity of the Natura 2000 Site with respect to the conservation objectives of the site and its ecological structure and function. This is a much more detailed assessment than Stage 1. A Natura Impact Statement containing a professional scientific examination of the proposal is required and includes any mitigation measure to avoid, reduce or offset negative impacts.

If the outcome of Stage 2 is negative i.e. adverse impacts to the sites cannot be scientifically ruled out, despite mitigation, the plan or project should proceed to Stage 3 or be abandoned.

Stage 3 - Assessment of alternative solutions

A detailed assessment must be undertaken to determine whether alternative ways of achieving the objective of the project/plan exists.

Where no alternatives exist the project/plan must proceed to Stage 4.

Stage 4 - Assessment where no alternative solutions exist and where adverse impacts remain

The final stage is the main derogation process examining whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project to adversely affect a Natura 2000 Site where no less damaging solution exists.

Appendix 2

Site Synopses

Site Name: Dundalk Bay SAC

Site Code: 000455

Dundalk Bay, Co. Louth, is a very large open, shallow sea bay with extensive saltmarshes and intertidal sand/mudflats, extending some 16 km from Castletown River on the Cooley Peninsula in the north, to Annagassan/Salterstown in the south. The bay encompasses the mouths and estuaries of the Rivers Dee, Glyde, Fane, Castletown and Flurry.

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

- [1130] Estuaries
- [1140] Tidal Mudflats and Sandflats
- [1220] Perennial Vegetation of Stony Banks
- [1310] *Salicornia* Mud
- [1330] Atlantic Salt Meadows
- [1410] Mediterranean Salt Meadows

Saltmarsh vegetation occurs in four main areas: at Lurgangreen, Marsh South, Dundalk Harbour and Bellurgan. Two types are represented – Atlantic and Mediterranean salt meadows. The Atlantic salt meadows are commonest and are characterised by Sea-purslane (*Halimione portulacoides*) (often as a dominant band), along with Common Saltmarsh-grass (*Puccinellia maritima*), Thrift (*Armeria maritima*), Red Fescue (*Festuca rubra*), Common Scurvygrass (*Cochlearia officinalis*), Sea Plantain (*Plantago maritima*) and Sea Rush (*Juncus gerardi*). Common Cord-grass (*Spartina anglica*) is frequent and often dominant over substantial areas. Glassworts (*Salicornia* spp.) occur on the lower zones of the saltmarshes, and in places extend out onto the sandflats. Mediterranean salt meadows are mostly confined to the upper levels of the saltmarshes or along stream sides where they merge with grassland habitats (though the transitional zone is now absent in many places). The habitat contains Sea Rush (*Juncus maritimus*), Sea Arrowgrass (*Triglochin maritima*) and Sea Aster (*Aster tripolium*). The saltmarshes at Lurgangreen and Marsh South are partially fenced and grazed by sheep.

Shingle beaches are particularly well represented in Dundalk Bay, occurring more or less continuously from Salterstown to Lurgan White House in the south bay, and from Jenkinstown to east of Giles Quay in the north bay. The shingle is mostly stable, occurring on post-glacial raised beaches. The shingle often occurs in association with intertidal shingle, saltmarsh and or shingle-based grassland. The shingle supports

species such as Spear-leaved Orache (*Atriplex prostrata*), Sea Mayweed (*Matricaria maritima*), Sea Beet (*Beta vulgaris* subsp. *maritima*), Sea Rocket (*Cakile maritima*), Wild Carrot (*Daucus carota*), Sea-holly (*Eryngium maritimum*), Sea Sandwort (*Honkenya peploides*) and Sea Radish (*Raphanus raphanistrum* subsp. *maritimus*). Yellow Horned-poppy (*Glaucium flavum*) and Lyme-grass (*Leymus arenarius*) occur here at their most northern locality on the east coast, while the Red Data Book species Sea-kale (*Crambe maritima*) has recently been recorded.

The extensive sandflats and mudflats (over 4,000 ha) occur and are comprised of ecological communities such as muddy fine sand communities and fine sand community complexes. In the centre of Dundalk Bay there is a gravel community dominated by polychaetes. These habitats host a rich fauna of bivalves molluscs, marine worms and crustaceans and are the main food resource of the tens of thousands of waterfowl (including waders and gulls) which feed in the intertidal area of Dundalk Bay. The saltmarshes are used as high-tide roosts by all of these species, while the grazing birds (notably Brent Goose and Wigeon) feed on the saltmarsh grasses, areas of *Zostera* and other grassland vegetation. Brent Goose also feed on the mats of green algae on the mudflats. At night the wintering Greylag and Greenland White-fronted Goose, and Whooper Swans, from Stabannan/Braganstown (inland from Castlebellingham) roost in Dundalk Bay.

The site is internationally important for waterfowl (numbers in brackets refers to the average maximum over the period 1994/95 to 1997/98) because it regularly holds over 20,000 birds (up to 57,000 have been recorded) and supports over 1% of the North-West European/East Atlantic Flyway populations of Brent Goose (366), Bar-tailed Godwit (2,312) and Knot (11,948). Additionally, it is nationally important for Golden Plover (4,266), Great Crested Grebe (193), Greylag Goose (312), Shelduck (463), Mallard (657), Pintail (100), Red-breasted Merganser (148), Oystercatcher (6,940), Grey Plover (218), Ringed Plover (133), Wigeon (565), Dunlin (9,112), Black-tailed Godwit (754), Curlew (1,593), Lapwing (4,822), Greenshank (20) and Redshank (1,455). Both Golden Plover and Bar-tailed Godwit are Annex I species. The site has been designated a Special Protection Area (SPA) under the E.U. Birds Directive and it is also a designated Ramsar site.

This is a site of significant conservation value because it supports good examples of a range of coastal habitats listed on Annex I of the E.U. Habitats Directive, as well as large numbers of bird species, some of which are listed in the Birds Directive.

Site Name: River Boyne and River Blackwater SAC

Site Code: 002299

This site comprises the freshwater element of the River Boyne as far as the Boyne Aqueduct, the Blackwater as far as Lough Ramor and the Boyne tributaries including the Deel, Stoneyford and Tremblestown Rivers. These riverine stretches drain a considerable area of Meath and Westmeath, and smaller areas of Cavan and Louth. The underlying geology is Carboniferous Limestone for the most part, with areas of Upper, Lower and Middle well represented. In the vicinity of Kells Silurian Quartzite is present while close to Trim are Carboniferous Shales and Sandstones. There are many large towns adjacent to but not within the site, including Slane, Navan, Kells, Trim, Athboy and Ballivor.

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

[7230] Alkaline Fens
[91E0] Alluvial Forests*
[1099] River Lamprey (<i>Lampetra fluviatilis</i>)
[1106] Atlantic Salmon (<i>Salmo salar</i>)
[1355] Otter (<i>Lutra lutra</i>)

The main areas of alkaline fen in this site are concentrated in the vicinity of Lough Shesk, Freehan Lough and Newtown Lough. The hummocky nature of the local terrain produces frequent springs and seepages which are rich in lime. A series of base-rich marshes have developed in the poorly-drained hollows, generally linked with these three lakes. Open water is usually fringed by Bulrush (*Typha latifolia*), Common Club-rush (*Scirpus lacustris*) or Common Reed (*Phragmites australis*), and this last species also extends shorewards where a dense stand of Great Fen-sedge (*Cladium mariscus*) frequently occurs. This in turn grades into a sedge and grass community (*Carex* spp. and Purple Moor-grass, *Molinia caerulea*), or one dominated by Black Bog-rush (*Schoenus nigricans*). An alternative aquatic/terrestrial transition is a floating layer of vegetation. This is normally based on Bogbean (*Menyanthes trifoliata*) and Marsh Cinquefoil (*Potentilla palustris*). Other species gradually become established on this cover, especially plants tolerant of low nutrient status e.g. bog mosses (*Sphagnum* spp.). Diversity of plant and animal life is high in the fen and the flora includes many rarities. Plants of interest include Narrow-leaved Marsh-orchid (*Dactylorhiza traunsteineri*), Fen Bedstraw (*Galium uliginosum*), Cowbane (*Cicuta virosa*), Frogbit (*Hydrocharis morsus-ranae*) and Least Bur-reed (*Sparganium minimum*). These species tend to be restricted in their distribution in Ireland. Also notable is the

abundance of aquatic stoneworts (*Chara* spp.) which are characteristic of calcareous wetlands.

The rare plant Round-leaved Wintergreen (*Pyrola rotundifolia*) occurs around Newtown Lough. This species is listed in the Red Data Book and this site represents its only occurrence in Co. Meath.

Wet woodland fringes many stretches of the Boyne. The Boyne River Islands are a small chain of three islands situated 2.5 km west of Drogheda. The islands were formed by the build-up of alluvial sediment in this part of the river where water movement is sluggish. All of the islands are covered by dense thickets of wet, willow (*Salix* spp.) woodland, with the following species occurring: Osier (*S. viminalis*), Crack Willow (*S. fragilis*), White Willow (*S. alba*), Purple Willow (*Salix purpurea*) and Rusty Willow (*S. cinerea* subsp. *oleifolia*). A small area of Alder (*Alnus glutinosa*) woodland is found on soft ground at the edge of the canal in the north-western section of the islands. Along other stretches of the rivers of the site Rusty Willow scrub and pockets of wet woodland dominated by Alder have become established, particularly at the river edge of mature deciduous woodland. Ash (*Fraxinus excelsior*) and Downy Birch (*Betula pubescens*) are common in the latter, and the ground flora is typical of wet woodland with Meadowsweet (*Filipendula ulmaria*), Wild Angelica (*Angelica sylvestris*), Yellow Iris (*Iris pseudacorus*), horsetails (*Equisetum* spp.) and occasional tussocks of Greater Tussock-sedge (*Carex paniculata*).

The dominant habitat along the edges of the river is freshwater marsh, and the following plant species occur commonly in these areas: Yellow Iris, Creeping Bent (*Agrostis stolonifera*), Canary Reed-grass (*Phalaris arundinacea*), Marsh Bedstraw (*Galium palustre*), Water Mint (*Mentha aquatica*) and Water Forget-me-not (*Myosotis scorpioides*). In the wetter areas Common Meadow-rue (*Thalictrum flavum*) is found. In the vicinity of Dowth, Fen Bedstraw (*Galium uliginosum*), a scarce species mainly confined to marshy areas in the midlands, is common in this vegetation. Swamp Meadow-grass (*Poa palustris*) is an introduced plant which has spread into the wild (naturalised) along the Boyne approximately 5 km south-west of Slane. It is a rare species which is listed in the Red Data Book and has been recorded among freshwater marsh vegetation on the banks of the Boyne in this site. The only other record for this species in the Republic of Ireland is from a site in Co. Monaghan.

The secondary habitat associated with the marsh is wet grassland and species such as Tall Fescue (*Festuca arundinacea*), Silverweed (*Potentilla anserina*), Creeping Buttercup (*Ranunculus repens*), Meadowsweet and Meadow Vetchling (*Lathyrus pratensis*) are well represented. Strawberry Clover (*Trifolium fragiferum*), a plant generally restricted to coastal locations in Ireland, has been recorded from wet grassland vegetation at Trim. At Rosnaree river bank on the River Boyne, Round-Fruited Rush (*Juncus compressus*) is found in alluvial pasture, which is generally periodically flooded during the winter months. This rare plant is only found in three counties in Ireland.

Along much of the Boyne and along tributary stretches are found areas of mature deciduous woodland on the steeper slopes above the floodplain marsh or wet woodland vegetation. Many of these are planted in origin. However the steeper areas of King Williams Glen and Townley Hall wood have been left unmanaged and now have a more natural character. East of Curley Hole the woodland has a natural appearance with few conifers. Broadleaved species include oaks (*Quercus* spp.), Ash, willows, Hazel (*Corylus avellana*), Sycamore (*Acer pseudoplatanus*), Holly (*Ilex aquifolium*), Horse-chestnut (*Aesculus hippocastanum*) and the shrubs Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and Elder (*Sambucus nigra*). South-west of Slane and in Dowth, some more exotic tree species such as Beech (*Fagus sylvatica*), and occasionally Lime (*Tilia cordata*), are seen. The coniferous trees Larch (*Larix* sp.) and Scots Pine (*Pinus sylvestris*) also occur. The woodland ground flora includes Barren Strawberry (*Potentilla sterilis*), Enchanter's-nightshade (*Circaea lutetiana*) and Ground-ivy (*Glechoma hederacea*), along with a range of ferns. Variation occurs in the composition of the canopy - for example, in wet patches alongside the river, White Willow and Alder form the canopy.

Other habitats present along the Boyne and Blackwater include lowland dry grassland, improved grassland, reedswamp, weedy waste ground, scrub, hedge, drainage ditch and canal. In the vicinity of Lough Shesk, the dry slopes of the morainic hummocks support grassland vegetation which, in some places, is partially colonised by Gorse (*Ulex europaeus*) scrub. Those grasslands which remain unimproved for pasture are species-rich, with Common Knapweed (*Centaurea nigra*), Creeping Thistle (*Cirsium arvense*) and Ribwort Plantain (*Plantago lanceolata*) commonly present. Fringing the canal alongside the Boyne south-west of Slane are areas with Reed Sweet-grass (*Glyceria maxima*), Great Willowherb (*Epilobium hirsutum*) and Meadowsweet.

The Boyne and its tributaries form one of Ireland's premier game fisheries and the area offers a wide range of angling, from fishing for spring salmon and grilse to seatrout fishing and extensive brown trout fishing. Atlantic Salmon (*Salmo salar*) use the tributaries and headwaters as spawning grounds. Although this species is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the Habitats Directive. Atlantic Salmon run the Boyne almost every month of the year. The Boyne is most important as it represents an eastern river which holds large three-sea-winter fish from 20-30 lb. These fish generally arrive in February, with smaller spring fish (10 lb) arriving in April/May. The grilse come in July, water permitting. The river gets a further run of fish in late August and this run would appear to last well after the fishing season. The salmon fishing season lasts from 1st March to 30th September.

The Blackwater is a medium sized limestone river which is still recovering from the effects of the arterial drainage scheme of the 1970s. Salmon stocks have not recovered to the numbers that existed pre-drainage. The Deel, Riverstown, Stoneyford and Tremblestown Rivers are all spring-fed, with a continuous high volume of water. They are difficult to fish because some areas are overgrown, while others have been affected by drainage with resultant high banks.

This site is also important for the populations of two other species listed on Annex II of the E.U. Habitats Directive which it supports, namely River Lamprey (*Lampetra fluviatilis*), which is present in the lower reaches of the Boyne River, and Otter (*Lutra lutra*), which can be found throughout the site. In addition, the site also supports many more of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger and Irish Hare. Common Frog, another Red Data Book species, also occurs within the site. All of these animals, with the addition of the Stoat and Red Squirrel, which also occur within the site, are protected under the Wildlife Act, 1976.

Whooper Swans winter regularly at several locations along the Boyne and Blackwater Rivers. Known sites are at Newgrange (approx. 20 in recent winters), near Slane (20+ in recent winters), Wilkinstown (several records of 100+) and River Blackwater from Kells to Navan (104 at Kells in winter 1996/97, 182 at Headfort in winter 1997/98, 200-300 in winter 1999/00). The available information indicates that there is a regular wintering population of Whooper Swans based along the Boyne and Blackwater River valleys. The birds use a range of feeding sites but roosting sites are not well known. The population is substantial, certainly of national, and at times international, importance. Numbers are probably in the low hundreds.

Intensive agriculture is the main land use along the site. Much of the grassland is in very large fields and is improved. Silage harvesting is carried out. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the lakes. In the more extensive agricultural areas sheep grazing is carried out.

Fishing is a main tourist attraction on the Boyne and Blackwater and there are a number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. The Eastern Regional Fishery Board have erected fencing along selected stretches of the river as part of their salmonid enhancement programme. Parts of the river system have been arterially dredged. In 1969 an arterial dredging scheme commenced and disrupted angling for 18 years. The dredging altered the character of the river completely and resulted in many areas in very high banks. The main channel from Drogheda upstream to Navan was left untouched, as were a few stretches on the Blackwater. Ongoing maintenance dredging is carried out along stretches of the river system where the gradient is low. This is extremely destructive to salmonid habitat in the area. Drainage of the adjacent river systems also impacts on the many small wetland areas throughout the site. The River Boyne is a designated Salmonid Water under the E.U. Freshwater Fish Directive.

The site supports populations of several species listed on Annex II of the E.U. Habitats Directive, and habitats listed on Annex I of this Directive, as well as examples of other important habitat types. Although the wet woodland areas appear small there are few similar examples of this type of alluvial wet woodland remaining in the country, particularly in the north-east. The semi-natural habitats, particularly the strips of woodland which extend along the river banks, and the marsh and wet

grasslands, increase the overall habitat diversity and add to the ecological value of the site, as does the presence of a range of Red Data Book plant and animal species and the presence of nationally rare plant species.

SITE SYNOPSIS

SITE NAME: DUNDALK BAY SPA

SITE CODE: 004026

Dundalk Bay is a large open shallow sea bay with extensive saltmarshes and intertidal sand/mudflats, extending some 16 km from Castletown River on the Cooley Peninsula, in the north, to Annagassan/Salterstown in the south.

The extensive sand flats and mud flats have a rich fauna of bivalves, molluscs, marine worms and crustaceans which provides the food resource for most of the wintering waterfowl. The outer part of the bay provides excellent shallow-water habitat for divers, grebes and sea duck. In summer, it is thought to be a major feeding area for auks from the Dublin breeding colonies. The bay is used at night for roosting by wintering flocks of Greylag Goose, Greenland White-fronted Goose and Whooper Swan from Stabannan/Braganstown (inland of Castlebelligham) and other inland sites.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Great Crested Grebe, Greylag Goose, Light-bellied Brent Goose, Shelduck, Teal, Mallard, Pintail, Common Scoter, Red-breasted Merganser, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Lapwing, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Black-headed Gull, Common Gull and Herring Gull. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The site is of international importance because it regularly supports an assemblage of over 20,000 wintering waterbirds. It also qualifies as a site of international importance for supporting populations of Light-bellied Brent Goose (370), Knot (9,710), Black-tailed Godwit (1,100) and Bar-tailed Godwit (1,950) - all figures, unless stated otherwise, are five year mean peaks for the period 1995/96 to 1999/2000. A variety of other species occur in numbers of national importance, i.e. Great Crested Grebe (303), Greylag Goose (435), Shelduck (522), Teal (538), Mallard (765), Pintail (117), Common Scoter (581 - five year mean peak for the period 2000/01 to 2004/05), Red-breasted Merganser (121), Oystercatcher (8,746), Ringed Plover (151), Golden Plover (5,967), Grey Plover (204), Lapwing (4,892), Dunlin (11,518), Curlew (1,264) and Redshank (1,659). Other wintering species which occur include Red-throated Diver, Great Northern Diver, Cormorant, Grey Heron, Little Egret, Mute Swan, Wigeon, Goldeneye, Greenshank and Turnstone.

The site also supports nationally important populations of three wintering gull species - Black-headed Gull (6,643), Common Gull (551) and Herring Gull (754).

In spring and autumn the site attracts a range of passage migrants, including Little Stint, Curlew Sandpiper and Ruff.

Dundalk Bay SPA is one of the most important wintering waterfowl sites in the country and one of the few that regularly supports more than 20,000 waterbirds. Four species occur in numbers of international importance and a further 19 species in numbers of national importance. The regular occurrence of Golden Plover, Bar-tailed Godwit, Red-throated Diver, Great Northern Diver and Little Egret is of particular note as these species are listed on Annex I of the E.U. Birds Directive. Dundalk Bay is a Ramsar Convention site and parts of Dundalk Bay SPA are designated as Wildfowl Sanctuaries.

7.7.2014

SITE SYNOPSIS

SITE NAME: RIVER BOYNE AND RIVER BLACKWATER SPA

SITE CODE: 004232

The River Boyne and River Blackwater SPA is a long, linear site that comprises stretches of the River Boyne and several of its tributaries; most of the site is in Co. Meath, but it extends also into Cos Cavan, Louth and Westmeath. It includes the following river sections: the River Boyne from the M1 motorway bridge, west of Drogheda, to the junction with the Royal Canal, west of Longwood, Co Meath; the River Blackwater from its junction with the River Boyne in Navan to the junction with Lough Ramor in Co. Cavan; the Tremblestown River/Athboy River from the junction with the River Boyne at Kilnagross Bridge west of Trim to the bridge in Athboy, Co. Meath; the Stoneyford River from its junction with the River Boyne to Stonestown Bridge in Co. Westmeath; the River Deel from its junction with the River Boyne to Cummer Bridge, Co. Westmeath. The site includes the river channel and marginal vegetation.

Most of the site is underlain by Carboniferous limestone but Silurian quartzite also occurs in the vicinity of Kells and Carboniferous shales and sandstones close to Trim.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive of special conservation interest for the following species: Kingfisher.

A survey in 2010 recorded 19 pairs of Kingfisher (based on 15 probable and 4 possible territories) in the River Boyne and River Blackwater SPA. A survey conducted in 2008 recorded 20-22 Kingfisher territories within the SPA. Other species which occur within the site include Mute Swan (90), Teal (166), Mallard (219), Cormorant (36), Grey Heron (44), Moorhen (84), Snipe (32) and Sand Martin (553) – all figures are peak counts recorded during the 2010 survey.

The River Boyne and River Blackwater Special Protection Area is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive.