

# **MetroLink 110kV Underground Cables**

Appropriate Assessment Screening Report and  
Natura Impact Statement  
Updated in Response to Further Information  
Request (ACP reference no. ABP-317831-23)

February 2026

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## Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	January 2023	Erin Johnston	Roger Macnaughton	Elaine Bennett	Draft Issued
B	June 2023	Roger Macnaughton	Elaine Bennett	Elaine Bennett	Planning Issue
C	February 2026	Aastha Sethi/ Roger Macnaughton	Roger Macnaughton	Donna Hassett	Updated in response to Further Information Request

**Document reference:** 229100846 | 202 | C

**Information class:** Standard

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### Summary of changes in response to further information (FI) request (ACP reference no. ABP-317831-23)

All changes made in this Appropriate Assessment Screening Report and Natura Impact Statement (AA/NIS) are highlighted in green.

FI Request Ref.	AA/NIS Response Summary
1 (i)	Northwest Irish Sea SPA added and addressed (Table 2.3)
1 (ii)	North Bull Island reassessed in respect of disturbance on ex situ SCI populations (Section 2.5).
1 (iii)	Stage 2 Appropriate Assessment assesses SPA sites outlined in following sections: Baldoyle Bay SPA (Section 3.6.4), North Bull Island SPA (Section 3.6.5), Malahide Estuary SPA (Section 3.6.6)
1 (iv)	Table 2.3 updated with detail on potential for significant effects due to invasive species spread at three sites Baldoyle Bay SAC, Malahide Estuary SAC and North Dublin Bay SAC and three SPA sites Baldoyle Bay SPA, North Bull Island SPA, Malahide Estuary SPA
2	Further detail is added in various sections of the NIS which includes addressing the potential for significant effects on European sites from PFAS. This additional text is in outlined in green.

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# 1 Introduction

## 1.1 Project Overview

Mott Macdonald has prepared this Appropriate Assessment Screening and Natura Impact Statement (NIS) for electricity transmission infrastructure to facilitate the main MetroLink Rail project. The MetroLink electricity transmission infrastructure “project” considered in this AA screening and Natura Impact Statement (NIS) report consists of the following principal elements:

- Installation of approximately 5km of 110kV Under Ground Cable (UGC) between the existing Newbury 110kV substation in the townland of Shrubs, County Dublin and the proposed 110kV substation at Ballystruan in the townland of Ballymun, County Dublin (ca. 2.4km on road and ca. 2.7km off road and ca. 1.6km within existing ducts).
- Installation of approximately 10km of 110kV UGC between the proposed 110kV substation at Ballystruan in the townland of Ballymun, County Dublin and the proposed 110kV substation at Forest Little in the townland of Cloghran, County Dublin (ca. 9km on road and ca. 1.2km off road).

Installation of 110kV / 220kV UGC between the proposed 110kV substation at Forest Little in the townland of Cloghran, County Dublin and the existing 220kV substation at Belcamp in the townland of Belcamp, County Dublin. This route will ultimately be constructed to 220kV standards to allow for future 220kV operation but will operate at 110kV initially.

- Two options have been considered in this EIAR and the accompanying NIS for this route but only one of the two options will be installed:
  - Option 1 is approximately 9km in length and follows a route along Baskin Lane/Malahide Road (ca. 7.5km on road and ca. 1.5km off road);
  - Option 2 is approximately 4.3km in length and follows a route along Stockhole Lane (ca. 2km on road and ca. 2.3km off road).

The proposed cable routes will incorporate the following:

- Joint bays (to accommodate both 220kV and 110kV cables), communication chambers and link boxes
- Temporary passing bays
- Water and utility crossings, including Horizontal Directional Drilling (HDD)
- Temporary construction compounds including associated site works and ancillary staff facilities and parking.
- All associated and ancillary above and below ground site development works, including works comprising or relating to permanent and temporary construction and roadworks and excavation including HDD and vegetation clearance.

The UGC will be installed within a trench and the majority of the proposed UGC will be installed within the existing public road network. Off-road (cross-country) routes are proposed at particular locations when on-road solutions have been investigated and are not considered feasible.

The UGC will be installed in either a trefoil or a flat formation when crossing existing services. For the avoidance of doubt, the assessments included in this NIS and in the EIAR are based on a flat formation which has a wider trench width. The widths assessed includes for either trefoil for 110kV UGC is ca. 0.6m to 1.5m wide and for trefoil/flat formation 110kV/220kV UGCs and is ca. 1.5m to 2.9m wide. However, the standard is a trefoil formation.

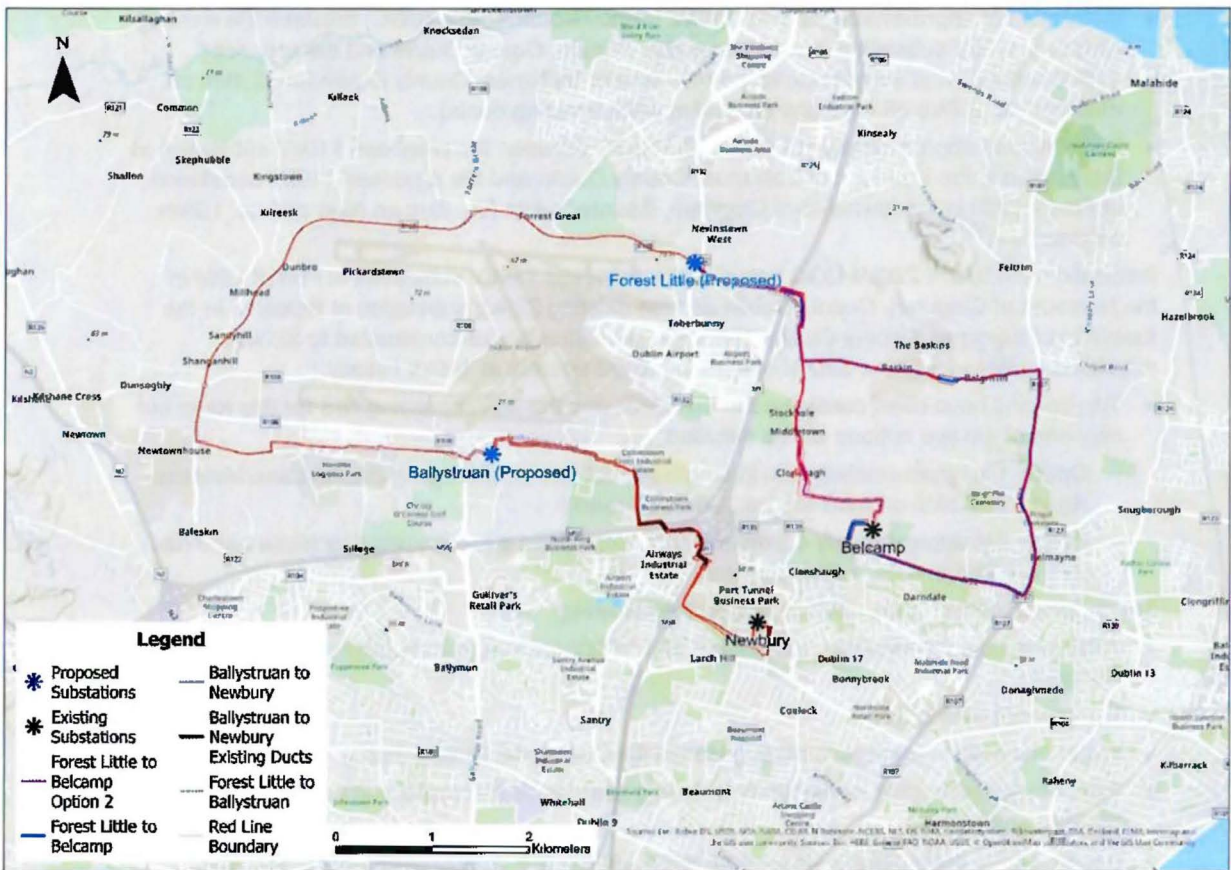
Figure 1.1 presents an overview of the Proposed Development.

The proposed UGC between the proposed substation at Ballystruan and the existing Newbury substation is presented in Figure 1.2

The proposed UGC between the proposed substation at Ballystruan and the proposed substation at Forest Little is presented in Figure 1.3.

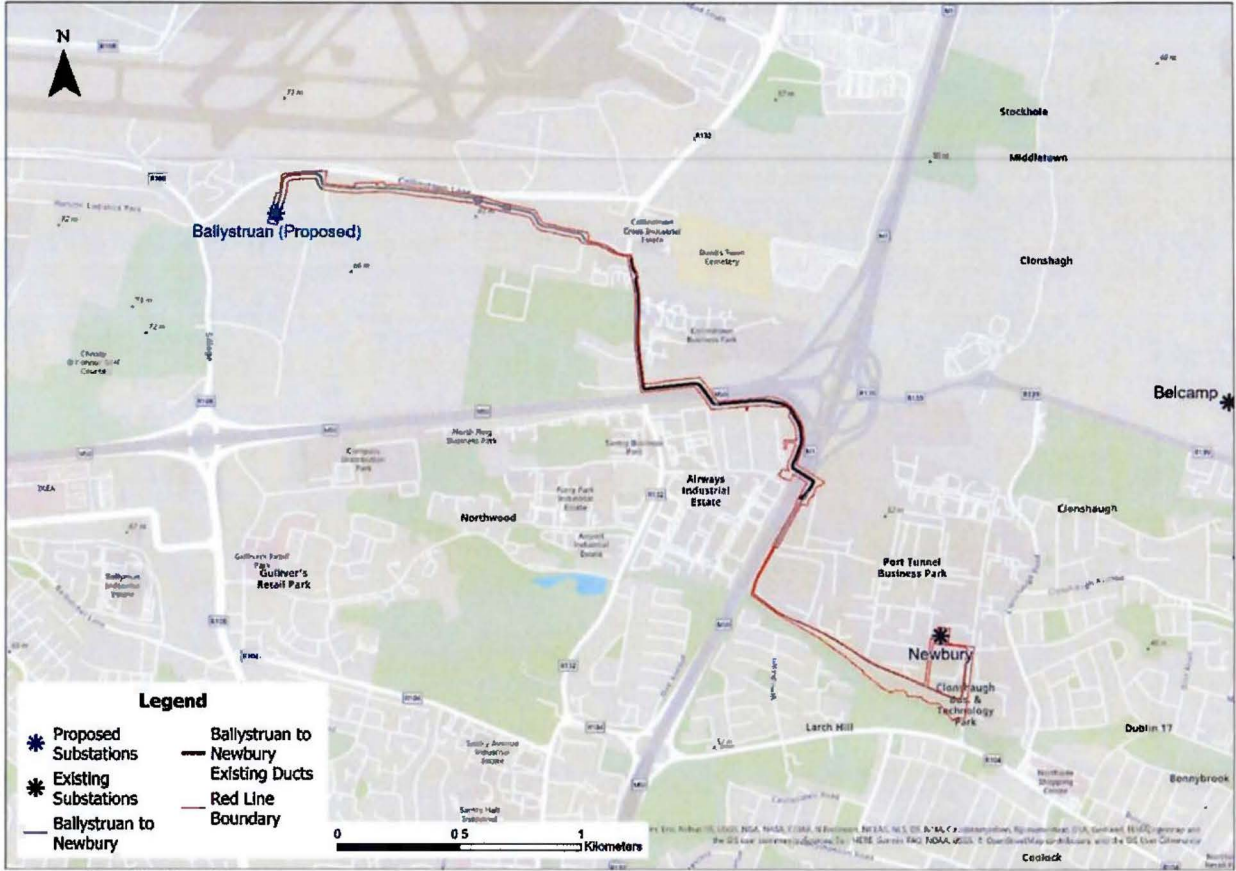
Figure 1.4 presents the two options for the proposed UGC between the proposed substation at Forest Little and the existing substation at Belcamp.

**Figure 1.1: The Proposed Development**



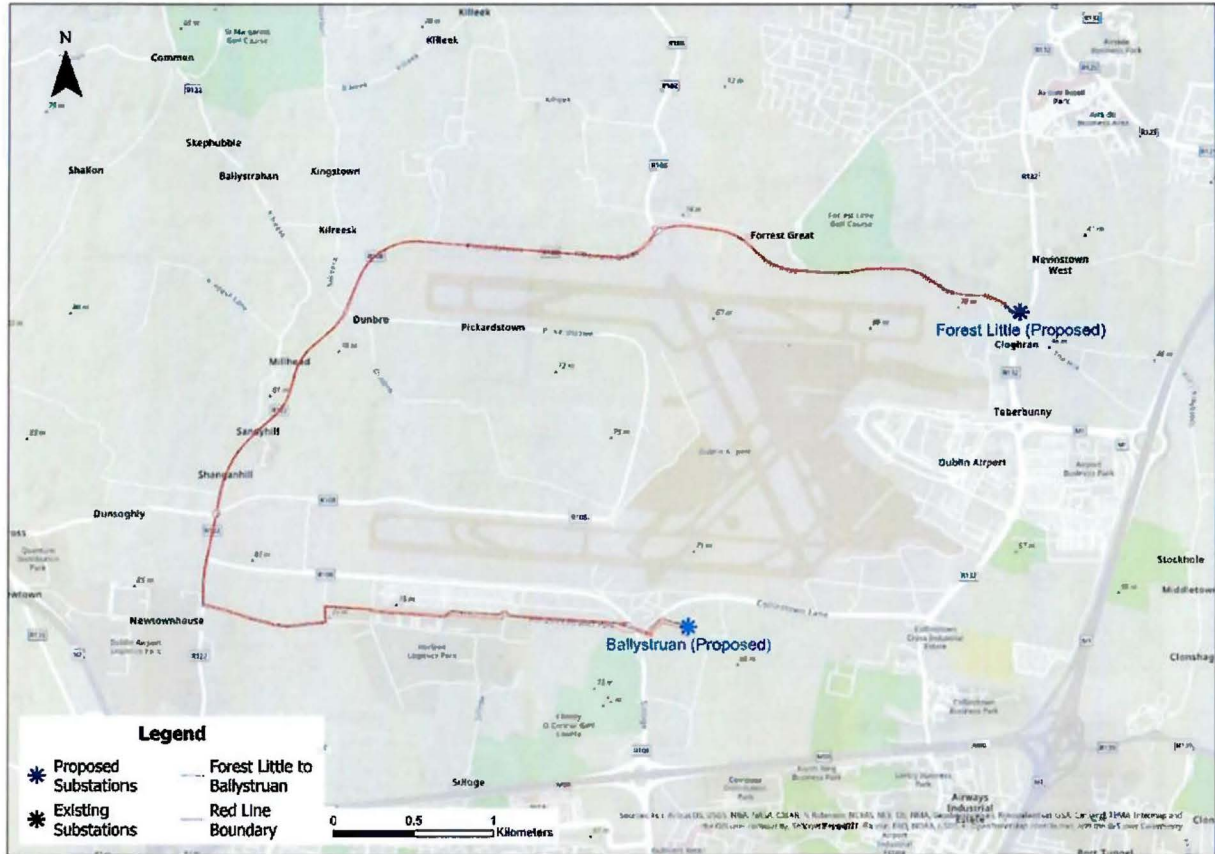
Source: Mott MacDonald

Figure 1.2: Newbury to Ballystruan 110kV UCG Route



Source: Mott MacDonald

Figure 1.3: Ballystruan to Forest Little 110kV UCG Route



Source: Mott MacDonald



### 1.1.2 Proposed Ballystruan to Forest Little 110kV UGC Route

The Proposed Ballystruan to Forest Little 110kV UGC route heads west from Ballystruan substation through Ballymun Kickhams GAA grounds onto the Harristown Road, between the DAA Blue Carpark and the Harristown Bus Station.

Running to the north of Horizons Logistics Park before joining and continuing along Harristown Lane before turning north onto the R122. The UGC route follows the R122 north and then turns in an easterly direction around the perimeter of the airport, at Pickardstown on Barberstown Road. It continues east to join up with the Naul Road and into the proposed Forest Little substation adjacent to Cloghran roundabout.

### 1.1.3 Proposed Forest Little to Belcamp 110kV/220kV UGC Route Option 1

Starting at the proposed Forest Little substation, Option 1 crosses the R132 at the Cloghran roundabout onto Cloghran, travelling off road and crossing the M1 by trenchless method. The UGC route continues adjacent to Stockhole Lane, prior to re-joining Stockhole Lane. Option 1 then turns east onto Baskin Lane. At Kinsealy the route turns south onto the R107/Malahide Rd towards the Clarehall junction before turning west on the R139 and entering the existing 220kV Belcamp Station.

### 1.1.4 Proposed Forest Little to Belcamp 110kV/220kV UGC Route Option 2

Starting at the proposed Forest Little substation, Option 1 crosses the R132 at the Cloghran roundabout onto Cloghran, travelling off road and crossing the M1 by trenchless method. The UGC route continues adjacent to Stockhole Lane, prior to re-joining Stockhole Lane. Option 2 continues due south along Stockhole Lane and Clonshaugh Road, before going off road just after Baskin Park. A HDD crossing under the Cuckoo Stream and under Clonshaugh Road is proposed, prior to turning in an easterly direction along agricultural lands prior to turning south on the approach to the existing 220kV Belcamp Station.

## 1.2 Purpose and Scope of this Report

This report has been prepared to assist the relevant competent national authority (An Bord Pleanála) for the proposed MetroLink UGC development project (hereafter referred to as "The Proposed Development", to fulfil the requirements of Article 6(3) of the EU Habitats Directive 92/43/EEC ('The Habitats Directive').

## 1.3 Requirement for Appropriate Assessment

### 1.3.1 European Law

*Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora ('the Habitats Directive')* is European Community legislation aimed at nature conservation.

The Habitats Directive requires that where a plan or project is likely to have a significant effect on a European site (s), (and where the plan or project is not directly connected with or necessary to the nature conservation management of the European site), the plan or project will be subject to 'Appropriate Assessment' (AA) to identify any implications for the European site(s) in view of the site's Conservation Objectives. Specifically, Article 6(3) of the Habitats Directive states:

*Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national*

*authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.*

Case law of the European Court of Justice (ECJ) has determined that AA is required, if likely significant effects cannot be excluded on the basis of objective information. Case law has also clarified that measures intended to avoid or reduce harmful effects on European sites, must not be considered when determining whether it is necessary to carry out an AA.

### 1.3.2 Irish Law

This Natura Impact Statement (NIS) has been prepared to assist the Competent Authority, in this case An Bord Pleanála, in fulfilling their obligations under the European Communities (Birds and Natural Habitats) Regulations 2011 and Part XAB of the Planning and Development Act, 2000, as amended, to allow them to assess whether the Project (either individually or in combination with other plans or projects) will have adverse effects on the integrity of European Sites.

In the context of the Proposed Development, the Habitats Directive is transposed into Irish law by Part XAB of the Planning and Development Act 2000 (as amended) ('the Planning Acts'), and the Planning and Development Regulations 2001 as amended ('the Planning Regulations').

Under Section 177U (1) of the Planning Acts, a screening for AA of the Proposed Development shall be carried out by the competent authority (in this case, An Bord Pleanála) to assess in view of best scientific knowledge, if the Proposed Development, individually or in combination with another plan or project, is likely to have a significant effect(s) on any European sites.

Under Section 177U (4) of the Planning Acts, the competent authority (in this case, An Bord Pleanála) shall determine that an AA of a Proposed Development is required if it *cannot be excluded* [emphasis added], on the basis of objective information, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on a European site(s).

AA is the process provided for under Article 6 (3) of the Habitats Directive to determine whether a project or plan could 'adversely affect the integrity' of any European sites, either alone or in combination with other plans or projects, in light of the conservation objectives of the European sites in question.

Under Section 177V (1), An appropriate assessment *shall include a determination by the competent authority under Article 6.3 of the Habitats Directive as to whether or not a draft Land use plan or Proposed Development would adversely affect the integrity of a European site*

Under Section 177V (2), the competent authority (in this case, An Bord Pleanála) shall, in carrying out an appropriate assessment under subsection (1), "take into account each of the following matters:

- the Natura impact report or Natura impact statement, as appropriate;
- any supplemental information furnished in relation to any such report or statement;
- if appropriate, any additional information sought by the authority and furnished by the applicant in relation to a Natura impact statement;
- any additional information furnished to the competent authority at its request in relation to a Natura impact report;
- any information or advice obtained by the competent authority;
- if appropriate, any written submissions or observations made to the competent authority in relation to the application for consent for Proposed Development;

- any other relevant information”

## 1.4 Definitions

### 1.4.1 European Sites and Features

A network of European sites of conservation importance has been identified by each Member State, hosting habitats and/or species identified in the Directives as needing to be either maintained at or returned to ‘favourable conservation status’.

The sites of conservation importance known as European sites comprise the Natura 2000 network. European sites comprise areas designated as Special Areas of Conservation (SACs) and/or Special Protection Areas (SPAs) in Ireland. The process of designating cSACs as SACs is ongoing in Ireland. Candidate sites (In Ireland, comprising cSACs) have the same legal protection as those whose designation is complete.

The designation features of SACs are referred to as Qualifying Interests (QIs), and these comprise both species (excluding birds), and habitats. The designation features of SPAs are referred to as Special Conservation Interests (SCIs), and these comprise bird species, as well as wetland bird habitats.

The designation features of European sites are identified in the Statutory Instruments for European sites where such sites have completed the designation process. In all cases, designation features are also identified in Conservation Objectives published by the NPWS. Any Conservation Objectives referred to in this NIS are referenced to identify the date of publication and version number.

### 1.4.2 Statement of Competence

#### Authors;

- **Roger Macnaughton:** MSc, BSc (Hons), MCIEEM (Principal Ecologist, Mott MacDonald). Roger is a qualified and experienced environmental consultant specialising in ecology. He has over twenty year’s professional experience in the environmental consultancy sector and an additional seven years of primarily research-based experience in freshwater and marine ecology. He specialises in the delivery of Ecological Impact Assessment (EclA) and Appropriate Assessment (AA) for a broad range of projects potentially affecting; terrestrial, freshwater, and marine ecology. His project related biodiversity experience to date includes two 400kV overhead lines, five 110kV overhead lines, high voltage underground power cables, overhead line up-rates, electricity substations, terrestrial wind farms, marine wind farms and solar farms. Roger has extensive experience carrying out and co-ordinating walkover field surveys for protected species (birds, mammals, amphibians), along with Fossitt (2000) botanic/ habitat surveys, aquatic and fishery assessment, and invasive species surveys.
- **Dr Erin Johnston** BSc (Hons), MSc, PhD: (Senior Ecologist, Mott MacDonald). Erin is an Ecologist with ten years of post-graduate experience including three years in malacological (mollusc) research and six years in Ecological consultancy. She has prepared Ecological Impact Assessments, Biodiversity Chapters, Appropriate Assessments Screening Reports, and Natura Impact Statements for a variety of projects across a range of sectors. Erin has experience carrying out field surveys for protected gastropods, along with vegetation, extended phase 1 habitat surveys, and targeted invasive species surveys. Other protected species surveys Erin has experience of include smooth newt, crayfish, badger, otter, marsh fritillary and bats.

### Surveyors:

- **Fintan Damer** (BSc) (Ecologist, Mott MacDonald). Fintan Damer is a qualified and experienced ecologist with twenty-five years of practical knowledge in undertaking ornithological field studies and surveys consisting of breeding bird surveys, winter wetland surveys and marine seabird surveys including a competent knowledge of ESAS (European seabirds at Sea) ship-based seabird survey methodologies. He has over two years full time experience in ecological consultancy. Fintan has conducted numerous baseline ecological surveys including those for otter, badger, invasive species, and terrestrial botanical surveys for a wide variety of projects. He also has good working knowledge for the baseline execution of freshwater aquatic surveys. He has been involved in preparation of Ecological Impact Assessments and Appropriate Assessments Screening Reports and well as more focused biotic Environmental Reports.

## 1.5 Methodology

This report has been prepared having regard to European Commission and Irish departmental guidance on AA methodologies including:

- EC (2021) Assessment of Plans and Projects in Relation to Natura 2000 Sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC
- EC (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC Commission Notice C (2018) 7621
- DEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities (Revised 2010).
- Office of the Planning Regulator (March 2021). Appropriate Assessment Screening for Development Management. OPR Practice Note PN01.

This report has similarly been prepared with regard to relevant rulings by the CJEU, and the Irish courts.

### 1.5.1 Desktop Study

This assessment includes a desk-based review of available records of protected species and habitats including the following sources:

- Backing Documents and Maps prepared in accordance with Article 17 of the Habitats Directive;
- European site documentation including Conservation Objectives, National Parks and Wildlife Service (NPWS)
- NPWS Site Synopses, Natura Standard Data Forms available from NPWS;
- Published and unpublished NPWS reports on protected habitats and species including Irish Wildlife Manual reports, and
- Existing relevant mapping and databases e.g. waterbody status, species and habitat distribution etc. (sourced from the Environmental Protection Agency - <http://gis.epa.ie/>, the National Biodiversity Data Centre - <http://maps.biodiversityireland.ie> and the NPWS - <http://www.npws.ie/mapsanddata/>)
- Biodiversity assessment and Natura Impact Statement for the main MetroLink project<sup>1</sup>.

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<sup>1</sup> <https://www.metrolinkro.ie/>

### 1.5.1.1 Existing Field Data

In addition to the aforementioned data sources, recent field data from projects in the vicinity of the Proposed Development was interrogated to inform this report. Details regarding these are outlined hereunder.

#### Wintering Birds

Winter bird surveys were previously conducted in the study areas including the Proposed Development in 2018, and between 2019 - 2021<sup>2</sup>. Surveys were generally conducted between January and March, and between November and December. Information regarding winter birds within the general vicinity of the Proposed Development was assessed.

Additionally, a review of known preferred inland feeding sites for light-bellied brent goose (*Branta bernicla hrota*)<sup>3</sup> was also conducted.

### 1.5.2 Field Survey Data

#### 1.5.2.1 Walkover Surveys

Habitat and plant surveys of the Proposed Development were carried out by Mott MacDonald. Habitats were classified to level three according to the scheme outlined in "A Guide to Habitats in Ireland"<sup>4</sup>. Fit to European Annex 1 habitats was informed with reference to the EU Interpretation Manual for EU Habitats<sup>5</sup>.

Habitat survey methods in accordance with 'Best Practice Guidance for Habitat Survey and Mapping'<sup>6</sup>. During site walkovers searches were conducted for Invasive species listed under the Third Schedule to the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011), as amended.

Bespoke field surveys were not conducted for a variety of Annex II species who are absent from the Zone of Impact (Zoi) of the Proposed Development, either because suitable habitats were absent, or because the species have restricted distributions and are known not to occur based on desktop data (including Favourable Reference Range and Current Range in NPWS Article 17 Reporting<sup>7,8</sup>). These species, for which field surveys were not required, were:

- Lesser horseshoe bat (*Rhinolophus hipposideros*), whose populations are restricted to the western Atlantic seaboard, and whose nearest occurrence is c.a. 147 km south west of the Proposed Development site. Noting also potential roost features and habitats are largely avoided;
- Freshwater pearl mussel (*Margaritifera margaritifera*), because the Proposed Development does not occur within any of the known catchments for the species identified by the NPWS;

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<sup>2</sup> Jacobs (2021) MetroLink Natura Impact Statement

<sup>3</sup> Scott Cawley Ltd., (2017) Natura Impact Statement for Proposed Residential Development at St Paul's College, Sybil Hill, Raheny, Dublin 5.

<sup>4</sup> Fossitt, J., (2000) A Guide to Habitats in Ireland

<sup>5</sup> European Commission (2013) Interpretation Manual of European Union Habitats. EUR28

<sup>6</sup> Smith, G., O'Donoghue, P., O'Hora, K., Delaney, E., (2011) Best Practice Guidance for Habitat Survey and Mapping

<sup>7</sup> NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitat Assessments. Unpublished NPWS report. Edited by: Deirdre Lynn and Fionnuala O'Neill

<sup>8</sup> 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

- Kerry slug (*Geomalacoccus maculosus*), whose distribution is the south west Ireland (Per NPWS Article 17 Reporting) with localised outlier populations in Galway<sup>9</sup> and Tipperary<sup>10</sup>;
- All other Annex II species whose Favourable Reference Range does not overlap the ZoI of the Proposed Development, as identified in NPWS Article 17 reporting.

## 1.6 Consultation

Pre-application consultations were carried out with the prescribed bodies and authorities, pertinent to the ecological and biological aspects of this project (see Table 1.1, below)

**Table 1.1: Summary of Biodiversity related authorities consulted**

Organisation	Response
Birdwatch Ireland	Acknowledgement of consultation receipt only
Department of Agriculture, Food and the Marine (DAFM)	No Response
DAU	Acknowledgement of consultation receipt, but will provide feedback should any issues become apparent
Department of Communications, Climate Action and Environment (DECC)	No Response
Inland Fisheries Ireland (IFI)	No responses relevant to the Appropriate Assessment process
Irish Water	No Response

## 1.7 Limitations

All habitats within the Zone of Impact (ZoI) of the proposed MetroLink 110kV cable development works were appropriately surveyed, with no reported access constraints or limitations.

<sup>9</sup> Kearny (2010) Kerry slug (*Geomalacoccus maculosus* Allaman 1843) recorded at Lettercraffroe, Co. Galway. Irish Naturalists' Journal. 31: 68-69.

<sup>10</sup> Curtin, M. (2021) Discovery of Kerry Slug (*Geomalacoccus maculosus*) in Co. Tipperary. Irish Naturalists' Journal 38: 43-45.

## 2 Screening for Appropriate Assessment

### 2.1 Management of European Sites

The Proposed Development is not directly connected with or necessary to the 'management' of European sites within the Natura 2000 Network having regard to Article 6 of the Habitats Directive. As such it is appropriate that the Proposed Development is subjected to screening for AA.

This screening assessment investigates, in view of best scientific knowledge, whether the Proposed Development, individually or in combination with other plans and projects, would be likely to have a significant effect on European sites. This report considers the likelihood of significant effects on European sites from the construction, operation, and decommissioning of the Proposed Development.

### 2.2 Description of the Proposed Development

#### 2.2.1 Construction Phase (Underground Cable)

The following sections describe the proposed construction phase activities associated with the installation of the new UGC.

Following the consenting of the proposed development, should this be the case by ABP, there will be a process of pre-construction detailed design and micro-siting of the grid infrastructure. This will occur within the parameters and assessments of the Approved development; any micro-siting which extends outside such parameters, for example outside the red line application area, will be subject to post-consent modification in accordance with the provisions of statutory legislation, as required. Throughout the design and assessment process, all reasonable and practically achievable measures have been taken to minimise and avoid impacts.

##### 2.2.1.1 Trenching and Ducting

The standard trench dimensions for a 110kV cable (Figure 2.1) are approximately 0.6m wide x 1.35m deep. These dimensions are based on a standard arrangement within the public roadway (assessments are based on a width of 0.6m to 1.5m to allow for standard trefoil formation. This will be the predominant type of trenching required as the majority of the routes are within public roadways.

The trench dimension are 1.5m wide and 1.4m depth for standard double circuit trefoil formation (Figure 2.2). For standard 110kV/220kV circuit and where utility congestion exists, a flat formation 110kV/220kV up to 2.9m wide is required (Figure 2.3). Existing ducts will be used where available. For off-road routes, additional space may be required for route alignment to avoid underground objects such as tree roots or other obstructions that cannot be removed.

Following excavation of the trench, bedding material, Cement Bound Granular Material (CBGM) will then be laid, the ducts put in place, protection strips laid on top and the trench will be backfilled. Following duct installation, the road above the trench will be reinstated to the standard required by the relevant authority at that location, in this case Fingal County Council, Dublin City Council and Dublin Airport Authority.

The duct installation will progress sequentially starting at one joint bay and moving towards the next joint bay along the route. The construction area will move in tandem with the progress of the duct installation, with only the relevant portion of the section cordoned off while under construction.

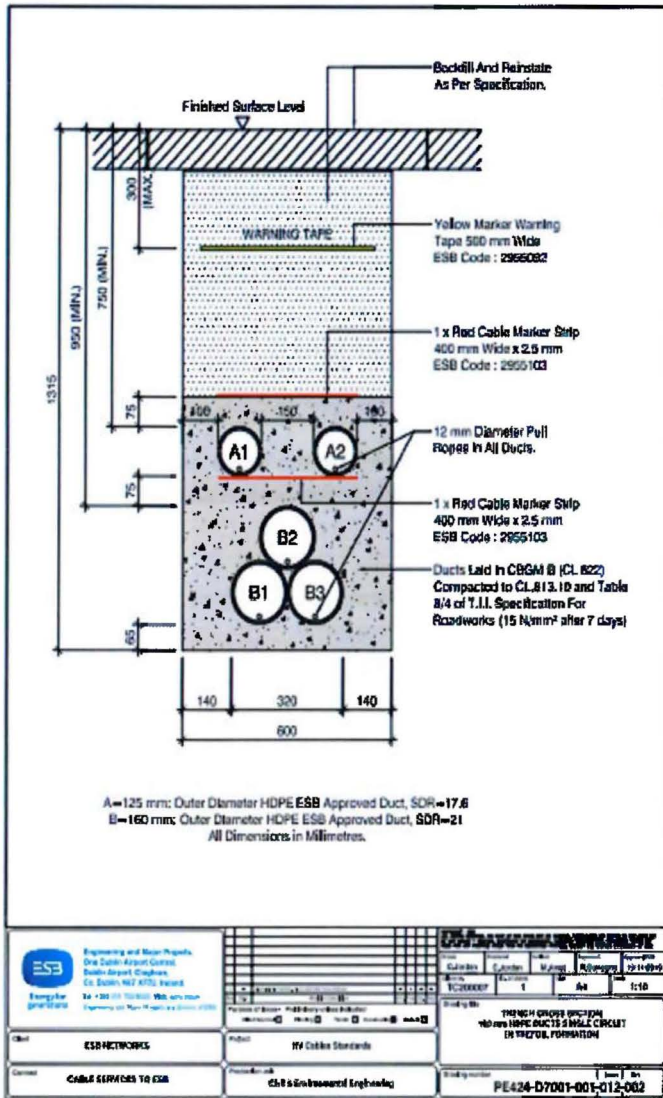
Excavation where utilities are congested will require numerous crossings and parallel runs of trenching and ducting with existing utilities. This will also require agreement on the method of crossing the utilities prior to excavation and may require supervision by a member of the utility provider. Hand digging and use of smaller excavators may also be required. Traffic management will be required for on-road construction.

For off-road or cross-country sections, a temporary working strip of approximately 30m in width is proposed. While the cable trench is approximately 0.6 to 1.5m (110kV to 110/220kV) in width, the approximately 30m working strip is required for the following reasons;

- To facilitate the storage of topsoil which must be removed from;
  - The footprint of the temporary construction access track (typically up to 5m in width).
  - The footprint of the cable trench.
  - A buffer strip between the temporary access track and the trench (for safety).
  - Subsoil storage area.
  - Materials storage areas.
- To facilitate the laying of the temporary construction access track alongside the cable trench to allow for the movement of construction equipment and materials along the section of the route on the farmland.
- To facilitate the excavation of the cable trench and the installation of the cable ducting.
- To facilitate the storage of distinct layers of subsoils excavated from the cable trench in segregated piles for later reinstatement to the original soil profile.

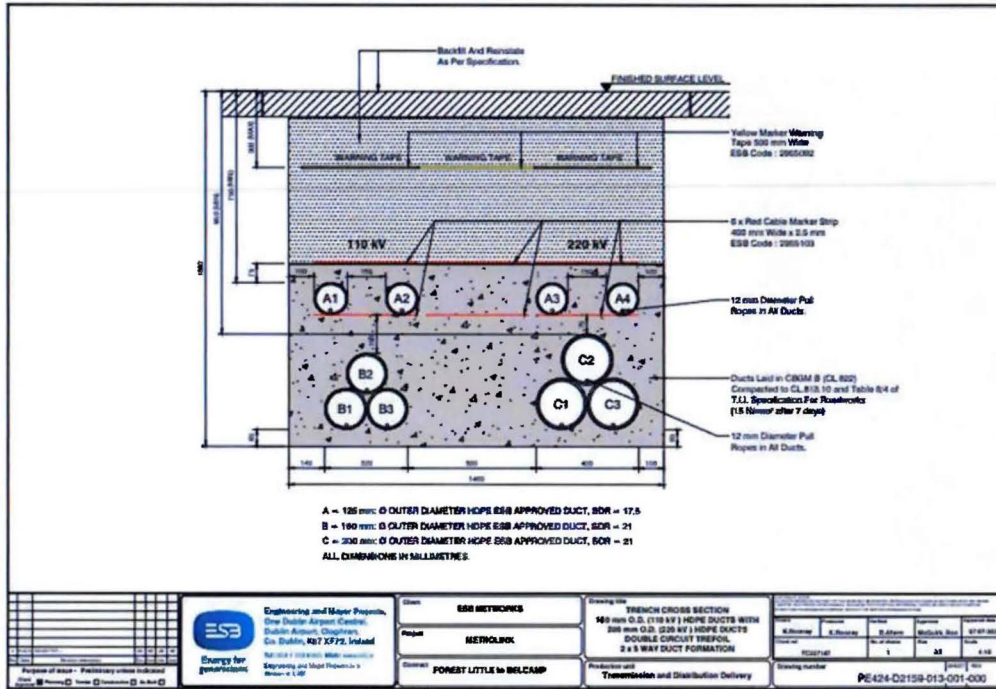
Approximately 30-50 m of trenching and ducting is completed in a day, dependent on conditions. Figure 2.4 illustrates a trench for a high voltage cable and Figure 2.5 illustrates reinstatement of the road.

Figure 2.1: 110kV Trench Cross-section Detail



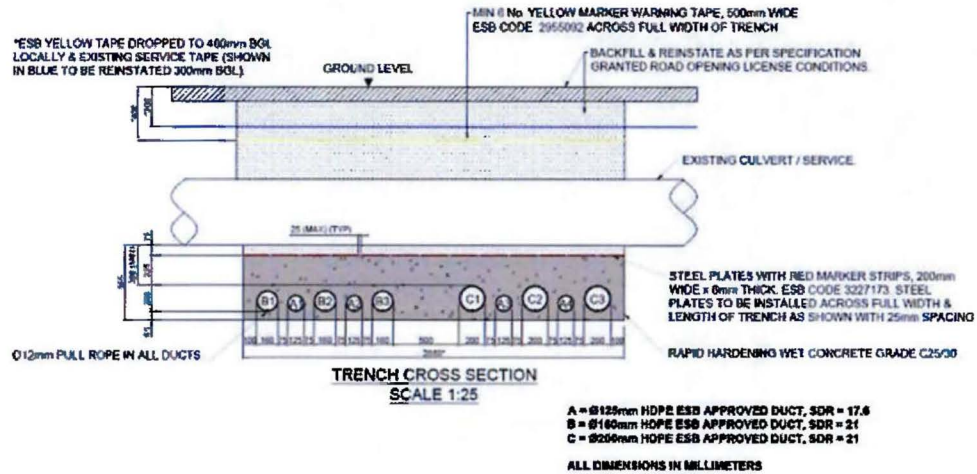
Source: ESB

Figure 2.2: 110kV/220kV Double Circuit Trefoil Formation Detail



Source: ESB

Figure 2.3: 110kV/220kV Double Circuit Flat Formation Typical Detail



Source: ESB

**Figure 2.4: Typical HV Trench Cross Section**



Source: ESB

**Figure 2.5: Reinstatement of Road Surface Over Trench**



Source: ESB

### 2.2.1.2 Cable Installation and Jointing

The cables will be brought to site on cable drums which will then be placed into position. Once the drum is set up, a winch system at the remote joint bay location(s), including pulling cable, will be attached to the nose of the cable and rollers will be used to guide the cable end towards the duct. The cables will then be pulled into the duct with lubrication being applied to the cable and duct throughout the process in order to control pulling tensions.

A bend radius of typically 20m or greater is used to navigate changes in direction for the cable route. The bend radius can be reduced to 6m to navigate very tight corners however as this introduces increased pulling tensions when installing the cable, it is used sparingly and only where required.

As detailed previously, joint bays will be required to be installed along the cable route to join consecutive lengths of cable and to facilitate cable pulling.

The width of the joint bays and the nature of the road network in the area means that road closures and diversions will be required in some areas along the route during construction and operation. However, all reasonable and practically achievable measures, such as moving of equipment and placing temporary covers over the trenches to allow essential access for vehicles, will be implemented to facilitate local access requirements for emergency services, residential and commercial purposes. Specific traffic management requirements and localised arrangements will be developed by the appointed contractor(s) and will be agreed in advance of implementation with the appropriate local authority.

Joint bays generally consist of precast concrete walls and base located below ground with typical approximate dimensions of 8m length x 2.5m width x 2.3m depth for 220kV joint bays and 6m length x 2.5m width x 2.3m depth for 110kV joint bays. Sand or lean mix concrete will be used as required as a blinding layer to the underside of the chamber. The ducts will be installed to each end of the chamber, then proven, cleaned and sealed. Figure 2.6 illustrates a joint bay and Figure 2.7 illustrates the cable pulling.

**Figure 2.6: Completed Joint Bay prior to Cable Installation (pre-cast)**



Source: ESB

**Figure 2.7: Typical Set-Up of HV Cable Pulling Procedure**



Source: ESB

### 2.2.1.3 Cable Crossings (Water, Utility, Airport Lights etc)

A number of crossings will be required along the cable routes. These crossings will be facilitated by either open cut trenching or HDD and will be confirmed following the site investigation. For the purposes of the assessment, the worst case has been assessed. HDD works have been confirmed at Stockhole Lane (Forest Little – Belcamp Option 2) and for the crossing of the M1 (Forest Little – Belcamp Option 1 and Option 2).

A description of open cut trenching and HDD methods is provided hereunder. All works will be preceded by detailed confirmatory utilities / services location assessments, and where existing

utilities / services are identified, the works will be diverted around the service / utility depending on the level of complexity arising.

The identification of crossings along the proposed cable routes has been based on consultations with utility providers, site walkovers, field studies and reviews of publicly available datasets such as Environmental Protection Agency (EPA) datasets and mapping. All crossings will be confirmed at construction stage and the mitigation detailed and proposed as part of this EIAR will be implemented when dealing with any such features.

### **Open Cut Trenches at Water Crossings**

Open cut water crossings have the potential to generate silt and suspended solids. In order to reduce the risk of discharging sediment it is proposed to carry out all of these works in a dry works area.

The dry works area will be isolated by installing an impermeable barrier between the watercourse and the works area. The impermeable barrier will be tailored to the watercourse in question. Techniques include the use of inflatable dams, frame dams or, in smaller watercourses, sandbags (double-bagged and underfilled; containing only clean washed sand).

Water pumped from the dry works area will be treated using settlement tanks to remove sediment prior to discharge back to the watercourse. In consultation with Inland Fisheries Ireland (IFI), greater filtration of silt may be achieved prior to discharge, through proposed use of silt de-watering bags which trap silt and expel only clean water and can be left to biodegrade on riverbanks as a habitat enhancement measure.

Water will be conveyed over the isolated section of channel by pumping or the use of a temporary diversion. Where sufficient capacity is available, and there is no risk of excessive scour, the diversion will be within the footprint of the existing channel.

The existence of a temporary impermeable barrier within the channel, will have a direct impact on the cross section of the channel and is expected to give rise to localised changes in water depth, velocities and sediment erosion / deposition.

Where open trenching is proposed, site restoration works will be carried out following completion of the crossing, in agreement with IFI. These works may include riverbank stabilization, gravel replacements etc. In all cases, the site will be restored post installation.

Open cut trenching works will not be carried out during extreme rainfall or high flow events. Met Éireann provides a 5-day weather forecast via its website ([www.met.ie](http://www.met.ie)) and works will not take place at least during yellow, orange and red weather warnings. The Contractor's Environmental Clerk of Works (EnCOW) will monitor this daily and will provide reports for audit.

Unless otherwise agreed with IFI, any element of the works requiring instream works will be restricted to the fisheries open season (i.e. restricted to July to September inclusive). Where trenching (instream) works are proposed, electrofishing may be required to remove fish under licence from IFI. Method statements will be developed in agreement with IFI for the works.

### **Horizontal Directional Drilling (HDD)**

HDD technology has been widely used in the oil and gas industries for several decades. It has become more commonplace in recent times in municipal engineering projects, such as for the installation of electrical cables, optical cables and potable water pipes. Competent specialist contractors will be appointed to undertake the work.

The HDD Contractor will conduct the drilling works in a safe and controlled manner with due regard for site constraints including environmental issues. The Contractor will be required to

ensure that their proposed works do not adversely affect, existing services / utilities, groundwater / aquifers.

The HDD compounds consist of launch and reception pits as the drilling rig requires the temporary installation of a level hardstanding area on a geotextile base. A pilot hole will be drilled from one side of the crossing to the other side while supporting the bored hole with bentonite. The drill bit will be oriented by the surveyor, and the driller will push the drill string into the ground to maintain the bore path. A steering system, guided by tri-axial magnetometers and accelerometers that provide real time directional information to the surveyor at the driller's console, will be used to navigate the bores.

The drilled cuttings will then be flushed back by the drill fluid flowing via nozzles in the drill bit, up the annulus to the surface, where they will be separated from the fluid fraction for disposal. A comprehensive closed-loop drilling fluid mixing and circulation system with recycling capability will be utilised to minimise the volume of fluids required on site.

Constant monitoring by the specialist drilling team of fluid volume pressure, pH, weight and viscosity will be carried out. The volume of cuttings produced will also be monitored to ensure that no over cutting takes place and that hole cleaning is maintained. The mud returns will be pumped to the circulation system trailer by means of a banded centrifugal pump. The nature of the cuttings will also be monitored to understand the ground conditions as the drilling progresses.

After the initial pilot hole is completed, it will be reamed in a number of passes to reach the required bore size to enable the cable ducts to be pulled through. To ensure that the prevailing geological conditions have suitable cohesion that can maintain the bore during the drilling and reaming process, close attention will be paid by the specialist drilling team to modelled drag forces during pullback with constant monitoring of load stress undertaken to ensure that modelled tensile stress, collapse pressures, hoop stress and buckling stress are not exceeded. In addition to the above measures, the rate of drilling progress will be monitored to assist with the identification of any voids or changes in strata.

On completion of the works, the stone and geotextile will be carefully removed using a back-hoe or 360° excavator and removed off-site to an appropriately permitted waste facility. The site will then be reinstated to its original condition.

There are limitations in entry angle and radius of curvature for drilling and often accommodating these to match favoured ground conditions can be challenging. The advantage with this method is that a number of standalone cable ducts can be provided as required with suitable separation to meet the preferred requirement. Unlike other installation techniques, a key advantage of HDD is that shafts are not required, but only entry / exit transition pits.

The Contractor will monitor river / stream flows upstream and downstream of any directional drilling of watercourse crossings. The flow monitoring will be undertaken on a daily basis for five working days prior to the directional drilling, during the directional drilling and for five working days following completion of the directional drilling. The Contractor will record the results of such monitoring, and provide these to ESB and the local authority and as required by any conditions. If a measurable increase in losses from the watercourse to ground is observed in the reach where the directional drilling took place, bed lining will be undertaken if required by IFI.

#### 2.2.1.4 Temporary Construction Compounds

The installation of underground ducting and cables will require temporary construction compounds to accommodate temporary storage, contractor offices, etc. These compounds are typically, but not always, located in close proximity to the works area. Generally, these compounds are selected by the appointed contractors for the project based on a variety of factors, including

operational requirements. Contractors are not appointed until planning permission has been secured and contracts have been signed for a particular project.

In the case of this project, given the passage of time between when preparation of this application for planning approval and when construction would commence, which will be a number of years, specific temporary construction compound locations cannot be identified in the planning application drawings, nor can specific locations be considered in this EIAR.

However, it is recognised that where a project is the subject of EIA, temporary compounds must be assessed and planning approval sought where required. It can sometimes be the case that construction compounds may already exist and are approved so it is not always necessary to seek further approval.

While this EIAR does not assess the impact of temporary construction compounds at specific identified locations, the contractor will ensure that the following environmental parameters will be complied with. The temporary compounds will form part of separate planning application(s). Area of existing hardstanding will be used where possible. The parameters which the temporary compound will comply with are:

- Compounds will not be located within 100m of proposed Natural Heritage Areas (pNHAs), Natural Heritage Areas (NHAs), Special Areas of Conservation (SACs) or Special Protection Areas (SPAs).
- Compounds will not be located in areas of semi natural habitats of significant local biodiversity value or in locations that will disturb protected fauna breeding sites, determined following ecological surveys.
- Compounds will not be located in or within the zone of notification of archaeological sites or sites of architectural heritage including National Monuments, Sites with Preservation Orders, listed in the Record of Monuments and Places (RMPs), Areas of Archaeological Potential, RPSs, Architectural Conservation Areas, NIAH structures.
- There will be a requirement for a programme of monitoring of any greenfield or off-road groundworks including those associated with temporary construction compounds, which will be agreed with the planning authority.
- Compounds will not be located within a flood zone and will be located a minimum of 50m from watercourses.
- Where there is linkage between a compound location and drains leading to rivers, bunding and silt fencing must be installed to prevent run off from entering downstream watercourses.
- Where bedrock is likely to be encountered and excavated, compounds should not be located in vicinity of karst features. Sanitary facilities will not be in proximity to karst voids, and vehicle activity near karst voids is to be avoided in case of collapse.
- Compound exits and entrances will not compromise road safety and there must be sufficient capacity on the road network.
- The location of compounds will be removed from residential areas where possible to ensure noise and lighting do not significantly affect residents or other sensitive receptors.
- The location of compounds will be away from air sensitive receptors as far as practicable to avoid adverse construction air quality impacts to sensitive receptors.
- The storage of dusty material in the compounds will be covered by impervious sheeting or water suppression will be applied to avoid wind erosion to air sensitive receptors.

All temporary construction compounds will be secured with hoarding / fencing around their perimeter as appropriate. Temporary construction compounds will include facilities such as construction phase car parking and welfare facilities and temporary material storage areas as necessary. Any discharges from temporary welfare facilities will be connected to a sealed

holding tank to be emptied and disposed of off-site by a licenced contractor to an approved licenced facility, located in the wider area.

Where an access road is required, engineering stone fill will be laid and compacted and maintained as required for the duration of the works. Once the works are completed, the engineered stone fill will be removed and the land will be reinstated to its original condition.

All construction workers will be required to use the designated access / egress routes only.

Storage of fuel and refuelling will be undertaken within bunded areas. Water will be brought to site via tankers as required.

Security lighting will be directional and cowed. The Contractor will regularly review security lighting in this regard, to inform adaptive management if necessary and report the monitoring findings regularly to ESB and the local authority.

#### 2.2.1.5 Passing Bays

During the construction phase of the proposed development, where a joint bay is required within the road, the provision of a passing bay at the location of the joint bay will facilitate the through movement of traffic along the road, as required. This will be by means of single traffic signalled lane or stop/go system at the joint bay, during the construction / installation phase.

The installation of the passing bay entails the removal of the top layer of ground to the side of the carriageway and temporarily storing it locally to the side for reinstatement following the works (to include hedgerow re-instatement). The passing bays will then be constructed to a standard agreeable to Fingal County Council/Dublin City Council.

Where the road width is still not sufficient, a road closure may be required to undertake the work. Further detail on proposed road closures and diversions is provided in the construction phase Traffic Management Plan provided in Appendix D, as an appendix to the Construction Environmental Management Plan.

#### 2.2.1.6 Construction Traffic

The total number of construction staff on-site will vary during the construction phase of the works but are expected to peak at approximately fifteen (15) persons. Four per trenching and ducting crew, two traffic management personnel per crew, one surveyor, one junior engineer and one senior engineer / project manager.

The estimated traffic movements associated with installation of the cable are presented in Table 2.1. The ultimate approach will be determined by the appointed Contractor, within the parameters assessed in this EIAR. No abnormal loads are anticipated to be required for the installation of the UGC.

The estimated average daily HGV traffic generation by number of vehicles and movements (one movement = one inbound journey + one return journey) per HV cable section are detailed in Table 2.1.

**Table 2.1: Average Daily HGVs**

HV Cable Route	Civil		Electrical	
	HGVs	HGV Movements	HGVs	HGV Movements
110 kV Newbury – Ballystruan; and	26	52	3	6
110 kV Ballystruan – Forest Little.	26	52	3	6

HV Cable Route	Civil		Electrical	
	HGVs	HGV Movements	HGVs	HGV Movements
110 kV / 220 kV Forest Little – Belcamp Option 1	42	84	7	14
110 kV / 220 kV Forest Little – Belcamp Option 2	29	58	0*	0*

Source: Mott MacDonald

\*The joint bays are off road, resulting in a 0 daily average

In general, it is anticipated that construction will occur during normal working hours i.e. Monday to Friday 07:00 to 19:00 hours and 08.00 to 17.00 on Saturday. However, the working hours may be dictated by either the planning conditions or conditions contained within the road opening licenses, if granted. Night working may also be a requirement in highly congested areas and these works will be completed in full compliance with the local authorities' requirements. There may be instances where extended hours / days are required however should working outside these hours / days be required they will only be undertaken with prior agreement with all relevant statutory authorities.

#### 2.2.1.7 Construction Programme

The power supply for the MetroLink project is anticipated to be required in the 2030s, consequently, it is proposed that the associated cabling works associated will be undertaken in two stages/phases, namely a civil phase, and an electrical phase.

The civil phase will be undertaken at the earliest opportunity, while the electrical phase will be undertaken at later date when the MetroLink infrastructure requires it.

The following are indicative timelines for construction of the underground cables:

- Newbury to Ballystruan - Subject to the grant of statutory approval, it is anticipated that the construction phase will commence in Q2 of 2030 and the construction works (civil) will be complete in Q1 of 2031.
- Ballystruan to Forest Little - Subject to the grant of statutory approval, it is anticipated that the construction phase (civil works only) will commence in Q3 of 2026 and the construction works (civil) will be complete in Q4 of 2027.
- Forest Little to Belcamp - Subject to the grant of statutory approval, it is anticipated that the construction phase (civil works only) will commence in Q3 of 2027 and the construction works (civil) will be complete in Q1 of 2029.

**Table 2.2: Indicative Programme**

	Newbury – Ballystruan	Ballystruan – Forest Little	Forest Little – Belcamp (option 1)	Forest Little – Belcamp (option 2)
<b>Civil Works</b>				
Pre-construction	6 weeks	6 weeks	6 weeks	6 weeks
Trenching and ducting works and temporary reinstatement (based on two crews)	16 weeks	40 weeks	48 weeks	24 weeks

	<b>Newbury – Ballystruan</b>	<b>Ballystruan – Forest Little</b>	<b>Forest Little – Belcamp (option 1)</b>	<b>Forest Little – Belcamp (option 2)</b>
Joint Bay Installation & temporary reinstatement	7 weeks	9 weeks	18 weeks	9 weeks
Permanent Reinstatement of trench	3 weeks	8 weeks	7 weeks	4 weeks
<b>Total</b>	<b>32 weeks</b>	<b>63 weeks</b>	<b>79 weeks</b>	<b>43 weeks</b>
<b>Electrical Works</b>				
Pre-construction works	3 weeks	3 weeks	3 weeks	3 weeks
HV cable joint bay re-excavation (min 3 max 5 at time)	7 weeks (jointing works in parallel after initial 5 JB's open)	7 weeks (jointing works in parallel after initial 5 JB's open)	10 weeks (jointing works in parallel after initial 5 JB's open)	5 weeks (jointing works in parallel after initial 5 JB's open)
Proving of ducting / HV cable installation	7 weeks	8 weeks	14 weeks	7 weeks
HV cable jointing	6 weeks	9 weeks	17 weeks	8 weeks
HV cable commissioning (sheath test, cross bonding and HV/AC testing)	3 weeks	3 weeks	3 weeks	3 weeks
Permanent Reinstatement of Joint Bays (Civil Contractor)	6 weeks	6 weeks	11 weeks	5 weeks
<b>Total</b>	<b>32 weeks</b>	<b>36 weeks</b>	<b>58 weeks</b>	<b>31 weeks</b>

### 2.2.1.8 Construction Environmental Management Plan

A CEMP is included as Appendix D to this EIAR and will be implemented during the construction phase in consultation with Fingal County Council and Dublin City Council. The CEMP will remain a 'live' document which will be reviewed regularly and revised as necessary in consultation and agreement with the two Local Authorities to ensure that the measures implemented are effective. The CEMP will be subject to ongoing review throughout the construction phase of the proposed development. This will confirm the efficacy and implementation of all relevant mitigation measures and commitments identified in the application documentation.

The primary objective of the CEMP is to safeguard the environment, site personnel and nearby sensitive receptors from site activity which may cause harm or nuisance. As such, the CEMP sets out a project framework to ensure that key mitigation measures and conditions set out as part of the planning consent process are translated into measurable actions and are appropriately implemented during the construction phase of the proposed development. As part of this framework, transparent and effective monitoring of the receiving environment during construction will be used to inform and manage on-going activities on site and to demonstrate effectiveness of the measures outlined therein.

ESB will monitor the contractor(s) performance on a regular basis and will undertake various compliance checks throughout the duration of the construction period including:

- Review contractor documents against the requirements of the CEMP;
- Undertake regular audits;

- Continuously check records;
- Set up a contractor reporting structure; and
- Conduct regular meetings (at least fortnightly) where Environmental Health and Safety is an agenda item.

### **Traffic Management Plan**

The appointed Contractor will further develop the Traffic Management Plan (TMP) based on the information provided within Appendix D (CEMP) of this EIAR in ongoing consultation with Fingal County Council and Dublin City Council. The TMP is considered a 'live' document and as such, may be subject to iterative updates in consultation and agreement with the two Local Authorities, as part of ongoing review (throughout the construction phase of the proposed development). This will confirm the efficacy and implementation of all relevant mitigation measures and commitments identified in the application documentation. The implementation of the TMP will mitigate potential construction traffic impacts on the public road network. All construction activities, including construction traffic, will be managed through the CEMP.

### **Construction Resource Management Plan**

Prior to commencement of the development, the appointed Contractor will implement the Construction Resource Waste Management Plan (included as part of the CEMP comprising Appendix D) which will ensure that optimum levels of waste prevention, reduction, re-use, recycling, and recovery are achieved throughout the duration of the proposed development. As with the CEMP and TMP, the CRWMP may be subject to iterative updates in consultation and agreement with the two Local Authorities, as part of ongoing review (throughout the construction phase of the proposed development). This will confirm the efficacy and implementation of all relevant mitigation measures and commitments identified in the application documentation.

The plan has been prepared in accordance with waste management guidance and principles as outlined in Best practice guidelines for the preparation of resource & waste management plans for construction & demolition projects (EPA, 2021) and Design Out Waste: A design team guide to waste reduction in construction and demolition projects (EPA, 2015).

All operations at the site will be managed and programmed in such a manner as to prevent / minimise waste production and maximise upper tier waste management (i.e. re-use, recycle, and recovery) in line with the Waste Hierarchy where technically and economically feasible.

The requirement to develop, maintain and operate the CRWMP will form part of the contract documents for the proposed development and will be updated by the appointed Contractor in advance of the commencement of construction activities on site. Waste sent off site for recovery or disposal will only be conveyed by an authorised waste contractor and transported from the proposed development site to an authorised site of recovery/disposal in a manner which will not adversely affect the environment. All employees will be required to comply with the obligations under this CRWMP.

#### **2.2.1.9 Environmental Clerk of Works**

The Contractor's Environmental Clerk of Works (EnCoW) will have suitable environmental qualifications. The EnCoW will have the necessary experience and knowledge appropriate to the role (including experience of HDD and will be a member of a relevant professional body, such as the Institute of Environmental Management and Assessment (IEMA)). The suitability of qualifications/ experience of proposed EnCoW will be confirmed by a senior/ principal environmental / ecologist person from the Employers Representative. The EnCoW will be delegated sufficient powers under the construction contract so that they will be able to instruct the Contractor to stop works and to direct the carrying out of emergency mitigation / clean-up operations. The EnCoW will also manage consultation with environmental bodies including the

NPWS and IFI. The EnCoW will be responsible for carrying out regular monitoring of the Contractor's CEMP and will report monitoring findings in writing to ESB on a regular basis (at least weekly, but immediately in the case of incidents or accidents).

### **2.2.2 Description of the Construction Phase (Substation Interface)**

The proposed underground cables will connect into two existing substations (Newbury 110kV substation and Belcamp 220kV substation) and two proposed substations (Forest Little 110kV substation and Ballystruan 110kV substation) which form part of the MetroLink RO application. The ducting will be brought to the wall of the Gas Insulated Switchgear (GIS) substation buildings and pass through ducts into the cable pit and then connect into the GIS switchgear on the first floor of the GIS building. The ducts will then be sealed.

### **2.2.3 Operation and Maintenance Phase (Underground Cables)**

It will be the responsibility of Electricity Supply Board Networks (ESBN), the asset owner, to ensure that all work is carried out in accordance with the EIAR and planning conditions. ESBN will be responsible for maintaining the asset.

The 110 kV cable route will not require specific or routine maintenance activities along the cable trench or joint bay locations. Access may be required on a rare occasion to facilitate cable replacement if a failure occurs.

Access will be required to link boxes and communications chambers for inspection and maintenance, estimated at a frequency of once per annum for scheduled maintenance.

### **2.2.4 Operation and Maintenance Phase (Substation Interface)**

Newbury 110kV substation is a Distribution System Operator (DSO) substation and operated by ESBN. Belcamp 220kV substation is a Transmission System Operator (TSO) substation and operated by EirGrid and maintained by ESBN. The proposed substations at Forest Little and Ballystruan (the subject of RO application NA29N.314724) will be operated by ESBN.

Maintenance activities will consist of regular inspections and periodic testing in line with existing procedures.

### **2.2.5 Decommissioning Phase (Underground Cables)**

It is not intended to decommission the proposed electricity infrastructure. Equipment will be replaced but decommissioning is not intended. In the highly unlikely event that decommissioning is required, the effects would be similar but less than those assessed during construction of the underground cables.

### **2.2.6 Decommissioning Phase (Substations)**

It is not intended to decommission the substations; however, it is likely that equipment will be replaced in the future.

## 2.3 Summary of Potential Impacts

In the absence of mitigation measures, there is the potential for the following impacts.

### Construction Phase

- Potential for direct impact to habitats and species within the footprint of the Proposed Development;
- Potential for indirect impact to habitats and species within the vicinity / downstream of the Proposed Development;
- Potential for generation of dust
- Potential for generation of surface-water pollution/sedimentation including release of polyfluoroalkyl substances (hereafter referred to as PFAS).
- Potential for noise and vibration effects.

### Operational Phase

- Potential for a local increase in light levels anticipated.

### Decommissioning phase

- Comparable to the construction phase.

## 2.4 European Sites in the Zone of Impact (Zoi)

In the context of an ecological impact assessment generally (CIEEM, 2018)<sup>11</sup> the Zone of Influence (Zoi) for a Proposed Development is defined as that:

*“the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries” and that “the zone of influence will vary for different ecological features depending on their sensitivity to an environmental change.”*

The Zoi varies depending on the construction and operational activity and the sensitivity of the receptor (e.g., flora, birds, terrestrial mammals) to the effect encountered. The Zoi identified for various ecological receptors, having regard to the potential for impact as outlined previously are as detailed below:

- The footprint of the Proposed Development for direct damage to habitats
- Given the nature of the proposed methods (e.g. trenching, ducting, HDD, etc), the Zoi for dust effects<sup>12</sup> to ecological receptors was identified as 50m
- 40m for detectable noise effects<sup>13</sup> to wetland bird species during construction phase only. The noise study conducted to inform the EIA outlined that construction phase works noise will fall to below 65dB within up to 40m of the Proposed Development
- Catchment wide Zoi for surface waterbodies

<sup>11</sup> Guidelines for Ecological Impact Assessment in the UK and Ireland (Terrestrial, Freshwater, Coastal and Marine), Chartered Institute of Ecology and Environmental Management (CIEEM). September 2018 (version 1.2 updated April 2022).

<sup>12</sup> Holman, C., Barrowcliffe, R., Birkenshaw, D., Dalton, H., Gray, G., Harker, G., Brett, P., Laxen, D., Mamer, B. and Marsh, D., 2014. IAQM Guidance on the Assessment of Dust from Demolition and Construction. Institute of Air Quality Management: London, UK.

<sup>13</sup> Cutts, N., Phelps, A., & Burdon, D. (2009). Construction and waterfowl: Defining sensitivity, response, impacts and guidance. Report to Humber INCA by the Institute of Estuarine and Coastal Studies, University of Hull. EN (2003) The Humber Estuary European Marine Site: English Nature's advice given under Regulation, 33(2).

## 2.5 Source-Pathway-Receptor Impact Assessment

Projects have the potential to impact on European sites beyond the footprint of the project itself. National Guidance<sup>14, 15</sup> states that screening for AA should be carried out for any European site within the likely ZoI of a plan or project. For projects, the guidance recommends that ZoI must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects.

In order to establish the ZoI of the Proposed Development, desktop and field survey data on protected habitats and species was mapped using Geographic Information System (GIS) software. This data was interrogated for source-pathway-receptor connectivity.

The source (potential impacts from the cable development works), pathways (hydrological, physical or ecological connectivity) and receptors (QIs and SCIs of the European sites) were identified through a combination of bespoke field survey and desktop survey, including use of GIS software and through examination of aerial photography. Any European sites identified to have a viable source-pathway-receptor link to the Proposed Development were then examined further to determine the potential for significant effects. The potential environmental effects of the Proposed Development can be summarised as:

- Direct impact to mobile QIs/SCIs, and supporting habitat (direct damage to vegetation) for same
- Indirect impacts to QIs/SCIs via:
  - Dust deposition;
  - Accidental release of pollutants into surface waters,
  - Introduction, dispersal or spread of invasive species; and,
  - Sedimentation of surface waters from site runoff and dewatering of excavations.
  - Other possible contamination sources including PFAS.

Table 2.3 includes the source-pathway-receptor assessment for the Proposed Development. All European sites within the Natura 2000 network were considered in the course of compilation including more distant sites such as [Codling Fault Zone SAC \(003015\)](#).

The location of the Proposed Development in relation to European sites is provided in Appendix A.

<sup>14</sup> Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government, 2009

<sup>15</sup> OPR Practice Note PN01, Appropriate Assessment Screening for Development Management, Office of the Planning Regulator, March 2021

**Table 2.3: Source-Pathway-Receptor Assessment**

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
<b>Special Areas of Conservation (SAC)</b>				
Baldoyle Bay SAC (000199) <sup>16</sup>	2.6km	<ul style="list-style-type: none"> <li>● Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>● Salicornia and other annuals colonising mud and sand [1310]</li> <li>● Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]</li> <li>● Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</li> </ul>	<p>The Proposed Development is located entirely outside of the Baldoyle Bay SAC. In addition, the QIs for the site are not mobile. As such, there is no potential for direct impacts to QIs associated with the Baldoyle Bay SAC.</p> <p>The Proposed Development is proximal to the Sluice Stream, crosses the Cuckoo Stream and the River Mayne. The Sluice Stream, Cuckoo Stream and River Mayne have hydrological connectivity to the Baldoyle Bay SAC.</p> <p>The proposed cable development works may result in surface water emissions and sediment run-off directly into the aforementioned watercourses and ultimately into the Baldoyle Bay SAC.</p> <p>Disturbance of Japanese Knotweed facilitated by hydrological (river) connectivity may result in spread onto saltmarsh habitat.</p> <p>Site specific Conservation Objective mapping shows all four QI habitats located where the rivers outfall into the bay.</p> <p>These four habitats are generally reliant on inputs of sediments as part of their natural processes. However, should cementitious products enter into the SAC there is potential for impact to invertebrate communities within the mudflat habitat. As such, on a</p>	<p>Given the hydrological connectivity the SAC, a pathway for surface water pollutants and Japanese Knotweed to enter into the European site has been identified. This has potential to result in a degradation of mudflat habitat within the SAC.</p> <p><b>On this basis the potential for significant effects to Baldoyle Bay SAC has been identified.</b></p>

<sup>16</sup> NPWS (2012) Conservation Objectives: Baldoyle Bay SAC 000199. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
North Dublin Bay SAC (000206) <sup>17</sup>	3km	<ul style="list-style-type: none"> <li>● Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>● Annual vegetation of drift lines [1210]</li> <li>● Salicornia and other annuals colonising mud and sand [1310]</li> <li>● Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]</li> <li>● Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</li> <li>● Embryonic shifting dunes [2110]</li> <li>● Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]</li> <li>● Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> <li>● Humid dune slacks [2190]</li> <li>● <i>Petalophyllum ralfsii</i> (petalwort) [1395]</li> </ul>	<p>precautionary basis, a viable source pathway receptor link is identified.</p> <p>The Proposed Development is located entirely outside of the North Dublin Bay SAC. In addition, the QIs for the site are not mobile. As such, there is no potential for direct impacts to QIs associated with the North Dublin Bay SAC.</p> <p>Given the location of the SAC relative to the Proposed Development there is no viable source pathway receptor link to terrestrial QIs such as petalwort, and white dune, grey dune, dune slacks, and embryonic shifting dune habitats.</p> <p>The Proposed Development crosses the River Santry twice. The River Santry has direct hydrological connectivity to the North Dublin Bay, albeit one at with significant distance hydrologically.</p> <p>The Proposed Development has potential to result in surface water emissions and sediment run-off directly into the River Santry watercourse, and ultimately to North Dublin Bay SAC.</p> <p>Disturbance of Japanese Knotweed facilitated by hydrological (river) connectivity may result in spread onto saltmarsh habitat.</p> <p>Tidal mudflats have been mapped by the site-specific conservation objectives as occurring where the River Santry outfalls into North Dublin bay SAC. These habitats are reliant on inputs of sediments as part of their natural</p>	<p>Given the hydrological connectivity the SAC, a pathway for surface water pollutants and Japanese Knotweed to enter into the European site has been identified. This has potential to result in a degradation of mudflat habitat within the SAC.</p> <p><b>On this basis the potential for significant effects to North Dublin Bay SAC has been identified.</b></p>

<sup>17</sup> NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
Malahide Estuary SAC (000205) <sup>18</sup>	3.5km	<ul style="list-style-type: none"> <li>● Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>● Salicornia and other annuals colonising mud and sand [1310]</li> <li>● Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]</li> <li>● Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</li> <li>● Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]</li> <li>● Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> </ul>	<p>processes. However, should cementitious products enter into the SAC there is potential for impact to invertebrate communities within the habitat. As such, on a precautionary basis, a viable source pathway receptor link is identified.</p> <p>The Proposed Development is located entirely outside of the Malahide Estuary SAC. In addition, the QIs for the site are not mobile. As such, there is no potential for direct impacts to QIs associated with the Malahide Estuary SAC.</p> <p>The Proposed Development crosses tributaries of the River Ward at several points. The River Ward has direct hydrological connectivity to Malahide Estuary SAC.</p> <p>The Proposed Development has potential to result in surface water emissions and sediment run-off directly into the Malahide Estuary SAC. Disturbance of Japanese Knotweed facilitated by hydrological (river) connectivity may result in spread onto saltmarsh habitat.</p> <p>Tidal mudflats have been mapped by the site-specific conservation objectives as occurring downstream of where the River Ward outfalls into Malahide Estuary SAC. These habitats are reliant on inputs of sediments as part of their natural processes. However, should cementitious products enter into the SAC there is potential for impact to invertebrate communities within the habitat. As such, on a</p>	<p>Given the hydrological connectivity the SAC, a pathway for surface water pollutants and Japanese Knotweed to enter into the European site has been identified. This has potential to result in a degradation of mudflat habitat within the SAC.</p> <p><b>On this basis the potential for significant effects to Malahide Estuary SAC has been identified.</b></p>

<sup>18</sup> NPWS (2013) Conservation Objectives: Malahide Estuary SAC 000205. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
Howth Head SAC (000202) <sup>19</sup>	6.5km	<ul style="list-style-type: none"> <li>• Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>• European dry heaths [4030]</li> </ul>	<p>precautionary basis, a viable source pathway receptor link is identified.</p> <p>The Proposed Development is located entirely outside of Howth Head SAC. There is no potential for direct impact to the QIs associated with the SAC.</p> <p>Given the location of the Proposed Development relative to the QIs, and the terrestrial nature of them, no viable source pathway receptor links have been identified.</p>	<p>Given no viable source pathway receptor link exists to the SAC, the potential for likely significant effects can be excluded.</p>
Ireland's Eye SAC (002193) <sup>20</sup>	7.2km	<ul style="list-style-type: none"> <li>• Perennial vegetation of stony banks [1220]</li> <li>• Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> </ul>	<p>The Proposed Development is located entirely outside of the Ireland's Eye SAC. There is no potential for direct impact to QI habitat.</p> <p>As outlined previously, the Proposed Development crosses the River Santy, the River Mayne, the River Sluice, and the River Ward. These watercourses all have hydrological connectivity to the coastal waters to the east of the Proposed Development.</p> <p>Given the length of these hydrological routes, and the extent of the coastal waters, any surface water emissions including possible PFAS contamination, would be attenuated prior to entering into the SAC boundary. As such, no viable source-pathway-receptor link is identified.</p>	<p>Given no viable source pathway receptor link exists to the SAC, the potential for likely significant effects can be excluded.</p>

<sup>19</sup> NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.

<sup>20</sup> NPWS (2017) Conservation Objectives: Ireland's Eye SAC 002193. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
Rockabill to Dalkey Island SAC (003000) <sup>21</sup>	7.3km	<ul style="list-style-type: none"> <li>• Reefs [1170]</li> <li>• <i>Phocoena phocoena</i> (harbour porpoise) [1351]</li> </ul>	<p>The Proposed Development is located entirely outside of the Rockabill to Dalkey SAC. There is no potential for direct impact to reef habitat. Harbour porpoise may occur outside of the European site boundary. However, the Proposed Development is set back from coastal waters by approximately 3.5km at its closest point. This is outside of the Zol for noise and other disturbance type impacts to marine mammals as outlined by DAHG (2014)<sup>22</sup> (which is between 500m and 1km dependant on the sound source). As such, there is no potential for impact to harbour porpoise associated with the Proposed Development.</p> <p>As outlined previously, the Proposed Development crosses the River Santy, the River Mayne, the River Sluice, and the River Ward. These watercourses all have hydrological connectivity to the coastal waters to the east of the Proposed Development.</p> <p>Rockabill to Dalkey Island SAC is set back in the coastal waters. As such, given the length of the hydrological route, and the extent of the coastal waters, any surface water emissions, including possible PFAS contamination, would be attenuated prior to entering into the SAC boundary. As such, no viable source-pathway-receptor link is identified.</p>	<p>Given no viable source pathway receptor link exists to the SAC, the potential for likely significant effects can be excluded.</p>

<sup>21</sup> NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

<sup>22</sup> DAHG (2014) Guidance to Manage the Risk to Marine Mammals from man-made Sound Sources in Irish Waters.

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
Rogerstown Estuary SAC (000208) <sup>23</sup>	7.5km	<ul style="list-style-type: none"> <li>• Estuaries [1130]</li> <li>• Mudflats and sandflats not covered by seawater at low tide [1140]</li> <li>• Salicornia and other annuals colonising mud and sand [1310]</li> <li>• Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330]</li> <li>• Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</li> <li>• Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]</li> <li>• Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]</li> </ul>	<p>The Proposed Development is located entirely outside of Rogerstown Estuary SAC. There is no potential for direct impact to QI habitat.</p> <p>There is no hydrological connectivity identified between the Proposed Development and Rogerstown Estuary SAC.</p> <p>Given the location of the Proposed Development relative to Rogerstown Estuary SAC, no viable source pathway receptor links are identified.</p>	<p>Given no viable source pathway receptor link exists to the SAC, the potential for likely significant effects can be excluded.</p>
Lambay Island SAC (000204) <sup>24</sup>	11.9km	<ul style="list-style-type: none"> <li>• Reefs [1170]</li> <li>• Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</li> <li>• <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]</li> <li>• <i>Halichoerus grypus</i> (Grey Seal) [1364]</li> <li>• <i>Phoca vitulina</i> (Harbour Seal) [1365]</li> </ul>	<p>The Proposed Development is located entirely outside of the Lambay Island SAC. There is no potential for direct impact to reef or vegetated sea cliff habitat.</p> <p>Harbour seal and grey seal may occur outside of the European site boundary. However, the Proposed Development is set back from coastal waters by approximately 3.5km at its closest point. This is outside of the Zol for disturbance impacts to marine mammals as outlined by DAHG (2014)<sup>25</sup> (which is between 500m and 1km dependant on the sound source). As such, there is no potential for impact to harbour seal or grey seal associated with the Proposed Development.</p>	<p>Given no viable source pathway receptor link exists to the SAC, the potential for likely significant effects can be excluded.</p>

<sup>23</sup> NPWS (2013) Conservation Objectives: Rogerstown Estuary SAC 000208. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

<sup>24</sup> NPWS (2013) Conservation Objectives: Lambay Island SAC 000204. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

<sup>25</sup> DAHG (2014) Guidance to Manage the Risk to Marine Mammals from man-made Sound Sources in Irish Waters.

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
<p>As outlined previously, the Proposed Development crosses the River Santy, the River Mayne, the River Sluice, and the River Ward. These watercourses all have hydrological connectivity to the coastal waters to the east of the Proposed Development. Lambey Island SAC is set back in the coastal waters. Given the length of the hydrological route, and the extent of the coastal waters, any surface water emissions, including possible PFAS contamination, would be attenuated prior to entering into the SAC boundary. As such, no viable source-pathway-receptor link is identified.</p>				
<b>Special Protection Areas (SPA)</b>				
Baldoyle Bay SPA (004016) <sup>26</sup>	2.6km	<ul style="list-style-type: none"> <li>• Light-bellied brent goose (<i>Branta bemeicla hrota</i>) [A046]</li> <li>• Shelduck (<i>Tadorna tadorna</i>) [A048]</li> <li>• Ringed plover (<i>Charadrius hiaticula</i>) [A137]</li> <li>• Golden plover (<i>Pluvialis apricaria</i>) [A140]</li> <li>• Grey plover (<i>Pluvialis squatarola</i>) [A141]</li> <li>• Bar-tailed godwit (<i>Limosa lapponica</i>) [A157]</li> <li>• Wetland and waterbirds [A999]</li> </ul>	<p>The Proposed Development is located entirely outside of the Baldoyle Bay SPA. However, ex situ SCI species associated with this SPA have been recorded within the Zol of the Proposed Development. There is a potential for temporary (construction phase) disturbance to some ex-situ wintering bird species outside the SPA that may use adjacent grassland areas to the proposed development.</p> <p>The Proposed Development is proximal to the Sluice Stream, crosses the Cuckoo Stream and the River Mayne. The Sluice Stream, Cuckoo Stream and River Mayne have hydrological connectivity to the Baldoyle Bay SPA.</p>	<p>Given the hydrological connectivity to the SPA, a pathway for surface water pollutants to enter into the European site has been identified. This has potential to result in a degradation of supporting habitat within the SPA. Wintering SCI bird species may be disturbed from foraging areas outside the SPA.</p> <p><b>On the basis of hydrological pathway for</b></p>

<sup>26</sup> NPWS (2013) Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
North Bull Island SPA (004006) <sup>27</sup>	3.1km	<ul style="list-style-type: none"> <li>• Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046]</li> <li>• Shelduck (<i>Tadorna tadorna</i>) [A048]</li> <li>• Teal (<i>Anas crecca</i>) [A052]</li> <li>• Pintail (<i>Anas acuta</i>) [A054]</li> <li>• Shoveler (<i>Anas clypeata</i>) [A056]</li> <li>• Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</li> <li>• Golden plover (<i>Pluvialis apricaria</i>) [A140]</li> <li>• Grey plover (<i>Pluvialis squatarola</i>) [A141]</li> <li>• Knot (<i>Calidris canutus</i>) [A143]</li> <li>• Sanderling (<i>Calidris alba</i>) [A144]</li> <li>• Dunlin (<i>Calidris alpina</i>) [A149]</li> <li>• Black-tailed godwit (<i>Limosa limosa</i>) [A156]</li> <li>• Bar-tailed godwit (<i>Limosa lapponica</i>) [A157]</li> <li>• Curlew (<i>Numenius arquata</i>) [A160]</li> <li>• Redshank (<i>Tringa totanus</i>) [A162]</li> <li>• Turnstone (<i>Arenaria interpres</i>) [A169]</li> <li>• Black-headed gull (<i>Chroicocephalus ridibundus</i>) [A179]</li> <li>• Wetland and waterbirds [A999]</li> </ul>	<p>The proposed cable development works may result in surface water emissions and sediment run-off directly into the aforementioned watercourses and ultimately into the Baldoyle Bay SPA. There is potential for these emissions to cause degradation of supporting habitat for SCI species.</p> <p>The Proposed Development is located entirely outside of the North Bull Island SPA. There is potential for SCI species to occur outside of the SPA boundary within the Zol of the Proposed Development. Black-headed gulls, curlew, and golden plover were recorded within the Zol of the Proposed Development. <b>There is a potential for temporary (construction phase) disturbance to some ex-situ wintering bird species outside the SPA that may use adjacent grassland areas to the proposed development.</b></p> <p>The Proposed Development crosses the River Santry twice. The River Santry has direct hydrological connectivity to the North Bull Island SPA, albeit one at with significant distance hydrologically.</p> <p>The Proposed Development has potential to result in surface water emissions and sediment run-off directly into the River Santry watercourse, and ultimately to North Bull Island SPA.</p>	<p>surface water pollutants and temporary disturbance to ex situ wintering birds, <b>the potential for significant effects to Baldoyle Bay SPA has been identified.</b></p> <p>Given the hydrological connectivity to the SPA, a pathway for surface water pollutants and to enter into the European site has been identified. This has potential to result in a degradation of supporting habitat within the SPA. <b>Wintering SCI bird species may be disturbed from foraging areas outside the SPA. On this basis of hydrological pathway for surface water pollutants and temporary disturbance to ex situ wintering birds, the potential for significant effects to North Bull Island SPA has been identified.</b></p>

<sup>27</sup> NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
North-West Irish Sea SPA (004236)	3.5km	<ul style="list-style-type: none"> <li>● Red-throated Diver (<i>Gavia stellata</i>) [A001]</li> <li>● Great Northern Diver (<i>Gavia immer</i>) [A003]</li> <li>● Fulmar (<i>Fulmarus glacialis</i>) [A009]</li> <li>● Manx Shearwater (<i>Puffinus puffinus</i>) [A013]</li> <li>● Cormorant (<i>Phalacrocorax carbo</i>) [A017]</li> <li>● Shag (<i>Phalacrocorax aristotelis</i>) [A018]</li> <li>● Common Scoter (<i>Melanitta nigra</i>) [A065]</li> <li>● Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</li> <li>● Common Gull (<i>Larus canus</i>) [A182]</li> <li>● Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183]</li> <li>● Herring Gull (<i>Larus argentatus</i>) [A184]</li> <li>● Great Black-backed Gull (<i>Larus marinus</i>) [A187]</li> <li>● Kittiwake (<i>Rissa tridactyla</i>) [A188]</li> <li>● Roseate Tern (<i>Sterna dougallii</i>) [A192]</li> <li>● Common Tern (<i>Sterna hirundo</i>) [A193]</li> <li>● Arctic Tern (<i>Sterna paradisaea</i>) [A194]</li> <li>● Guillemot (<i>Uria aalge</i>) [A199]</li> <li>● Razorbill (<i>Alca torda</i>) [A200]</li> <li>● Puffin (<i>Fratercula arctica</i>) [A204]</li> <li>● Little Gull (<i>Hydrocoloeus minutus</i>) [A862]</li> <li>● Little Tern (<i>Sternula albifrons</i>) [A885]</li> </ul>	<p>There is potential for these emissions to cause degradation of supporting habitat for SCI species.</p>	<p>Hydrological connectivity to the SPA exists via rivers and a pathway for surface water pollutants to ultimately reach the European site.</p> <p>Given the entirely marine usage by SCI in this SPA combined with high dilution capacity in the marine environment, no degradation of water quality or other impacts are likely within the SPA noting also the relatively small-scale temporary installation works proposed.</p> <p>Given no viable source pathway receptor link exists to the SPA, the potential for likely significant effects can be excluded.</p>

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
Malahide Estuary SPA (004025) <sup>28</sup>	3.7km	<ul style="list-style-type: none"> <li>Great crested grebe (<i>Podiceps cristatus</i>) [A005]</li> <li>Light-bellied brent goose (<i>Branta bernicla hrota</i>) [A046]</li> <li>Shelduck (<i>Tadorna tadorna</i>) [A048]</li> <li>Pintail (<i>Anas acuta</i>) [A054]</li> <li>Goldeneye (<i>Bucephala clangula</i>) [A067]</li> <li>Red-breasted merganser (<i>Mergus serrator</i>) [A069]</li> <li>Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</li> <li>Golden plover (<i>Pluvialis apricaria</i>) [A140]</li> <li>Grey plover (<i>Pluvialis squatarola</i>) [A141]</li> <li>Knot (<i>Calidris canutus</i>) [A143]</li> <li>Dunlin (<i>Calidris alpina</i>) [A149]</li> <li>Black-tailed godwit (<i>Limosa limosa</i>) [A156]</li> <li>Bar-tailed godwit (<i>Limosa lapponica</i>) [A157]</li> <li>Redshank (<i>Tringa totanus</i>) [A162]</li> <li>Wetland and waterbirds [A999]</li> </ul>	<p>The Proposed Development is located entirely outside of the Malahide Estuary SPA. However, there is potential for SCI species to occur outside of the SPA boundary within the Zol of the Proposed Development. <b>There is a potential for temporary (construction phase) disturbance to some ex-situ wintering bird species outside the SPA that may use adjacent grassland areas to the proposed development.</b></p> <p>The Proposed Development crosses the River Ward at several points. The River Ward has direct hydrological connectivity to Malahide Estuary SPA.</p> <p>The Proposed Development has potential to result in surface water emissions and sediment run-off directly into the Malahide Estuary SPA. There is potential for these emissions to cause degradation of supporting habitat for SCI species.</p>	<p>Given the hydrological connectivity to the SPA, a pathway for surface water pollutants and to enter into the European site has been identified. This has potential to result in a degradation of supporting habitat within the SPA. Wintering SCI bird species may be disturbed from foraging areas outside the SPA.</p> <p><b>On this basis of hydrological pathway for surface water pollutants and temporary disturbance to ex situ wintering birds, the potential for significant effects to Malahide Estuary SPA has been identified.</b></p>
Ireland's Eye SPA (004117) <sup>29</sup>	6.8km	<ul style="list-style-type: none"> <li>Cormorant (<i>Phalacrocorax carbo</i>) [A017]</li> <li>Herring gull (<i>Larus argentatus</i>) [A184]</li> <li>Kittiwake (<i>Rissa tridactyla</i>) [A188]</li> <li>Guillemot (<i>Uria aalge</i>) [A199]</li> </ul>	<p>The Proposed Development is located entirely outside of the Ireland's Eye SPA. Ex situ populations of herring gull were recorded within the Zol of the Proposed Development. However, these are not breeding close to the</p>	<p>Given no viable source pathway receptor link exists to the SPA, the potential for likely</p>

<sup>28</sup> NPWS (2013) Conservation Objectives: Malahide Estuary SPA 004025. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

<sup>29</sup> NPWS (2024) Conservation objectives for Ireland's Eye SPA [004117]. First Order Site specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
		<ul style="list-style-type: none"> <li>Razorbill (<i>Alca torda</i>) [A200]</li> </ul>	<p>project and will not be significantly affected by construction phase disturbance.</p> <p>As outlined previously, the Proposed Development crosses the River Santy, the River Mayne, the River Sluice, and the River Ward. These watercourses all have hydrological connectivity to the coastal waters to the east of the Proposed Development.</p> <p>Given the length of these hydrological routes, and the extent of the coastal waters, any surface water emissions would be attenuated prior to entering into the SPA boundary. As such, no viable source-pathway-receptor link is identified.</p>	<p>significant effects can be excluded.</p>
Rogerstown Estuary SPA (004015) <sup>30</sup>	7.8km	<ul style="list-style-type: none"> <li>Greylag Goose (<i>Anser anser</i>) [A043]</li> <li>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]</li> <li>Shelduck (<i>Tadorna tadorna</i>) [A048]</li> <li>Shoveler (<i>Anas clypeata</i>) [A056]</li> <li>Oystercatcher (<i>Haematopus ostralegus</i>) [A130]</li> <li>Ringed Plover (<i>Charadrius hiaticula</i>) [A137]</li> <li>Grey Plover (<i>Pluvialis squatarola</i>) [A141]</li> <li>Knot (<i>Calidris canutus</i>) [A143]</li> <li>Dunlin (<i>Calidris alpina</i>) [A149]</li> <li>Black-tailed Godwit (<i>Limosa limosa</i>) [A156]</li> <li>Redshank (<i>Tringa totanus</i>) [A162]</li> <li>Wetland and Waterbirds [A999]</li> </ul>	<p>The Proposed Development is located entirely outside of the Rogerstown Estuary SPA.</p> <p>While flocks of wintering SCI species were recorded in the wider area of the Proposed Development they are more likely to be associated with closer SPA sites outlined above. Also noting the temporary nature of works within existing disturbed areas will not measurably increase baseline disturbance.</p> <p>There is no hydrological connectivity identified between the Proposed Development and Rogerstown Estuary SPA.</p>	<p>Given no viable source pathway receptor link exists to the SPA, the potential for likely significant effects can be excluded.</p>

<sup>30</sup> NPWS (2013) Conservation Objectives: Rogerstown Estuary SPA 004015. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
Howth Head Coast SPA (004113) <sup>31</sup>	8.4km	<ul style="list-style-type: none"> <li>● Kittiwake (<i>Rissa tridactyla</i>) [A188]</li> </ul>	<p>The Proposed Development is located entirely outside of the Howth Head Coast SPA. In addition, the area within the Zol of the Proposed Development has not been identified as supporting habitat for SCI Species. As such, there is no potential for direct impacts to SCI species associated with the Howth Head Coast SPA.</p> <p>As outlined previously, the Proposed Development crosses the River Santy, the River Mayne, the River Sluice, and the River Ward. These watercourses all have hydrological connectivity to the coastal waters to the east of the Proposed Development.</p> <p>Howth Head Coast is set on the eastern edge of the Howth peninsula. Given the length of the hydrological route, and the extent of the coastal waters, any surface water emissions would be attenuated prior to entering into the SPA boundary. Marine bird species (SCI) outlined are not likely to use the Zol of the proposed development. As such, no viable source-pathway-receptor link is identified.</p>	<p>Given no viable source pathway receptor link exists to the SPA, the potential for likely significant effects can be excluded.</p>
Lambay Island SPA (004069) <sup>32</sup>	11.9km	<ul style="list-style-type: none"> <li>● Fulmar (<i>Fulmarus glacialis</i>) [A009]</li> <li>● Cormorant (<i>Phalacrocorax carbo</i>) [A017]</li> <li>● Shag (<i>Phalacrocorax aristotelis</i>) [A018]</li> <li>● Greylag Goose (<i>Anser anser</i>) [A043]</li> </ul>	<p>The Proposed Development is located entirely outside of the Lambay Island SPA. While flocks of wintering SCI species were recorded in the wider area of the Proposed Development, the temporary nature of works</p>	<p>Given no viable source pathway receptor link exists to the SPA, the potential for likely</p>

<sup>31</sup> NPWS (2024) Conservation objectives for Howth Head Coast SPA [004113]. First Order Site specific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage.

<sup>32</sup> NPWS (2024) Conservation objectives for Lambay Island SPA [004069]. First Order Sitespecific Conservation Objectives Version 1.0. Department of Housing, Local Government and Heritage

European Site	Distance between the Proposed Development and European site (straight line) at closest point	Qualifying Interests (QI) / Special Conservation Interests (SCI) of the European site (* denotes priority habitat, breeding birds only noted otherwise wintering)	Source-Pathway-Receptor Assessment	Potential for Significant Effects
		<ul style="list-style-type: none"> <li>● Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183]</li> <li>● Herring Gull (<i>Larus argentatus</i>) [A184]</li> <li>● Kittiwake (<i>Rissa tridactyla</i>) [A188]</li> <li>● Guillemot (<i>Uria aalge</i>) [A199]</li> <li>● Razorbill (<i>Alca torda</i>) [A200]</li> <li>● Puffin (<i>Fratercula arctica</i>) [A204]</li> </ul>	<p>within existing disturbed areas will not measurably increase baseline disturbance and no significant disturbance effects are likely.</p> <p>As outlined previously, the Proposed Development crosses the River Santy, the River Mayne, the River Sluice, and the River Ward. These watercourses all have hydrological connectivity to the coastal waters to the east of the Proposed Development.</p> <p>Lambay Island SPA is set back in the coastal waters. Given the length of the hydrological route, and the extent of the coastal waters, any surface water emissions would be attenuated prior to entering into the SPA boundary.</p>	<p>significant effects can be excluded.</p>

## 2.6 Plans and Projects that May Act In-Combination

Article 6(3) of the Habitats Directive requires that, “Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives”.

It is therefore required that the potential impacts of the Proposed Development are considered in combination with any other relevant plans or projects.

An assessment of plans and projects with the potential for in combination effects in association with the Proposed Development was undertaken in December 2022, to examine projects with potential for in-combination effects.

Applications which were made typically consisted of extensions, demolitions and renovations to existing houses, and retention of existing developments. Given the location of these works in relation to the European sites, and the Proposed Development there is no potential for in-combination effects.

Other, larger scale, projects, and electricity transmission projects which were identified are outlined hereunder.

### **MetroLink - Estuary to Charlemont via Dublin Airport) (314724)**

The application is to carry out railway works and all works necessary to enable the construction, operation, maintenance and improvement of a railway designated as a metro including inter alia the construction of a fully segregated and automated railway and metro mostly underground approximately 18.8 kilometres in length with 16 stations running from north of Swords at Estuary through Swords, Dublin Airport, Ballymun, Glasnevin and the City Centre to Charlemont in the south of Dublin City Centre.

An NIS was prepared in support of this application. The NIS concludes that: *“It is the considered view of the authors of this NIS (Scott Cawley Ltd.) that, following the implementation of the mitigation measures prescribed in Section 7.4 (the effectiveness of which is also set out in Section 7.4), the proposed Project will not, by itself or in combination with any other plans or projects, adversely affect the integrity of any European sites in view of their conservation objectives.”*

Further to the above NIS, the Metrolink Railway Order Post Oral Hearing AA Update report submitted (March 7<sup>th</sup> 2024) at Oral Hearing stage provided further information. Of specific relevance to the AA for the proposed development was inclusion of an update which considered risk of PFAS to European sites. This Metrolink PFAS Management Strategy for Dublin Airport (2025)<sup>33</sup> presents an analysis and technical assessment of PFAS contamination encountered at Dublin Airport. The updated post oral hearing AA update report concluded that

*“The proposed (Metrolink Railway) Project, with the full implementation of its robust mitigation strategy presented in Section 7.4 of the RO application NIS and the Metrolink PFAS Management Strategy for Dublin Airport (which is based on standard best international practice, which are tried and tested effective control measures to protect the receiving environment), will ensure that there is no measurable effect on the receiving environment. Therefore, the proposed Project will not affect the conservation objectives supporting the Qualifying Interests and Special Conservation Interests of any European sites during construction or operation. This entirely avoids the risk of other*

<sup>33</sup> Appendix C MetroLink PFAS Management Strategy for Dublin Airport Report of TII Reply to An Bord Pleanála Request for a Response to Wild Ireland Defence CLG & Sabrina Joyce-Kemper Submission (2025)

*projects acting in combination with the proposed Project to adversely affect the integrity of any European sites."*

By extension the Metrolink PFAS Management Strategy and appropriate mitigation as relevant is extended to the proposed development, as it forms an integral part of the overall Metrolink Project. This mitigation is considered in Section 3.7.3 below.

**Dublin Airport (LA: F20A/0550, ABP: PL06F.312476)**

This For full planning permission to extend the North Apron in the Airfield at Dublin Airport, Co Dublin to facilitate the provision of twelve aircraft stands and a ground servicing equipment area on a site of 19.2ha.

This application is currently under appeal.

The development will consist of:

- The expansion of the North Apron at Dublin Airport to provide twelve replacement Code C aircraft stands and ground servicing equipment storage area;
- Construction of a 520m long by 6m high blast fence on the northern and western boundary of the extended Apron and ground servicing equipment area;
- Construction of a 20m long by 6m high blast fence southwest of the Apron;
- Construction of a 550m service road immediately to the north of the twelve replacement Code C aircraft stands to provide access for service vehicles;
- Rehabilitation of existing pavement;
- Construction of two new underground attenuation tanks on 9000m<sup>2</sup> of existing grassland;
- Provision of a total organic carbon analyser enclosure;
- Provision of drainage and electrical infrastructure;
- Provision of Aerodrome Ground Light (AGL) installations this includes underground ducting to provide power to centreline lights and new edge lights;
- Provision of 26 No. High Mast Lights;
- Modifications to internal airside fencing, service road infrastructure and provision of construction site security fencing;
- Provision of a temporary construction site compound and modification to the Airfield security fence to temporarily change part of the construction site form 'airside' with access restrictions to 'landside';
- Provision of road and stand pavement markings, Stand id-signs and High Mast Lighting (HML); The application includes all associated site development works and services;

A screening for Appropriate Assessment was written in support of this application. The report concludes "... *it is the considered view of the authors of this Report that the Proposed Development will not adversely affect the integrity of any European sites or any other designated sites; and there is no reasonable scientific doubt in this regard.*"

Given the nature of the development, and its location relative to European sites, no potential for in-combination effects is identified.

### **Dublin Airport (LA: F20A/0668, ABP: PL06F.314485)**

Dublin Airport has lodged a planning application for approval to conduct night-time operations of the existing runway system (under Section 34C of the Planning and Development Act 2000). This application was granted and subsequently appealed.

An Appropriate Assessment screening report was prepared in support of the application. The report concludes that *"...on the basis of objective information, likely significant effects on Rogerstown Estuary SPA, Baldoyle Bay SPA, Ireland's Eye SPA, Lambay Island SPA, and South Dublin Bay and River Tolka SPA from the Proposed Relevant Action, both individually and in-combination with other plans and projects, can be excluded. There is no requirement to proceed to the next step of Appropriate Assessment and that, subject to other requirements the Proposed Relevant Action can be authorised."*

Given the nature of this application, i.e., for night-time use of an existing runway, no potential for in-combination effects is identified.

### **Dublin Airport (F20A/0295)**

Dublin Airport lodged an application on the 22 June 2020 to gain permission to undertake the construction of;

- a single-storey, free standing (ca.5m tall) substation, with dimensions of ca. 18m x 21m;
- within this structure, the following will be enclosed;
  - a medium voltage ring main unit room;
  - a medium voltage switch gear distribution room;
  - a communications room;
  - a transformer room;
  - a generator change over panel room;
  - a generator room;
  - a main distribution room, and;
  - an entrance lobby
- The substation will be built on a new area of hardstanding, consisting of approximately 1,600m<sup>2</sup> of pavement;
- A bunded fuel tank area at the eastern elevation of the substation, with a max height of 3.5m;
- A single, high mast light with a max height of 23m at the south-east corner of the sub-station;
- The substation will be linked by underground cables to the internal electrification of the airport, which will replace the existing temporary substation located to the east of Apron 5G;

Access to the new substation will be from the North Apron.

A screening for Appropriate Assessment was written in support of this application. The report concludes *"... it is the considered view of the authors of this Report that the Proposed Development will not adversely affect the integrity of any European sites or any other designated sites; and there is no reasonable scientific doubt in this regard."*

Given the nature of the development, and its location relative to European sites, no potential for in-combination effects is identified.

### **DAA PLC Dublin Airport Development (F22A/0460)**

DAA PLC submitted an application for planning permission to undertake several developments completely within the Dublin Airport facility, encompassing the construction of a subterranean Underpass of Runway 16/34, a critical airfield operational safety project, which will include;

- A twin-cell enclosed tunnel with 2 lanes in each direction, linked to the surface by ramps, portals, and light attenuation screen (1.8m in height above existing ground level at the west ramp and 3.3m in height above existing ground level at the east ramp). The enclosed section will be approximately 0.7 km long, with an overall alignment of ca. 1.1 km in length. It will be ca. 24m in external width, and ca. 5.5m in internal height from road to tunnel ceiling. It will be up to 17.5m below existing ground level;
- Plant room, of approximately 625m<sup>2</sup>, which will comprise housing for transformers, pumps, controls and communications equipment, located underground at the portal of the east ramp, a parking layby and utilities corridor crossing;
- Demolition (ca. 23,741m<sup>2</sup>) and reinstatement (ca.16,216m<sup>2</sup>) of part of the pavement surfaces of Apron Taxiway 4, Taxiway F-2, Runway 16/34 (the crosswind runway), Taxiway W1 and W2, and the West Apron;
- Access roads to tie in with the existing airside road network at each end of the proposed Underpass (at Pier 3 on the Eastern Campus and the West Apron on the Western campus respectively), and 31 car parking spaces at surface level at Pier 3;
- Demolition (approx. 97m<sup>2</sup>) of fixed links (elevated enclosed passenger walkways leading from the Pier to Aircraft Nodes) and Nodes (structures which provide support for the fixed links and internal pedestrian access cores to ground level) serving three aircraft stands and associated airbridges (passenger boarding bridges) at Level 20 (departure gates) of Pier 3. To the south of Pier 3, an existing airbridge is to be removed and an existing fixed link is to be adjusted to service existing stands in that area;
- Replacement of the demolished fixed links and nodes with three new fixed links, A (approx.. 356m<sup>2</sup>), B (approx.. 227m<sup>2</sup>) and C (approx.. 170m<sup>2</sup>) and of ca. 150m, 95m and 70m in length, respectively, with a width of ca. 2.2m and height of ca. 3.2m;
- Modifications to the elevations of Pier 3 at Level 20 to accommodate the links and airbridges, including part replacement of the existing glazing with new glazing/cladding, and a new cladded portal with new doors and access control at each new fixed link location; rearrangement of part of the internal floorspace of Level 20, including a new partition between the entrance/ exits of proposed fixed links A and B; new surface water drainage network; and 31no. car parking spaces at surface level;
- Realignment of stands on the Eastern Campus, resulting in the net loss of three Narrow Body Enabled (NBE) stands and net gain of one Wide Body (WB) stand at Pier 3;
- The realignment of aircraft stands in the West Apron (involving rearranging /relocating stands by way of new paint markings on the apron pavement) to accommodate the portal and Underpass access roads (no net change in number of stands);
- Modifications to existing drainage network in the vicinity of the proposed Underpass including replacement of existing attenuation system, and construction of a new drainage network for the proposed Underpass, including sump pit with pumps, interceptors, and new attenuation tank;
- Construction of a new underground pipe network (6no. new pipes) to allow for future drainage infrastructure/surface water management measures;
- All ancillary airport infrastructure including additional apparatus/equipment including jet blast fencing, Fixed Electrical Ground Power (FEGP), Advanced Visual Docking Guidance System (AVDGS), Stand Number Indicator Board (SNIB), Fuel Hydrants, High Mast Lighting (HML), electrical charging facilities, and miscellaneous ground service equipment (GSE) parking and storage areas;
- The construction of several compounds to provide additional logistics support to the Dublin Airport facility

The Proposed Development does not propose any increase in passenger, cargo or operational capacity at Dublin Airport.

An NIS was prepared in support of this application. The record of the Chief Executive's Order notes that the report needs surface water management and pollution controls to be identified at all compounds to serve the development. On this basis, further information is requested with an update to the NIS. The development can consent the project only after determining it will not adversely affect the integrity of European sites, alone or in combination with other plans or projects (including the Proposed Development). As such, no potential for in-combination effects is identified.

#### **Belcamp Grid Stabilisation (F21A/0681)**

This project comprises:

- A Grid Stabilisation Facility containing 1 No. High Inertia Synchronous Compensator (HISC) unit enclosed within a steel clad framed style structure (12.1m max height) and supported by 8 No. electrical equipment containers (containing ancillary power supply products including a static frequency converts, MV switchgear, exciters, LV distribution, control room, welfare and office), main, auxiliary & start-up electrical transformers, generator circuit breaker, switchgear equipment, External cooler units and 1 No. back up diesel generator and associated diesel storage tank
- A 220kV High Voltage Gas Insulated Switchgear (GIS) compound containing a GIS building with all control & HV equipment within a single storey building (13.2m max height). The building will be surrounded by a compound road and contained within a 2.6m high galvanised steel palisade fence
- A 220kV underground cable to the existing adjoining Eirgrid substation boundary;
- Associated elements comprising a clear span bridge over the River Mayne, various underground cables and ducts, equipment plinths, boundary security fence, compound lighting and palisade gates and fencing, security lighting, CCTV, internal access roads, hardstanding areas and all necessary foundations works for the above compounds.

A concurrent planning application is being made to Dublin City Council which relates to a portion of lands to the south of the site of c. 0.94 ha which provides for a new access entrance from the R139 and a clear span bridge crossing over the River Mayne, internal access tracks, security fencing, temporary construction compound, landscaping, and drainage.

NIS reports were produced in support of these application. These NIS reports both conclude that proposed Belcamp Grid Stabilisation Facility development *"will not adversely affect (either directly or indirectly) the integrity of any Natura 2000 site, either alone or in combination with other plans or projects."*

Given the mitigation measures to be employed, no potential for in-combination effects is identified.

#### **Huntstown, Co. Dublin (FW21A/0143)**

A planning application was submitted by ESB to undertake the Installation of electrical infrastructure between Finglas substation and Huntstown Power Station to facilitate the retirement of existing Electricity Supply Board overhead powerlines and facilitate site clearance for the future development of a data centre and substation.

The planning application was approved on 5 October 2020.

#### **Huntstown, Co. Dublin (FW22A/0079)**

The Proposed Development consists of the following at Site C:

- The construction of 1 no. light industrial/warehouse (including wholesale use) / logistics building (Unit C) with a gross floor area (GFA) of c. 6,627 sq.m (including welfare and

reception areas over two levels and c. 216 sq.m of ancillary office space). The proposed building will have a maximum height of c. 15.2 metres.

- Provision of 58 no. car parking spaces and 14 no. bicycle parking spaces.
- Provision of an ESB substation and switchroom.
- Provision of a service yard and HGV loading/unloading areas, with associated loading bays to the west of the proposed light industrial/warehouse/logistics building.
- Provision of access arrangements to the Proposed Development including an access from the permitted roundabout to the southwest of the site, and from the main estate access road to the east of the site.

The Proposed Development consists of the following at site E:

- The construction of 2 no. light industrial/warehouse (including wholesale use) / logistics buildings (Units E1 and E2) with a gross floor area of 12,578 sq.m and 11,457 sq.m. respectively (including welfare and reception areas over two levels for each building and ancillary office space of c. 565 sq.m. and c. 497 sq.m respectively). The proposed buildings will have a maximum height of c. 15.6 metres.
- Provision of 239 no. car parking spaces (125 no. for Unit E1 and 114 no. for Unit E2) and 76 no. bicycle parking spaces (38 no. for each unit).
- Provision of an ESB substation and switchroom, 2 no. sprinkler tanks and 2 no. pumphooms.
- Provision of service yards and HGV loading/unloading areas, with associated loading bays to the south of the proposed light industrial/warehouse/logistics buildings.
- Provision of access arrangements to the Proposed Development including accesses from the main estate access road to the north, and the provision of a new estate road along the eastern side of Unit E2, proceeding to the rear of both buildings and providing access to the service yards.

The proposal includes landscaping and planting, 3 no. bin stores/recycling structures, PV panel zones at roof level, boundary treatments, signage zones, site lighting, security fencing and gates and all associated site services and development works, including underground foul and storm water drainage network and sustainable urban drainage systems (including the provision of an integrated constructed wetland to the south of Site E).

An NIS was produced in support of this application which concluded that given the mitigation measures proposed, the Proposed Development will not have a negative impact on Natura 2000 sites.

Given the mitigation measures to be employed, no potential for in-combination effects is identified.

#### **Newton, Co. Dublin (ABP SID Application GDD: PA0055 & PA06F.312131)**

Irish Water submitted an application in 2019 to undertake works on a new wastewater treatment plant (WWTP), which will form a component of the Greater Dublin Drainage Project.

The works will include the construction of a WWTP facility, sludge hub centre, orbital sewer, outfall pipeline, regional biosolids storage facility and other associated operational infrastructure.

An NIS report was produced for this project, and concluded the following;

*"beyond reasonable scientific doubt that the proposed Project with the implementation of the prescribed mitigation measures will not give rise to significant impacts either individually or in combination with other plans and projects, in a manner which adversely impacts the integrity of any designated site within the Natura 2000 network"*

Given the mitigation measures to be employed, no potential for in-combination effects is identified.

#### **Long-Term parking facility, Dublin Airport (PA06F.301458)**

An application was approved on 8 October 2018 for the permanent continuance of use of the 8,840 space long-term car park known as Holiday Blue on a site at Harristown, Silloge and Ballymun Townlands, South Parallel Road, Dublin Airport, Co. Dublin. This tarmacked area that was already in use for the same purpose (i.e. long-term parking space), under and in accordance with temporary planning permission reg. ref PL06F.PA0022, and the 2,040 space long-term car park known as Express Red Zones Y and Z (Express Red) on a site at Stockdale, Cloghran, and Toberbunny Townlands, Dublin Airport, Co. Dublin that is currently used for the same purpose under and in accordance with temporary planning permission reg. ref: PL06F.PA0030.

A Screening for Appropriate Assessment report was prepared in support of this application. On review of the application the An Bord Pleanála Inspector's Report notes that *"I am satisfied that the identified risks are not significant nor are they likely. I am satisfied that the Proposed Development itself would not be likely to have a significant effect on any Natura 2000 site. Having regard to the nature and scale of the existing development, the fact that no works are proposed and the nature of the receiving environment namely a fully serviced urban site, it is reasonable to conclude that on the basis of the information on the file, which I consider adequate in order to issue a screening determination, that the Proposed Development, individually or in combination with other plans or projects would not be likely to have a significant effect on European site Baldoyle Bay SAC (000199), Baldoyle Bay SPA (0040160), the North Dublin Bay SAC (000206) and North Bull Island SPA (004006) in view of the site's Conservation Objectives, and a Stage 2 Appropriate Assessment (and submission of a NIS) is not therefore required."*

As such, given the nature, scale and location of the development, no potential for in-combination effects is identified.

#### **Huntstown Power Station, Finglas, Co. Dublin (ABP: 311528)**

ESB has submitted an application to undertake the construction works on lands adjacent to the existing Huntstown Power Station. The proposed works will include;

- of a 2 storey 220kV GIS substation known as 'Mooretown';
- 4 underground transmission cables, and;
- all associated and ancillary site development and construction works

A screening for Appropriate Assessment was written in support of this application. The report concludes that *"it can be excluded, on the basis of objective information and absence of mitigation measures, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on a European site"*

Considering above, along with the location and extent of these proposed works, there is no potential for in-combination effects identified.

#### **Corballis East, Donabate, Co. Dublin (ABP 311059)**

A planning application was submitted to undertake the construction of a housing development project, which will primarily include 1,365 housing units (346 houses and 1,019 no. apartments), creche and associated site works.

An NIS was produced in support of this application. The inspector's report notes the following in relation to the report: *"...it has been determined that subject to mitigation (which is known to be effective) the Proposed Development, individually or in combination with other plans or projects would not adversely affect the integrity of the European sites, Malahide Estuary SPA; Malahide*

*Estuary SAC; Rogerstown Estuary SPA; Rogerstown Estuary SAC; North Bull Island SPA; Baldoyle Bay SPA; South Dublin Bay and River Tolka Estuary SPA; Skerries Islands SPA; Baldoyle Bay SAC; North Dublin Bay SAC; and South Dublin Bay SAC, or any other European site, in view of the sites Conservation Objectives."*

Considering above, along with the location and extent of these proposed works, there is no potential for in-combination effects identified.

#### **Charlestown Place, St. Margaret's Road, Charlestown, Co. Dublin (ABP 310350)**

A planning application was approved on 16 September 2021 by the Fingal County Council to Puddenhill Property Limited to undertake a residential housing project. The property development will include 590 no. apartments, creche and associated site works.

A Screening for Appropriate Assessment was prepared in support of this application. The Inspector's report concludes in relation to this that *"Having regard to the nature and scale of the Proposed Development on fully serviced lands, to the intervening land uses, and distance from European Sites, it is reasonable to conclude that on the basis of the information on file, which I consider adequate in order to issue a screening determination, that the Proposed Development, individually or in combination with other plans or projects would not be likely to have a significant effect on European site 00210 (South Dublin Bay SAC), 004024 (South Dublin Bay and River Tolka Estuary SPA), 4006 (North Bull Island SPA), 0206 (the North Dublin Bay SAC) and 4063 (Poulaphouca Reservoir SPA) or any other European site, in view of the said sites' conservation Objectives, and a Stage 2 Appropriate Assessment is not, therefore, required."*

As such, no potential for in-combination effects is identified.

#### **East Meath – North Dublin Grid Upgrade**

These proposed project works will add a high-capacity 400 kV (kilovolt) underground cable electricity connection from Woodland substation near Batterstown in County Meath to Belcamp substation near Clonshaugh in north Dublin.

This upgrade will strengthen the electricity network in the east of Meath and the north of Dublin to improve the transfer of power across the existing transmission network. The project is currently at option selection stage. Following the design of the scheme and selection of the preferred option, the East Meath to North Dublin Grid Upgrade will be subject to the provisions of the Directive, i.e. requiring screening for Appropriate Assessment (and if necessary AA).

## **2.7 Summary of Potentially Significant Effects**

In the absence of mitigation, the potential for likely significant effects on European sites has been identified from the proposed MetroLink 110kV cable development alone. No other significant in-combination effects have been identified.

## **2.8 Screening Outcome**

The current assessment investigates the potential for the proposed MetroLink 110kv cable development to have significant effects on the following European sites within the Natura 2000 network:

- Baldoyle Bay SAC (000199)
- North Dublin Bay SAC (000206)
- Malahide Estuary SAC (000205)
- Baldoyle Bay SPA (004016)
- North Bull Island SPA (004006)
- Malahide Estuary SPA (004025)

This AA Screening report concludes that likely significant effects on these seven European sites cannot be excluded on the basis of objective evidence, from the Proposed Development alone, and in combination with other plans or projects.

## 3 Natura Impact Statement

This Natura Impact Statement (NIS) has been produced in support of the Appropriate Assessment (AA) for the proposed MetroLink 110kV cable development. The AA will be undertaken by the competent authority. The NIS considers the likely or possible significant effects of the Proposed Development. Mitigation measures are identified to avoid adverse effects on the integrity of European sites.

### 3.1 Development Description

The development is described in detail in Section 2.2 of this report as follows;

- Construction phase activities are outlined in Section 2.2.2
- Operational phase activities are outlined in Section 2.2.3 and 2.2.4
- Decommissioning phase activities are outlined in Section 2.2.5 and 2.2.6

### 3.2 Description of the Receiving Environment

#### 3.2.1 Desktop Study Results

##### 3.2.1.1 Wintering Birds

##### Wintering Bird Surveys

A review of recent wintering bird surveys carried out in 2018, and between 2019 - 2021 for the main MetroLink Rail project was carried out. The survey carried out assessed a 300m Zol surrounding the MetroLink Rail project. This included lands intersecting with the Proposed Development.

Just one area was identified as an *ex situ* foraging area for SCI species. This area is located within the potential Zol of the Proposed Development in the fields south-east at Dardistown, north of the M50 motorway. Species recorded in this field included.

- Black-headed gull (peak count 170)
- Curlew (peak count 106)
- Golden plover (peak count 33)
- Herring gull (peak count 115)
- Black-tailed godwit (peak count 106)

##### Ex Situ Light-bellied Brent Geese Foraging Locations

A review of the known inland feeding sites for Brent geese in the Dublin area<sup>34</sup> did not identify any feeding sites within the Zol of the Proposed Development.

- Parks, farmland and amenity grassland in the vicinity of the proposed development are likely to be used by *ex situ* bird species that forage on grassland, at least on an occasional basis. These species include brent geese, curlew, black tailed godwit, golden plover and oystercatcher. For the purposes of the assessment it is assumed that that flocks / individuals of relevant SCI bird species, associated with SPA sites, relatively close to the site (Baldoye Bay SPA (004016), North Bull Island SPA (004006) and

<sup>34</sup> Scott Cawley Ltd., (2017) Natura Impact Statement for Proposed Residential Development at St Paul's College, Sybil Hill, Raheny, Dublin 5.

Malahide Estuary SPA (004025)), will be occasionally present in grasslands adjacent to the proposed development during the winter period (October – March inclusive).

### 3.2.2 Field Survey Results

#### 3.2.2.1 Habitats within the Footprint of the Proposed Development

The Proposed Development does not intersect with any European sites, the closest European site is located 2.6km from the Proposed Development. Similarly, there are no protected habitats within the footprint of the Proposed Development.

The habitat types associated with the footprint of the proposed cable development are described hereunder and mapped in Appendix B.

Habitats observed along each proposed cable route are detailed in Table 3.1 and the subsequent following sections

**Table 3.1: Habitats identified along each proposed cable route**

Proposed Cable Route	Habitats Within Footprint of the Proposed Development.
Forrest Little to Belcamp	The proposed cable route is located within existing tarmacked roads (BL3), before traversing agricultural land including improved agricultural grassland (GA1), tillage fields (BC3). Other habitats encountered in offroad sections include hedgerows (WL1), treelines (WL2), scrub (WS1), watercourses (FW2), and drainage ditches (FW4).
Forrest Little to Belcamp Option 2	The proposed cable route for this section is entirely within the existing road (BL3).
Ballystruan to Newbury	The proposed cable route for this section is split into two. The northern section traverses recolonised bare ground (ED3), amenity grassland (GA2), arable farmland (BC1), and dry meadows and grassy verge (GS2) before entering into existing hardstanding (BL3). The southern section runs within an existing road and hardstanding surfaces (BL3).
Ballystruan to Forrest Little	The proposed cable route for this section runs within the existing road network (BL3) for the majority of its length. Other habitats traversed within this section include agricultural grassland (GA1), dry meadows and grassy verges (GS2), amenity grassland (GA2), and tillage fields (BC1).

Habitats encountered were typically highly managed and typical of the surrounding landscape. Further details on habitats identified along the proposed cable routes is provided hereunder:

#### Scrub (WS1)

Scrub was observed sporadically, primarily along the eastern and southern portions of the study area. This habitat is generally dominated blackthorn (*Prunus spinosa*), brambles (*Rubus fruticosus*) and sycamore (*Acer pseudoplatanus*). Other species recorded included hazel (*Corylus avellana*), field maple (*Acer campestre*), dog rose (*Rosa canina*), Japanese knotweed (*Fallopia japonica*), winter heliotrope (*Petasites fragrans*), and alder (*Alnus glutinosa*). This habitat is not an Annex 1 listed habitat.

#### Mixed broadleaved/conifer woodland (WD2)

The route passes through a section of plantation Mixed broadleaved/conifer woodland near the Horizon logistics park. Species include Scots pine, alder, silver birch, lime and ash. This habitat is not an Annex 1 listed habitat.

#### Arable Farmland (BC1)

Arable farmland habitat was identified along the route of the proposed Ballystruan to Newbury cable route (Scott-Cawley, 2019). This habitat is highly modified and with a low species diversity due to its management. This habitat is not an Annex 1 listed habitat.

### Improved Grassland (GA1)

Improved agricultural grassland was one of the most common habitat types recorded throughout the study area. This habitat was typically comprised of heavily managed and fertilised homogenous fields of perennial ryegrass (*Lolium perenne*), often bordered scrub and/or treelines. Species observed within this habitat throughout the study area included ragwort (*Jacobaea vulgaris*), nettles (*Urtica dioica*), creeping buttercup (*Ranunculus repens*), meadow buttercup (*Ranunculus acris*), spear thistle (*Cirsium vulgare*), creeping thistle (*Cirsium arvense*) Yorkshire fog (*Holcus lanatus*), cock's foot grass (*Dactylis glomerata*), ribwort plantain (*Plantago lanceolata*), dandelion (*Taraxacum vulgaria*), broad dock (*Rumex obtusifolius*), silverweed (*Potentilla anserina*), chickweed (*Stellaria media*); birds foot trefoil (*Lotus corniculatus*), and great willowherb (*Epilobium hirsutum*). This habitat is not an Annex 1 listed habitat.

### Treeline (WL2)

Treelines were commonly recorded along all three proposed cable routes. This habitat has a similar species assemblage to the hedgerows but with a greater amount of mature trees. Within the study area this habitat primarily occurred on the edges of agricultural fields and along roadsides. Species recorded within treelines included ash (*Fraxinus excelsior*), willow (*Salix sp.*), brambles, hawthorn (*Crataegus monogyna*), Scots pine (*Pinus sylvestris*), elder (*Sambucus nigra*), wild cherry (*Prunus avium*), and silver birch (*Betula pendula*). This habitat is not an Annex 1 listed habitat.

### Hedgerow (WL1)

Hedgerows were recorded bordering the roadsides and forming field boundaries. Species recorded within this habitat included hawthorn, bramble, ivy (*Hedera helix*), elder; alder, silver birch, ash, hazel, oak (*Quercus robur*, *Quercus petraea*), hawthorn, and dog rose. This habitat is not an Annex 1 listed habitat.

### Drainage Ditches (FW4)

Drainage ditches were recorded infrequently throughout the study area. The structure of the drainage ditches observed were primarily concrete lined drainage channels. All drainage ditches are artificial or heavily altered watercourses and carried low levels of water. This habitat is not an Annex 1 listed habitat.

#### 3.2.2.2 Invasive Species

The alien invasive species Japanese knotweed was observed at several locations within the Zol of the Proposed Development, refer to Habitat Map (Appendix B).

Areas where Japanese knotweed was observed included:

- Along the roadside amenity grassland (GA1) in the vicinity of the Trinity Care Nursing Home (on the roadside verge of the Stockhole Lane);
- A stand of Japanese knotweed was observed within a hedgerow (WL1) along the Baskin Lane, ca. 65m east of the Baskin Lane / Stockhole Lane junction;
- An expansive stand of knotweed was recorded ca. 90m west of the proposed Belcamp joint cable bay site, ca. 30m east of the proposed Forrest Little – Belcamp cable development route. The stand of Japanese knotweed was estimated to encompass an area of 1000m<sup>2</sup>, and appears to be contained within the grounds of the old walled garden of a dilapidated house property;
- A moderate sized stand (ca. 30m<sup>2</sup>) of Japanese knotweed was recorded in scrub habitat alongside residential gardens along the Turnapin Grove road, which is adjacent to the M1/R139 interchange.

### 3.2.2.3 Mammals

#### Otters

No otters or evidence of otter were observed along any of the watercourses within the ZoI of the Proposed Development. No otter holts were identified, and all crossing areas were surveyed. The absence of signs of otters from the watercourses within these watercourses is likely a reflection of the poor health of the watercourses and peri-urban nature of the surrounding area at large.

## 3.3 Impact Prediction

The potential for impacts on the QIs/SCIs of European sites, as outlined above, associated with the construction, operational and decommissioning phases of the Proposed Development are discussed hereunder.

### 3.3.1 Construction Phase Impacts

The layout of the section is such that the overarching potential for impact types is outlined first and initially in greater detail in Section 3.3.1. Site impacts to specific European sites are then outlined in Section 3.4.

#### 3.3.1.1 Direct Impact to Qualifying Interests/Special Conservation Interests

There is no potential for direct effects on mobile QI's due to the works associated with this Proposed Development based on a review of relevant European sites within the potential Zone of Influence of the proposed development.

The potential for mobile SCIs to occur outside of European site boundaries has been identified. As such, there is potential for direct impacts to these SCIs and/or their supporting habitats.

The potential for direct impacts to specific SCIs is discussed below in the context each European site.

#### 3.3.1.2 Noise and Vibration

The construction phase of the Proposed Development will result in temporary elevated noise levels. Noise modelling for the works has been carried out. Given the proximity of the Proposed Development to the Dublin airport, ambient noise levels are already elevated. Baseline noise levels for construction of joint bays at the Belcamp and were calculated as between 70  $L_{Aeq,T}$  dB and 65  $L_{Aeq,T}$  dB. Modelling of the noise levels likely to be associated with the construction phase of the works will peak at approximately 75dB. Noise modelling indicates that even at the highest levels of noise, at a distance of approximately 25m, noise impacts will return to baseline levels.

As outlined previously, the Proposed Development is significantly removed from any European sites. However, ex situ SCI species may potentially use farmland and grassland within the ZoI of the Proposed Development for noise effects. The potential for impacts to specific SCIs caused by noise is discussed below in the context of each European site.

#### 3.3.1.3 Pollution / Sedimentation from Construction Works

The proposed works require the excavation of the cable route and the construction of the cable joint bays. Cable placement works include trenching and horizontal drilling methods, whilst cable joint bays will require deep excavations. Excavated and / or stockpiled soils will therefore provide potential for excessive sediment run-off into surrounding habitats. Moreover, the proposed cable route will be required to traverse watercourses at several sites, in which there is potential for sedimentation directly into the watercourse.

Cable joint bays will require the general use of concrete. Although the proposed works will utilise pre-cast concrete forms, there is potential for the accidental release of concrete due to these works into nearby drains or surface water features.

Horizontal drilling works for cable placement will utilise drilling "mud" as a lubricant, which is primarily comprised of inert clay suspended in water. Horizontal drilling works are primarily proposed to be used near watercourses / culverts. There is therefore a risk of unintentional return of drilling fluids to the surface (frac out) during HDD works.

Details on the potential for impacts to specific QIs/SCIs caused by pollution and sedimentation caused by the Proposed Development works is discussed below in the context of each European site.

#### 3.3.1.4 Visual Disturbance

The presence of humans and machinery have potential to result in avoidance behaviours by wintering birds. This may alter feeding behaviours and deter birds from utilising important foraging areas.

The potential for impacts to specific SCI species caused by human disturbance associated with the works is discussed below in the context of each European site.

#### 3.3.1.5 Dust

The proposed construction works will include excavation activities, drilling, stripping of soil and the temporary stockpiling of spoil material. Breaking out of surfaces is required where the cable runs through existing hard standing surfaces. All activities have the potential to result in the generation of dust over the duration of the construction works.

As outlined in Section 2.4, the Zol of dust is taken to be 50m from the Proposed Development. The Proposed Development crosses several watercourses, primarily along the Forrest Little to Belcamp route. There is potential for dust to deposit within the River Mayne, River Santry, Cuckoo Stream, and Sluice Stream, where the Proposed Development works are either proximal to or traverse these watercourses.

The deposition of dust into a watercourse can increase suspended solid content of the watercourse which can result in a degradation of water quality and aquatic vegetation downstream. Given the hydrological connectivity to European sites as outlined previously, there is potential therefore, in the absence of mitigation for impacts to European Sites caused by dust deposition.

The potential for impacts to specific QIs/SCIs caused by pollution and sedimentation caused by the works is discussed below in the context of each European site.

#### 3.3.1.6 Spread of Invasive Species

As outlined previously, Japanese knotweed, which is listed under the 3<sup>rd</sup> Schedule<sup>35</sup> was recorded during site walkovers.

Given the location of the identified stands in relation to the Proposed Development, there is potential for the accidental spread of these species which may cause degradation of QI habitat and supporting habitat for SCI species. The potential for impacts to specific QI/SCI species caused by spread of invasives associated with the Proposed Development is discussed below in the context of each European site.

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<sup>35</sup> First Schedule list of S.I. No. 374/2024 - European Union (Invasive Alien Species) Regulations 2024

### 3.3.2 Effect Pathways During the Construction Phase

European sites with viable source pathway receptor links to the Proposed Development include;

- Baldoye Bay SAC
- North Dublin Bay SAC
- Malahide Estuary SAC
- Baldoye Bay SPA
- North Bull Island SPA
- Malahide Estuary SPA
- Rogerstown Estuary SPA

No other European sites are likely to incur potential impacts from the Proposed Development. Consequently, the potential for impacts to European sites through hydrological connectivity via various watercourses within the Zol of the Proposed Development is outlined for the listed European sites above.

#### 3.3.2.1 Baldoye Bay SAC

##### Direct Impacts to Qualifying Interests

The Proposed Development is located entirely outside of the Baldoye Bay SAC. In addition, the QIs for the site are not mobile. As such, there is no potential for direct impacts to QIs associated with the Baldoye Bay SAC.

##### Noise and Vibration

The Proposed Development is located 2.6km from Baldoye Bay SAC, outside of the Zol for noise effects. In addition, the QIs for the site are not mobile, and are not noise sensitive. As such, there is no potential for noise effects to QIs associated with the Baldoye Bay SAC.

##### Pollution Associated with Construction

The habitats associated with Baldoye Bay SAC are marine in nature and are generally reliant on inputs of sediments as part of their natural processes.

Mudflats and sandflat habitats are associated with communities of invertebrates within the sediment. Release of cementitious products into watercourses with connectivity have the potential to result in impacts to these invertebrate communities. Given the small scale of impacts if frac out or other pollutant runoff occurred, and distance upstream, measurable degradation of water quality caused by pollution of watercourses from the Proposed Development is not likely to damage to these invertebrate communities. The available information indicates that PFAS are present at detectable levels in groundwater close to or within the proposed construction area. Therefore, it is possible that PFAS impacted ground and groundwater will be encountered during the construction works if not mitigated. While the PFAS levels are detectable, they are low, making it unlikely that any perceptible impacts from the localised activities will be distinguishable from other impacts. However, on a precautionary basis this potential impact is considered further.

No other QI habitats have been identified with potential for impact via surface water emissions.

## Potential for Introduction/Spread of Invasive Species

Japanese knotweed has been recorded in a number of locations within the works area. Small pieces of rhizome have been found to be buoyant and can be dispersed by rivers<sup>36</sup> or tides<sup>37</sup>. There is potential for works at watercourse crossings with Japanese knotweed stands to result in the fragmentation of the Japanese knotweed into the river, and dispersal into the boundaries of the Baldoyle Bay SAC.

Where these fragments wash downstream, there is potential for establishment of the plant species along the upper fringes of the salt marsh habitats (Atlantic salt meadows and Mediterranean salt meadows). The formation of virtually monospecific stands is a well-studied effect of such invasive species that has potential to cause a reduction in biodiversity in impacted habitats<sup>38,39,40,41</sup>.

There is potential, therefore, in the absence of mitigation for impacts to QIs associated with Baldoyle Bay SAC caused by the spread of invasive species during the construction phase.

### 3.3.2.2 North Dublin Bay SAC

#### Direct Impacts to Qualifying Interests

The Proposed Development is located entirely outside of the North Dublin Bay SAC. In addition, the QIs for the site are not mobile. As such, there is no potential for direct impacts to QIs associated with the North Dublin Bay SAC.

#### Noise and Vibration

The Proposed Development is located 3km from North Dublin Bay SAC, outside of the ZoI for noise effects. In addition, the QIs for the site are not mobile, and are not noise sensitive. As such, there is no potential for noise effects to QIs associated with the North Dublin Bay SAC.

#### Pollution Associated with Construction

The Proposed Development crosses the River Santry twice. The River Santry has direct hydrological connectivity to the North Dublin Bay, albeit one at with significant distance hydrologically.

As outlined previously, mudflats and sandflat habitats are associated with communities of invertebrates within the sediment. Release of cementitious products into watercourses with connectivity have the potential to result in impacts to these invertebrate communities. Given the small scale of impacts pollutant runoff occurred, and distance upstream, measurable degradation of water quality caused by pollution of watercourses from the Proposed Development is not likely to damage to these invertebrate communities. The available information indicates that PFAS are present at detectable levels in groundwater close to or

<sup>36</sup> Rouifed S, Puijalon S, Viricel MR, Piola F (2011) Achene buoyancy and germinability of the terrestrial invasive *Fallopia 3 bohemica* in aquatic environment: A new vector of dispersion? *Ecoscience* 18:79–84

<sup>37</sup> Bailey JP (1994) Reproductive biology and fertility of *Fallopia japonica* (Japanese knotweed) and its hybrids in the British Isles. Pages 27–37 in de Waal LC, Child LE, Wade PM, Brock JH, eds. *Ecology and Management of Invasive Riverside Plants*. Hoboken, NJ: Wiley

<sup>38</sup> Cronk QCB, Fuller JL. (2001). *Plant invaders: the threat to natural ecosystems*. London: Earthscan Publications.

<sup>39</sup> Van der Wal R, Truscott A, Pearce I, Cole L, Harris M, Wanless S. (2008). Multiple anthropogenic changes cause biodiversity loss through plant invasion. *Global Change Biology* 14: 1428–1436.

<sup>40</sup> Hejda M, Pysek P, Jarosik V. (2009). Impact of invasive plants on the species richness, diversity and composition of invaded communities. *Journal of Ecology* 97: 393–403.

<sup>41</sup> Love, H., Maggs, C., Murray, T., Provan, J., (2013). Genetic evidence for predominantly hydrochoric gene flow in the invasive riparian plant *Impatiens glandulifera* (Himalayan balsam). *Annals of Botany* 112: 1743–1750, 2013.

within the proposed construction area. Therefore, it is possible that PFAS impacted ground and groundwater will be encountered during the construction works if not mitigated. While the PFAS levels are detectable, they are low, making it unlikely that any perceptible impacts from the localised activities will be distinguishable from other impacts. However, on a precautionary basis this potential impact is considered further.

No other QI habitats have been identified with potential for impact via surface water emissions.

#### **Potential for Introduction/Spread of Invasive Species**

As outlined previously, there is potential for works at watercourse crossings to result in the fragmentation of the Japanese knotweed into the river, and dispersal into the boundaries of the North Dublin Bay SAC.

Where these fragments wash downstream, there is potential for establishment of the plant species along the upper fringes of salt marsh habitats (Atlantic salt meadows and Mediterranean salt meadows).

#### **3.3.2.3 Malahide Estuary SAC**

##### **Direct Impacts to Qualifying Interests**

The Proposed Development is located entirely outside of the Malahide Estuary SAC. In addition, the QIs for the site are not mobile. As such, there is no potential for direct impacts to QIs associated with the Malahide Estuary SAC.

##### **Noise and Vibration**

The Proposed Development is located 3.5km from Malahide Estuary SAC, outside of the Zol for noise effects. In addition, the QIs for the site are not mobile, and are not noise sensitive. As such, there is no potential for noise effects to QIs associated with the Malahide Estuary SAC

##### **Pollution Associated with Construction**

The Proposed Development crosses the River Ward at several points. The River Ward has direct hydrological connectivity to Malahide Estuary SAC.

As outlined previously, mudflats and sandflat habitats are associated with communities of invertebrates within the sediment. Release of cementitious products into watercourses with connectivity have the potential to result in impacts to these invertebrate communities. Given the small scale of impacts pollutant runoff occurred, and distance upstream, measurable degradation of water quality caused by pollution of watercourses from the Proposed Development is not likely to damage to these invertebrate communities. The available information indicates that PFAS are present at detectable levels locally in groundwater close to or within the proposed construction area. Therefore, it is possible that PFAS impacted ground and groundwater will be encountered during the construction works if not mitigated. While the PFAS levels are detectable, they are low, making it unlikely that any perceptible impacts from the localised activities will be distinguishable from other impacts. However, on a precautionary basis this potential impact is considered further.

No other QI habitats have been identified with potential for impact via surface water emissions.

#### **Potential for Introduction/Spread of Invasive Species**

As outlined previously, there is potential for works at watercourse crossings to result in the fragmentation of the Japanese knotweed into the river, and dispersal into the boundaries of the Malahide Estuary SAC.

Where these fragments wash downstream, there is potential for establishment of the plant species along the upper fringes of salt marsh habitats (Atlantic salt meadows and Mediterranean salt meadows).

#### 3.3.2.4 Baldoye Bay SPA

##### **Direct Impacts to Special Conservation Interests**

No impacts that may result in direct impacts to Baldoye Bay SPA and associated SCI bird species are likely.

##### **Noise and Visual Disturbance**

*Ex situ* populations of some wintering bird species may potentially use areas within the ZoI of the Proposed Development. While there is potential for localised temporary noise and disturbance effects as a result of the Proposed Development these are not likely to be significant given works are mainly within existing roads and relatively small scale and removed from areas identified as used by wintering SCI.

##### **Pollution Associated with Construction**

The Proposed Development is proximal to the Sluice Stream, crosses the Cuckoo Stream and the River Mayne. The Sluice Stream, Cuckoo Stream and River Mayne have hydrological connectivity to the Baldoye Bay SPA.

Given the hydrological connectivity, as outlined previously, there is potential for release of surface water emissions including PFAS into the SPA boundary.

There is potential, therefore for degradation of supporting habitat for wintering birds associated with the Proposed Development.

##### **Potential for Introduction/Spread of Invasive Species**

As outlined previously, there is potential for works at watercourse crossings to result in the fragmentation of the Japanese knotweed into the river, and dispersal into the boundaries of the Baldoye Bay SPA.

Where these fragments wash downstream, there is potential for establishment of the plant species along the upper fringes of wetland habitats, potentially causing degradation of same.

#### 3.3.2.5 North Bull Island SPA

##### **Direct Impacts to Special Conservation Interests**

No impacts that may result in direct impacts to Baldoye Bay SPA and associated SCI bird species are likely.

##### **Noise and Visual Disturbance**

*Ex situ* populations of some wintering bird species (e.g. golden plover, brent geese, curlew, black tailed godwit) may potentially use grassland areas within ZoI of the Proposed Development. While there is potential for localised temporary noise and disturbance effects as a result of the Proposed Development these are not likely to be significant given works are mainly within existing roads and relatively small scale and removed from areas identified as used by wintering SCI.

##### **Pollution Associated with Construction**

The Proposed Development crosses the River Santry twice. The River Santry has direct hydrological connectivity to the North Bull Island SPA, albeit one at with significant distance

hydrologically. Given the hydrological connectivity, as outlined previously, there is potential for release of surface water emissions including PFAS into the SPA boundary.

There is potential, therefore for degradation of supporting habitat for wintering birds associated with the Proposed Development.

#### **Potential for Introduction/Spread of Invasive Species**

As outlined previously, there is potential for works at watercourse crossings to result in the fragmentation of the Japanese knotweed into the river, and dispersal into the boundaries of North Bull Island SPA.

Where these fragments wash downstream, there is potential for establishment of the plant species along the upper fringes of wetland habitats, potentially causing degradation of same.

#### **3.3.2.6 Malahide Estuary SPA**

##### **Direct Impacts to Special Conservation Interests**

No impacts that may result in direct impacts to Baldoyle Bay SPA and associated SCI bird species are likely.

##### **Noise and Vibration**

*Ex situ* populations of some wintering bird species may potentially use areas within the Zol of the Proposed Development. While there is potential for localised temporary noise and disturbance effects as a result of the Proposed Development these are not likely to be significant given works are mainly within existing roads and relatively small scale and removed from areas identified as used by wintering SCI.

##### **Pollution Associated with Construction**

The Proposed Development crosses the River Ward at several points. The River Ward has direct hydrological connectivity to Malahide Estuary SPA. Given the hydrological connectivity, as outlined previously, there is potential for release of surface water emissions including PFAS into the SPA boundary.

There is potential, therefore for degradation of supporting habitat for wintering birds associated with the Proposed Development.

#### **Potential for Introduction/Spread of Invasive Species**

As outlined previously, there is potential for works at watercourse crossings to result in the fragmentation of the Japanese knotweed into the river, and dispersal into the boundaries of Malahide Estuary SPA.

Where these fragments wash downstream, there is potential for establishment of the plant species along the upper fringes of wetland habitats, potentially causing degradation of same.

#### **3.3.2.7 Rogerstown Estuary SPA**

##### **Direct Impacts to Special Conservation Interests**

No impacts that may result in direct impacts to Rogerstown Estuary SPA and associated SCI bird species are likely.

##### **Noise and Vibration**

*Ex situ* populations of some wintering bird species may potentially use areas within the Zol of the Proposed Development. While there is potential for localised temporary noise and

disturbance effects as a result of the Proposed Development these are not likely to be significant given works are mainly within existing roads and relatively small scale and removed from areas identified as used by wintering SCI.

### 3.3.3 Operational Phase Impacts

There is potential for disturbance related effects associated with maintenance crews at the substations, and along the proposed cable routes.

### 3.3.4 Effect Pathways During the Operational Phase

Maintenance for the works will be largely restricted to works at the substations, and the joint bays along the cable route. Given the location of these works' areas, the nature of the works and the nature of the European sites, there is no potential for impacts caused by the operational phase of the development

### 3.3.5 Decommissioning Phase Impact Types

The impacts associated with decommissioning are assumed to be similar to those identified in the construction phase.

### 3.3.6 Effect Pathways During Decommissioning

The effect pathways during the decommissioning of the Proposed Development are assumed to be similar to those identified in the construction phase.

### 3.3.7 Summary

A summary of potential impacts and effects identified in Section 3.3 is provided hereunder in Table 3.2.

**Table 3.2: Summary of Potential Impacts to European Sites**

European Site	Impact and effects to QIs/SCIs Identified
Baldoyle Bay SAC	Potential for surface-water emissions / construction-based pollution impacts to cause degradation effects to mudflat, and sandflat habitat
	Potential for degradation effects to Atlantic Salt Meadow, and Mediterranean salt meadow habitat caused by introduction of invasive species
North Dublin Bay SAC	Potential for surface-water emissions / construction-based pollution impacts to cause degradation effects to mudflat, and sandflat habitat
	Potential for degradation effects to Atlantic Salt Meadow, and Mediterranean salt meadow habitat caused by introduction of invasive species
Malahide Estuary SAC	Potential for surface-water emissions / construction-based pollution to cause degradation to mudflat, and sandflat habitat
	Potential for degradation to Atlantic Salt Meadow, and Mediterranean salt meadow habitat caused by introduction of invasive species
Baldoyle Bay SPA	Potential for temporary disturbance to ex situ wintering birds
	Potential for degradation in supporting habitats due to surface water emissions
	Potential for degradation to habitats caused by introduction of invasive species
North Bull Island SPA	Potential for temporary disturbance to ex situ wintering birds
	Potential for degradation in supporting habitats due to surface water emissions
	Potential for degradation to habitats caused by introduction of invasive species

European Site	Impact and effects to QIs/SCIs Identified
Malahide Estuary SPA	Potential for temporary disturbance to ex situ wintering birds
	Potential for degradation in supporting habitats due to surface water emissions
	Potential for degradation to habitats caused by introduction of invasive species

### 3.4 Plans / Projects that may Act in Combination

Article 6(3) of the Habitats Directive requires that:

*Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.*

It is therefore required that the potential impacts of the Proposed Development are considered in combination with any other relevant plans or projects. A search of plans and projects in the vicinity of the Proposed Development was undertaken in April 2022 to examine projects with potential for in combination effects.

#### 3.4.1 Existing Pressures

Conservation objectives for QIs and SCIs at relevant European Sites are based on existing developments (projects) i.e., this is the baseline. These objectives are outlined in Section 2.5. The baseline (existing projects) are considered as part of the in-combination assessment.

It is noted that European sites were designated in recent years based on the baseline i.e. presence of Dublin city and associated developed areas. Newer projects that add to the baseline are the key consideration regarding Appropriate Assessment i.e. additional projects (potential pressures) are considered having regard to general conservation objectives for relevant European sites (maintain at stable/ favourable conservation status).

#### 3.4.2 Plans

##### Dublin City development Plans

The adopted Dublin City Development Plan 2022- 2028<sup>42</sup> which incorporates a section of the area of the Proposed Development, has been subject to Appropriate Assessment for Proposed Development plans. The following applies in this development plan;

*"To ensure that plans, including land use plans, will only be adopted, if they either individually or in combination with existing and/ or proposed plans or projects, will not have a significant effect on a European Site, or where such a plan is likely or might have such a significant effect (either alone or in combination), the planning authority will, as required by law, carry out an appropriate assessment as per requirements of Article 6(3) of the Habitats Directive 92/43/EEC of the 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as transposed into Irish legislation. **Only after having ascertained that the plan will not adversely affect the integrity of any European site, will the planning authority adopt the plan, incorporating any necessary mitigation measures.** A plan which could adversely affect the integrity of a European site may only be adopted in exceptional circumstances, as provided for in Article 6(4) of the Habitats Directive as transposed into Irish legislation."*

<sup>42</sup> <https://www.dublincity.ie/sites/default/files/2021-12/volume-1-draft-dublin-city-development-plan-2022-2028-low-res.pdf>

## Fingal County Development Plan

The adopted Fingal County Development Plan 2023-2029<sup>43</sup> incorporates the majority of the Proposed Development. This plan has been subject to Appropriate Assessment for Proposed Development plans. The plan includes two overarching requirements which will apply to all plans and proposals:

In relation to plans: *“Ensure that plans, including land use plans, will only be adopted, if they either individually or in combination with existing and/or proposed plans or projects, will not have a significant effect on a European Site, or where such a plan is likely or might have such a significant effect (either alone or in combination), the planning authority will, as required by law, carry out an appropriate assessment as per requirements of Article 6(3) of the Habitats Directive 92/43/EEC of the 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as transposed into Irish legislation. **Only after having ascertained that the plan will not adversely affect the integrity of any European site, will the planning authority adopt the plan, incorporating any necessary mitigation measures.** A plan which could adversely affect the integrity of a European site may only be adopted in exceptional circumstances, as provided for in Article 6(4) of the Habitats Directive as transposed into Irish legislation.”*

and

*“Plans will also be subject to screening for the requirement for environmental assessment, and to environmental assessment if required, in accordance with the provisions of Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the SEA Directive) as transposed into national legislation.”*

Additional requirements relating to the requirements to undertake Appropriate Assessment are included in the following objectives: GINHO35, GINHO75, DMSO1, DMSO3, and DSMO146 (backed up by DSMO147 to DSM149).

### 3.4.3 Projects

Applications which were made typically consisted of extensions, demolitions and renovations to existing houses, and retention of existing developments. Given the location of these works in relation to the European sites, and the Proposed Development there is no potential for in-combination effects.

Other, larger scale, projects, and electricity transmission projects which were identified are outlined hereunder.

#### **MetroLink - Estuary to Charlemont via Dublin Airport) (314724)**

The application is to carry out railway works and all works necessary to enable the construction, operation, maintenance and improvement of a railway designated as a metro including inter alia the construction of a fully segregated and automated railway and metro mostly underground approximately 18.8 kilometres in length with 16 stations running from north of Swords at Estuary through Swords, Dublin Airport, Ballymun, Glasnevin and the City Centre to Charlemont in the south of Dublin City Centre.

A NIS was prepared in support of this application. The NIS concludes that: *“It is the considered view of the authors of this NIS (Scott Cawley Ltd.) that, following the implementation of the mitigation measures prescribed in Section 7.4 (the effectiveness of which is also set out in Section 7.4), the proposed Project will not, by itself or in combination with any other plans or*

<sup>43</sup> [Stage 2 Documents | Fingal County Council](#)

*projects, adversely affect the integrity of any European sites in view of their conservation objectives.”*

Further to the above NIS, the Metrolink Railway Order Post Oral Hearing AA Update report submitted (March 7<sup>th</sup> 2024) at Oral Hearing stage provided further information. Of specific relevance to the AA for the proposed development was inclusion of an update which considered risk of PFAS to European sites. This Metrolink PFAS Management Strategy for Dublin Airport (2025)<sup>44</sup> presents an analysis and technical assessment of PFAS contamination encountered at Dublin Airport. The updated post oral hearing AA update report concluded that

*“The proposed (Metrolink Railway) Project, with the full implementation of its robust mitigation strategy presented in Section 7.4 of the RO application NIS and the Metrolink PFAS Management Strategy for Dublin Airport (which is based on standard best international practice, which are tried and tested effective control measures to protect the receiving environment), will ensure that there is no measurable effect on the receiving environment. Therefore, the proposed Project will not affect the conservation objectives supporting the Qualifying Interests and Special Conservation Interests of any European sites during construction or operation. This entirely avoids the risk of other projects acting in combination with the proposed Project to adversely affect the integrity of any European sites.”*

By extension the Metrolink PFAS Management Strategy and appropriate mitigation as relevant is extended to the proposed development, as it forms an integral part of the overall Metrolink Project. This mitigation is considered in Section 3.7.3 below.

Given the mitigation measures proposed, no potential for in-combination effects is identified.

#### **Dublin Airport (LA: F20A/0550, ABP: PL06F.312476)**

This For full planning permission to extend the North Apron in the Airfield at Dublin Airport, Co Dublin to facilitate the provision of twelve aircraft stands and a ground servicing equipment area on a site of 19.2ha.

This application is currently under appeal.

The development will consist of:

- The expansion of the North Apron at Dublin Airport to provide twelve replacement Code C aircraft stands and ground servicing equipment storage area;
- Construction of a 520m long by 6m high blast fence on the northern and western boundary of the extended Apron and ground servicing equipment area;
- Construction of a 20m long by 6m high blast fence southwest of the Apron;
- Construction of a 550m service road immediately to the north of the twelve replacement Code C aircraft stands to provide access for service vehicles;
- Rehabilitation of existing pavement;
- Construction of two new underground attenuation tanks on 9000m<sup>2</sup> of existing grassland;
- Provision of a total organic carbon analyser enclosure;
- Provision of drainage and electrical infrastructure;
- Provision of Aerodrome Ground Light (AGL) installations this includes underground ducting to provide power to centreline lights and new edge lights;
- Provision of 26 No. High Mast Lights;

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<sup>44</sup> Appendix C MetroLink PFAS Management Strategy for Dublin Airport Report of TII Reply to An Bord Pleanála Request for a Response to Wild Ireland Defence CLG & Sabrina Joyce-Kemper Submission (2025)

- Modifications to internal airside fencing, service road infrastructure and provision of construction site security fencing;
- Provision of a temporary construction site compound and modification to the Airfield security fence to temporarily change part of the construction site from 'airside' with access restrictions to 'landside';
- Provision of road and stand pavement markings, Stand id-signs and High Mast Lighting (HML); The application includes all associated site development works and services;

A screening for Appropriate Assessment was written in support of this application. The report concludes "... it is the considered view of the authors of this Report that the Proposed Development will not adversely affect the integrity of any European sites or any other designated sites; and there is no reasonable scientific doubt in this regard."

Given the nature of the development, and its location relative to European sites, no potential for in-combination effects is identified.

#### **Dublin Airport (LA : F20A/0668, ABP: PL06F.314485)**

Dublin Airport has lodged a planning application for approval to conduct night-time operations of the existing runway system (under Section 34C of the Planning and Development Act 2000). This application was granted and subsequently appealed.

An Appropriate Assessment screening report was prepared in support of the application. The report concludes that "...on the basis of objective information, likely significant effects on Rogerstown Estuary SPA, Baldoyle Bay SPA, Ireland's Eye SPA, Lambay Island SPA, and South Dublin Bay and River Tolka SPA from the Proposed Relevant Action, both individually and in-combination with other plans and projects, can be excluded. There is no requirement to proceed to the next step of Appropriate Assessment and that, subject to other requirements the Proposed Relevant Action can be authorised."

Given the nature of this application, i.e., for night-time use of an existing runway, no potential for in-combination effects is identified.

#### **Dublin Airport (F20A/0295)**

Dublin Airport lodged an application on the 22 June 2020 to gain permission to undertake the construction of;

- a single-storey, free standing (ca.5m tall) substation, with dimensions of ca. 18m x 21m;
- within this structure, the following will be enclosed;
  - a medium voltage ring main unit room;
  - a medium voltage switch gear distribution room;
  - a communications room;
  - a transformer room;
  - a generator change over panel room;
  - a generator room;
  - a main distribution room, and;
  - an entrance lobby
- The substation will be built on a new area of hardstanding, consisting of approximately 1,600m<sup>2</sup> of pavement;
- A bunded fuel tank area at the eastern elevation of the substation, with a max height of 3.5m;
- A single, high mast light with a max height of 23m at the south-east corner of the sub-station;

- The substation will be linked by underground cables to the internal electrification of the airport, which will replace the existing temporary substation located to the east of Apron 5G;
- Access to the new substation will be from the North Apron.

A screening for Appropriate Assessment was written in support of this application. The report concludes "... it is the considered view of the authors of this Report that the Proposed Development will not adversely affect the integrity of any European sites or any other designated sites; and there is no reasonable scientific doubt in this regard."

Given the nature of the development, and its location relative to European sites, no potential for in-combination effects is identified.

#### **DAA PLC Dublin Airport Development (F22A/0460)**

DAA PLC submitted an application for planning permission to undertake several developments completely within the Dublin Airport facility, encompassing the construction of a subterranean Underpass of Runway 16/34, a critical airfield operational safety project, which will include;

- A twin-cell enclosed tunnel with 2 lanes in each direction, linked to the surface by ramps, portals, and light attenuation screen (1.8m in height above existing ground level at the west ramp and 3.3m in height above existing ground level at the east ramp). The enclosed section will be approximately 0.7 km long, with an overall alignment of ca. 1.1 km in length. It will be ca. 24m in external width, and ca. 5.5m in internal height from road to tunnel ceiling. It will be up to 17.5m below existing ground level;
- Plant room, of approximately 625m<sup>2</sup>, which will comprise housing for transformers, pumps, controls and communications equipment, located underground at the portal of the east ramp, a parking layby and utilities corridor crossing;
- Demolition (ca. 23,741m<sup>2</sup>) and reinstatement (ca.16,216m<sup>2</sup>) of part of the pavement surfaces of Apron Taxiway 4, Taxiway F-2, Runway 16/34 (the crosswind runway), Taxiway W1 and W2, and the West Apron;
- Access roads to tie in with the existing airside road network at each end of the proposed Underpass (at Pier 3 on the Eastern Campus and the West Apron on the Western campus respectively), and 31 car parking spaces at surface level at Pier 3;
- Demolition (approx. 97m<sup>2</sup>) of fixed links (elevated enclosed passenger walkways leading from the Pier to Aircraft Nodes) and Nodes (structures which provide support for the fixed links and internal pedestrian access cores to ground level) serving three aircraft stands and associated airbridges (passenger boarding bridges) at Level 20 (departure gates) of Pier 3. To the south of Pier 3, an existing airbridge is to be removed and an existing fixed link is to be adjusted to service existing stands in that area;
- Replacement of the demolished fixed links and nodes with three new fixed links, A (approx.. 356m<sup>2</sup>), B (approx.. 227m<sup>2</sup>) and C (approx.. 170m<sup>2</sup>) and of ca. 150m, 95m and 70m in length, respectively, with a width of ca. 2.2m and height of ca. 3.2m;
- Modifications to the elevations of Pier 3 at Level 20 to accommodate the links and airbridges, including part replacement of the existing glazing with new glazing/cladding, and a new clad portal with new doors and access control at each new fixed link location; rearrangement of part of the internal floorspace of Level 20, including a new partition between the entrance/ exits of proposed fixed links A and B; new surface water drainage network; and 31no. car parking spaces at surface level;
- Realignment of stands on the Eastern Campus, resulting in the net loss of three Narrow Body Enabled (NBE) stands and net gain of one Wide Body (WB) stand at Pier 3;
- The realignment of aircraft stands in the West Apron (involving rearranging /relocating stands by way of new paint markings on the apron pavement) to accommodate the portal and Underpass access roads (no net change in number of stands);

- Modifications to existing drainage network in the vicinity of the proposed Underpass including replacement of existing attenuation system, and construction of a new drainage network for the proposed Underpass, including sump pit with pumps, interceptors, and new attenuation tank;
- Construction of a new underground pipe network (6no. new pipes) to allow for future drainage infrastructure/surface water management measures;
- All ancillary airport infrastructure including additional apparatus/equipment including jet blast fencing, Fixed Electrical Ground Power (FEGP), Advanced Visual Docking Guidance System (AVDGS), Stand Number Indicator Board (SNIB), Fuel Hydrants, High Mast Lighting (HML), electrical charging facilities, and miscellaneous ground service equipment (GSE) parking and storage areas;
- The construction of several compounds to provide additional logistics support to the Dublin Airport facility

The Proposed Development does not propose any increase in passenger, cargo or operational capacity at Dublin Airport.

An NIS was prepared in support of this application. The record of the Chief Executive's Order notes that the report needs surface water management and pollution controls to be identified at all compounds to serve the development. On this basis, further information is requested with an update to the NIS. The development can consent the project only after determining it will not adversely affect the integrity of European sites, alone or in combination with other plans or projects (including the Proposed Development). As such, no potential for in-combination effects is identified.

#### **Belcamp Grid Stabilisation (F21A/0681)**

This project comprises:

- A Grid Stabilisation Facility containing 1 No. High Inertia Synchronous Compensator (HISC) unit enclosed within a steel clad framed style structure (12.1m max height) and supported by 8 No. electrical equipment containers (containing ancillary power supply products including a static frequency converts, MV switchgear, exciters, LV distribution, control room, welfare and office), main, auxiliary & start-up electrical transformers, generator circuit breaker, switchgear equipment, External cooler units and 1 No. back up diesel generator and associated diesel storage tank
- A 220kV High Voltage Gas Insulated Switchgear (GIS) compound containing a GIS building with all control & HV equipment within a single storey building (13.2m max height). The building will be surrounded by a compound road and contained within a 2.6m high galvanised steel palisade fence
- A 220kV underground cable to the existing adjoining Eirgrid substation boundary;
- Associated elements comprising a clear span bridge over the River Mayne, various underground cables and ducts, equipment plinths, boundary security fence, compound lighting and palisade gates and fencing, security lighting, CCTV, internal access roads, hardstanding areas and all necessary foundations works for the above compounds.

A concurrent planning application is being made to Dublin City Council which relates to a portion of lands to the south of the site of c. 0.94 ha which provides for a new access entrance from the R139 and a clear span bridge crossing over the River Mayne, internal access tracks, security fencing, temporary construction compound, landscaping, and drainage.

NIS reports were produced in support of this application. These NIS reports both conclude that proposed Belcamp Grid Stabilisation Facility development *"will not adversely affect (either*

*directly or indirectly) the integrity of any Natura 2000 site, either alone or in combination with other plans or projects."*

Given the mitigation measures to be employed, no potential for in-combination effects is identified.

#### **Huntstown, Co. Dublin (FW21A/0143)**

A planning application was submitted by ESB to undertake the Installation of electrical infrastructure between Finglas substation and Huntstown Power Station to facilitate the retirement of existing Electricity Supply Board overhead powerlines and facilitate site clearance for the future development of a data centre and substation.

The planning application was approved on 5 October 2020.

#### **Huntstown, Co. Dublin (FW22A/0079)**

The Proposed Development consists of the following at Site C:

- The construction of 1 no. light industrial/warehouse (including wholesale use) / logistics building (Unit C) with a gross floor area (GFA) of c. 6,627 sq.m (including welfare and reception areas over two levels and c. 216 sq.m of ancillary office space). The proposed building will have a maximum height of c. 15.2 metres.
- Provision of 58 no. car parking spaces and 14 no. bicycle parking spaces.
- Provision of an ESB substation and switchroom.
- Provision of a service yard and HGV loading/unloading areas, with associated loading bays to the west of the proposed light industrial/warehouse/logistics building.
- Provision of access arrangements to the Proposed Development including an access from the permitted roundabout to the southwest of the site, and from the main estate access road to the east of the site.

The Proposed Development consists of the following at site E:

- The construction of 2 no. light industrial/warehouse (including wholesale use) / logistics buildings (Units E1 and E2) with a gross floor area of 12,578 sq.m and 11,457 sq.m, respectively (including welfare and reception areas over two levels for each building and ancillary office space of c. 565 sq.m. and c. 497 sq.m respectively). The proposed buildings will have a maximum height of c. 15.6 metres.
- Provision of 239 no. car parking spaces (125 no. for Unit E1 and 114 no. for Unit E2) and 76 no. bicycle parking spaces (38 no. for each unit).
- Provision of an ESB substation and switchroom, 2 no. sprinkler tanks and 2 no. pumphouses.
- Provision of service yards and HGV loading/unloading areas, with associated loading bays to the south of the proposed light industrial/warehouse/logistics buildings.
- Provision of access arrangements to the Proposed Development including accesses from the main estate access road to the north, and the provision of a new estate road along the eastern side of Unit E2, proceeding to the rear of both buildings and providing access to the service yards.

The proposal includes landscaping and planting, 3 no. bin stores/recycling structures, PV panel zones at roof level, boundary treatments, signage zones, site lighting, security fencing and gates and all associated site services and development works, including underground foul and storm water drainage network and sustainable urban drainage systems (including the provision of an integrated constructed wetland to the south of Site E).

An NIS was produced in support of this application which concluded that given the mitigation measures proposed, the Proposed Development will not have a negative impact on Natura 2000 sites.

Given the mitigation measures to be employed, no potential for in-combination effects is identified.

#### **Newton, Co. Dublin (ABP SID Application GDD: PA0055 & PA06F.312131)**

Irish Water submitted an application in 2019 to undertake works on a new wastewater treatment plant (WWTP), which will form a component of the Greater Dublin Drainage Project.

The works will include the construction of a WWTP facility, sludge hub centre, orbital sewer, outfall pipeline, regional biosolids storage facility and other associated operational infrastructure.

An NIS report was produced for this project, and concluded the following;

*“beyond reasonable scientific doubt that the proposed Project with the implementation of the prescribed mitigation measures will not give rise to significant impacts either individually or in combination with other plans and projects, in a manner which adversely impacts the integrity of any designated site within the Natura 2000 network”*

Given the mitigation measures to be employed, no potential for in-combination effects is identified.

#### **Long-Term parking facility, Dublin Airport (PA06F.301458)**

An application was approved on 8 October 2018 for the permanent continuance of use of the 8,840 space long-term car park known as Holiday Blue on a site at Harristown, Silloge and Ballymun Townlands, South Parallel Road, Dublin Airport, Co. Dublin. This tarmacked area that was already in use for the same purpose (i.e. long-term parking space), under and in accordance with temporary planning permission reg. ref PL06F.PA0022, and the 2,040 space long-term car park known as Express Red Zones Y and Z (Express Red) on a site at Stockdale, Cloghran, and Toberbunny Townlands, Dublin Airport, Co. Dublin that is currently used for the same purpose under and in accordance with temporary planning permission reg. ref: PL06F.PA0030.

A Screening for Appropriate Assessment report was prepared in support of this application. On review of the application the An Bord Pleanála Inspector's Report notes that *“I am satisfied that the identified risks are not significant nor are they likely. I am satisfied that the Proposed Development itself would not be likely to have a significant effect on any Natura 2000 site. Having regard to the nature and scale of the existing development, the fact that no works are proposed and the nature of the receiving environment namely a fully serviced urban site, it is reasonable to conclude that on the basis of the information on the file, which I consider adequate in order to issue a screening determination, that the Proposed Development, individually or in combination with other plans or projects would not be likely to have a significant effect on European site Baldoyle Bay SAC (000199), Baldoyle Bay SPA (0040160), the North Dublin Bay SAC (000206) and North Bull Island SPA (004006) in view of the site's Conservation Objectives, and a Stage 2 Appropriate Assessment (and submission of a NIS) is not therefore required.”*

As such, given the nature, scale and location of the development, no potential for in-combination effects is identified.

#### **Huntstown Power Station, Finglas, Co. Dublin (ABP: 311528)**

ESB has submitted an application to undertake the construction works on lands adjacent to the existing Huntstown Power Station. The proposed works will include;

- of a 2 storey 220kV GIS substation known as 'Mooretown';
- 4 underground transmission cables, and;
- all associated and ancillary site development and construction works

A screening for Appropriate Assessment was written in support of this application. The report concludes that *"it can be excluded, on the basis of objective information and absence of mitigation measures, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on a European site"*

Considering above, along with the location and extent of these proposed works, there is no potential for in-combination effects identified.

#### **Corballis East, Donabate, Co. Dublin (ABP 311059)**

A planning application was submitted to undertake the construction of a housing development project, which will primarily include 1,365 housing units (346 houses and 1,019 no. apartments), creche and associated site works.

An NIS was produced in support of this application. The inspector's report notes the following in relation to the report: *"...it has been determined that subject to mitigation (which is known to be effective) the Proposed Development, individually or in combination with other plans or projects would not adversely affect the integrity of the European sites, Malahide Estuary SPA; Malahide Estuary SAC; Rogerstown Estuary SPA; Rogerstown Estuary SAC; North Bull Island SPA; Baldoyle Bay SPA; South Dublin Bay and River Tolka Estuary SPA; Skerries Islands SPA; Baldoyle Bay SAC; North Dublin Bay SAC; and South Dublin Bay SAC, or any other European site, in view of the sites Conservation Objectives."*

Considering above, along with the location and extent of these proposed works, there is no potential for in-combination effects identified.

#### **Charlestown Place, St. Margaret's Road, Charlestown, Co. Dublin (ABP 310350)**

A planning application was approved on 16 September 2021 by the Fingal County Council to Puddenhill Property Limited to undertake a residential housing project. The property development will include 590 no. apartments, creche and associated site works.

A Screening for Appropriate Assessment was prepared in support of this application. The Inspector's report concludes in relation to this that *"Having regard to the nature and scale of the Proposed Development on fully serviced lands, to the intervening land uses, and distance from European Sites, it is reasonable to conclude that on the basis of the information on file, which I consider adequate in order to issue a screening determination, that the Proposed Development, individually or in combination with other plans or projects would not be likely to have a significant effect on European site 00210 (South Dublin Bay SAC), 004024 (South Dublin Bay and River Tolka Estuary SPA), 4006 (North Bull Island SPA), 0206 (the North Dublin Bay SAC) and 4063 (Poulaphouca Reservoir SPA) or any other European site, in view of the said sites' conservation Objectives, and a Stage 2 Appropriate Assessment is not, therefore, required."*

As such, no potential for in-combination effects is identified.

#### **East Meath – North Dublin Grid Upgrade**

These proposed project works will add a high-capacity 400 kV (kilovolt) underground cable electricity connection from Woodland substation near Batterstown in County Meath to Belcamp substation near Clonshaugh in north Dublin.

This upgrade will strengthen the electricity network in the east of Meath and the north of Dublin to improve the transfer of power across the existing transmission network. The project is currently at option selection stage. Following the design of the scheme and selection of the

preferred option, the East Meath to North Dublin Grid Upgrade will be subject to the provisions of the Directive, i.e. requiring screening for Appropriate Assessment (and if necessary AA).

### **3.5 Potential for Adverse Effects on Site Integrity**

#### **3.5.1 Potential for Adverse Effects on Baldoyle Bay SAC**

Pathways for adverse effects on the Baldoyle Bay SAC have been identified. The potential for these pathways to result in adverse effects to the SAC is now assessed.

These potential effects are identified as follows:

- Potential for surface-water emissions to cause degradation to mudflat and sandflat habitat
- Potential for degradation to Atlantic Salt Meadow and Mediterranean Salt meadow habitat due to spread of invasive species.

Site Specific Conservation Objectives (SSCOs) have been developed for Baldoyle Bay SAC. An assessment of the potential for adverse effects on the integrity of the Baldoyle Bay SAC with regard to these is presented hereunder.

**Table 3.3: Assessment of Potential for Adverse Effects on the site Integrity of Baldoyle Bay SAC – Mudflats and sandflats not covered by seawater at Low Tide**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Habitat Area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.	The proposed works will not intersect with the mudflat and sand flat habitat directly and there are no works proposed within the habitat. There is potential for surface water pollution to enter into the habitat. There will be no changes to the hydrological process which govern the sediment processes within the SAC. As such, there will be no alteration to the extent of mudflats and sand flats within the SAC.	No potential for Adverse Effects on Site Integrity have been identified.
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sand dominated by <i>Angulus tenuis</i> community complex; and Estuarine sandy mud with <i>Pygospio elegans</i> and <i>Tubificoides benedii</i> community complex	As previously noted, the works will not intersect with the mudflat and sand flat habitat, and there will be no direct loss of invertebrate communities. There is potential, however, for surface water pollution to enter into watercourses with downstream connectivity to this SAC. Temporary changes in pH which are associated with the release of cement fines into watercourses have the potential to cause very localised die off among in river invertebrate communities, and an associated change in the community distribution within this SAC. While these effects are unlikely to cause significant effects to the communities within the SAC itself, having regard to the precautionary principle a potential for significant effects is assumed.	Impacts on the community types <b>would constitute an adverse effect on the site's integrity</b> in the absence of mitigation

**Table 3.4: Assessment of Potential for Adverse Effects on the site Integrity (before mitigation) of Baldoyle Bay SAC – Atlantic Salt Meadows and Mediterranean Salt Meadows<sup>45</sup>**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.	Saltmarsh habitat has not been identified within the footprint of the Proposed Development. There will be no loss of salt meadow habitat area associated with the Proposed Development.	No potential for adverse effects on site integrity have been identified.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.	Saltmarsh habitat has not been identified within the footprint of the Proposed Development. There will be no decline or change in habitat distribution associated with the Proposed Development.	No potential for adverse effects on site integrity have been identified.
Physical structure: sediment supply	Presence/absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions	The Proposed Development is located entirely outside of the salt marsh habitats. There will be no alteration to the physical structure of the salt marsh habitats.	No potential for adverse effects on site integrity have been identified.
Physical structure: creeks and pans	Occurrence	Maintain/restore creek and pan structure to develop, subject to natural processes, including erosion and succession	The Proposed Development does not require works within the salt marsh such that there would be a direct impact to the creek and pan structure within the habitat. In addition, the Proposed Development will not result in alterations to the hydrology of the salt marsh habitats such that scour or loss of flow would cause changes to the creek and pan structure.	No potential for adverse effects on site integrity have been identified.
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	The Proposed Development will not result in changes to the natural tidal regime within the saltmarsh habitats.	No potential for adverse effects on site integrity have been identified.
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	The potential spread of Japanese knotweed has potential to cause degradation to and alterations to the vegetation structure within the saltmarsh habitat. While Japanese knotweed is not associated with saline conditions, there is potential for stands to become established at the upper margins of the salt meadows in areas that are subject to less tidal inundation.  The establishment of invasive species in these areas has the potential to cause changes to the zonation within the salt meadow habitat.	Impacts on the vegetation structure would constitute an <b>adverse effect on site's integrity</b> in the absence of mitigation.
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	As outlined previously, the potential spread of Japanese knotweed has potential to cause degradation to and alterations to the vegetation structure within the saltmarsh habitats. Should it establish within the	Impacts on the vegetation structure would constitute an <b>adverse effect on site's</b>

<sup>45</sup> Mediterranean and Atlantic salt meadows are assessed here together as their conservation objectives overlap.

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
			upper saltmarsh, there is potential for alterations in vegetation structure and associated changes in vegetation height.	<b>integrity</b> in the absence of mitigation.
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of the area outside of the creeks vegetated	As outlined previously, there is potential for invasive species to establish within the upper saltmarsh habitat. Japanese knotweed infestations have been found to accelerate erosion during autumn and winter months following the annual dieback of vegetation. Increase of soil erosion has the potential to result in a reduction of the area outside of the creeks which is vegetated.	Impacts on the vegetation structure would constitute an <b>adverse effect on site's integrity</b> in the absence of mitigation.
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub-communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	As outlined previously, there is potential for invasive species to establish within the upper saltmarsh habitat. As the species become established there is the potential for the vegetation composition to become altered, with an associated loss of typical species which are associated with salt marsh.	Impacts on the vegetation communities would constitute an <b>adverse effect on site's integrity</b> in the absence of mitigation.
Vegetation structure: negative indicator species- <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass ( <i>Spartina anglica</i> ), with an annual spread of less than 1%	Common cordgrass has not been identified within the footprint of the Proposed Development. Given the nature of the habitats within the footprint of the Proposed Development there is no potential for the introduction or expansion of common cordgrass as a result of the works.	No potential for adverse effects on site integrity have been identified.

### 3.5.2 Potential for Adverse Effects on North Dublin Bay SAC

Pathways for adverse effects on the North Dublin Bay SAC have been identified. The potential for these pathways to result in adverse effects to the SAC is now assessed.

These potential effects are identified as follows:

- Potential for surface-water emissions to cause degradation to mudflat and sandflat habitat
- Potential for degradation to Atlantic Salt Meadow and Mediterranean Salt meadow habitat due to spread of invasive species.

SSCOs have been developed for North Dublin Bay SAC. An assessment of the potential for adverse effects on the integrity of the North Dublin Bay SAC with regard to these is presented hereunder.

**Table 3.5: Assessment of Potential for Adverse Effects on the site Integrity of North Dublin Bay SAC – Mudflats and Sandflats Not Covered by Seawater at Low Tide**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Habitat Area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.	The proposed works will not intersect with the mudflat and sand flat habitat directly and there are no works proposed within the habitat. There is potential for surface water pollution to enter into the habitat. There will be no changes to the hydrological process which govern the sediment processes within the SAC. As such, there will be no alteration to the extent of mudflats and sand flats within the SAC.	No potential for Adverse Effects on Site Integrity have been identified.
Community extent	Hectares	Maintain the extent of the <i>Mytilus edulis</i> -dominated community, subject to natural processes.	As previously noted, the works will not intersect with the mudflat and sand flat habitat, and there will be no direct loss of invertebrate communities.  There is potential, however, for surface water pollution to enter into watercourses with downstream connectivity to this SAC. Temporary changes in pH which are associated with the release of cement fines into watercourses have the potential to cause very localised die off among in river invertebrate communities, and those within the SAC with an associated change in the community distribution within this SAC. While these effects are unlikely to cause significant effects to the communities within the SAC itself, having regard to the precautionary principle a potential for significant effects is assumed.	Impacts on the community extent <b>would constitute an adverse effect on the site's integrity</b> in the absence of mitigation
Community structure: <i>Mytilus edulis</i> density	Individuals/m <sup>2</sup>	Conserve the high quality of the <i>Mytilus edulis</i> dominated community, subject to natural processes	As outlined previously surface-water emissions associated with the Proposed Development have a slight potential to cause localised die-offs in invertebrates within the SAC. Mortalities within the <i>Mytilus edulis</i> communities has potential to cause associated reductions in their densities.	Impacts on the community structure <b>would constitute an adverse effect on the site's integrity</b> in the absence of mitigation
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sand to sandy mud with	As outlined previously surface-water emissions associated with the Proposed Development have a slight potential to cause localised die-offs in invertebrates within the SAC. Die-offs within the invertebrate communities have the potential to cause alterations in the community complexes.	Impacts on the community distribution <b>would constitute an adverse effect on the site's integrity</b> in the absence of mitigation

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
		<i>Pygospio elegans</i> and <i>Crangon crangon</i> community complex; Fine sand with <i>Spio martinensis</i> community complex.		

**Table 3.6: Assessment of Potential for Adverse Effects on the site Integrity (before mitigation) of North Dublin Bay SAC – Atlantic Salt Meadows and Mediterranean Salt Meadows<sup>46</sup>**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.	Saltmarsh habitat has not been identified within the footprint of the Proposed Development. There will be no loss of salt meadow habitat area associated with the Proposed Development.	No potential for adverse effects on site integrity have been identified.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.	Saltmarsh habitat has not been identified within the footprint of the Proposed Development. There will be no decline or change in habitat distribution associated with the Proposed Development.	No potential for adverse effects on site integrity have been identified.
Physical structure: sediment supply	Presence/absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions	The Proposed Development is located entirely outside of the salt marsh habitats. There will be no alteration to the physical structure of the salt marsh habitats.	No potential for adverse effects on site integrity have been identified.
Physical structure: creeks and pans	Occurrence	Maintain/restore creek and pan structure to develop, subject to natural processes, including erosion and succession	The Proposed Development does not require works within the salt marsh such that there would be a direct impact to the creek and pan structure within the habitat. In addition, the Proposed Development will not result in alterations to the hydrology of the salt marsh habitats such that scour or loss of flow would cause changes to the creek and pan structure.	No potential for adverse effects on site integrity have been identified.
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	The Proposed Development will not result in changes to the natural tidal regime within the saltmarsh habitats.	No potential for adverse effects on site integrity have been identified.
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	The potential spread of Japanese knotweed has potential to cause degradation to and alterations to the vegetation structure within the saltmarsh habitat. While Japanese knotweed is not associated with saline conditions, there is potential for stands to become established at the upper margins of the salt meadows in areas that are subject to less tidal inundation.  The establishment of invasive species in these areas has the potential to cause changes to the zonation within the salt meadow habitat.	Impacts on the vegetation structure would constitute an <b>adverse effect on site's integrity</b> in the absence of mitigation.
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	As outlined previously, the potential spread of Japanese knotweed has potential to cause degradation to and alterations to the vegetation structure within the saltmarsh habitats. Should it establish within the	Impacts on the vegetation structure would constitute an <b>adverse effect on site's</b>

<sup>46</sup> Mediterranean and Atlantic salt meadows are assessed here together as their conservation objectives overlap.

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
			upper saltmarsh, there is potential for alterations in vegetation structure and associated changes in vegetation height.	<b>integrity</b> in the absence of mitigation.
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of the area outside of the creeks vegetated	As outlined previously, there is potential for invasive species to establish within the upper saltmarsh habitat. Japanese knotweed infestations have been found to accelerate erosion during autumn and winter months following the annual dieback of vegetation. Increase of soil erosion has the potential to result in a reduction of the area outside of the creeks which is vegetated.	Impacts on the vegetation structure would constitute an <b>adverse effect on site's integrity</b> in the absence of mitigation.
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub- communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	As outlined previously, there is potential for invasive species to establish within the upper saltmarsh habitat. As the species become established there is the potential for the vegetation composition to become altered, with an associated loss of typical species which are associated with salt marsh.	Impacts on the vegetation communities would constitute an <b>adverse effect on site's integrity</b> in the absence of mitigation.
Vegetation structure: negative indicator species- <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass ( <i>Spartina anglica</i> ), with an annual spread of less than 1%	Common cordgrass has not been identified within the footprint of the Proposed Development. Given the nature of the habitats within the footprint of the Proposed Development there is no potential for the introduction or expansion of common cordgrass as a result of the works.	No potential for adverse effects on site integrity have been identified.

### 3.5.3 Potential for Adverse Effects on Malahide Estuary SAC

Pathways for adverse effects on the Malahide Estuary SAC have been identified. The potential for these pathways to result in adverse effects to the SAC is now assessed.

These potential effects are identified as follows:

- Potential for surface-water emissions to cause degradation to mudflat and sandflat habitat
- Potential for degradation to Atlantic Salt Meadow and Mediterranean Salt meadow habitat due to spread of invasive species.

SSCOs have been developed for Malahide Estuary SAC. An assessment of the potential for adverse effects on the integrity of the Malahide Estuary SAC with regard to these is presented hereunder.

**Table 3.7: Assessment of Potential for Adverse Effects on the Site Integrity of Malahide Estuary SAC – Mudflats and Sandflats Not Covered by Seawater at Low Tide**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Habitat Area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.	The proposed works will not intersect with the mudflat and sand flat habitat directly and there are no works proposed within the habitat. There is potential for surface water pollution to enter into the habitat. There will be no changes to the hydrological process which govern the sediment processes within the SAC. As such, there will be no alteration to the extent of mudflats and sand flats within the SAC.	No potential for Adverse Effects on Site Integrity have been identified.
Community extent	Hectares	Maintain the extent of the <i>Zostera</i> -dominated community and the <i>Mytilus edulis</i> -dominated community complex, subject to natural processes.	As previously noted, the works will not intersect with the mudflat and sand flat habitat, and there will be no direct loss of invertebrate communities.  There is potential, however, for surface water pollution to enter into watercourses with downstream connectivity to this SAC. Temporary changes in pH which are associated with the release of cement fines into watercourses have the potential to cause very localised die off among in river invertebrate communities, and those within the SAC with an associated change in the community distribution within this SAC. While these effects are unlikely to cause significant effects to the communities within the SAC itself, having regard to the precautionary principle a potential for significant effects is assumed.	Impacts on the community extent <b>would constitute an adverse effect on the site's integrity</b> in the absence of mitigation
Community structure: <i>Zostera</i> density	Shoots/m <sup>2</sup>	Conserve the high quality of the <i>Zostera</i> -dominated community, subject to natural processes	As outlined previously, the Proposed Development is located entirely outside of the SAC boundary, and associated mudflat and sandflat habitat. There is no potential for direct impacts to the <i>Zostera</i> communities within the SAC. In addition, <i>Zostera</i> communities are not sensitive to surface-water emissions as may occur associated with the Proposed Development at construction phase. As such, there will be no alteration or degradation of <i>Zostera</i> communities.	No potential for Adverse Effects on Site Integrity have been identified.
Community structure: <i>Mytilus edulis</i> density	Individuals/m <sup>2</sup>	Conserve the high quality of the <i>Mytilus edulis</i> dominated community, subject to natural processes	As outlined previously surface-water emissions associated with the Proposed Development have a slight potential to cause localised die-offs in invertebrates within the SAC. Mortalities within the <i>Mytilus edulis</i> communities has potential to cause associated reductions in their densities.	Impacts on the community structure <b>would constitute an adverse effect on the site's integrity</b> in the absence of mitigation
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sand with oligochaetes, amphipods, bivalves and polychaetes community complex;	As outlined previously surface-water emissions associated with the Proposed Development have a slight potential to cause localised die-offs in invertebrates within the SAC. Die-offs within the invertebrate communities have the potential to cause alterations in the community complexes.	Impacts on the community distribution <b>would constitute an adverse effect on the site's integrity</b> in the absence of mitigation

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
		Estuarine sandy mud with Chironomidae and <i>Hediste diversicolor</i> community complex; and Sand to muddy sand with <i>Peringia ulvae</i> , <i>Tubificoides benedii</i> and <i>Cerastoderma edule</i> community complex.		

**Table 3.8: Assessment of Potential for Adverse Effects on the Site Integrity (Before Mitigation) of Malahide Estuary SAC – Atlantic Salt Meadows and Mediterranean Salt Meadows<sup>47</sup>**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.	Saltmarsh habitat has not been identified within the footprint of the Proposed Development. There will be no loss of salt meadow habitat area associated with the Proposed Development.	No potential for adverse effects on site integrity have been identified.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.	Saltmarsh habitat has not been identified within the footprint of the Proposed Development. There will be no decline or change in habitat distribution associated with the Proposed Development.	No potential for adverse effects on site integrity have been identified.
Physical structure: sediment supply	Presence/absence of physical barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions	The Proposed Development is located entirely outside of the salt marsh habitats. There will be no alteration to the physical structure of the salt marsh habitats.	No potential for adverse effects on site integrity have been identified.
Physical structure: creeks and pans	Occurrence	Maintain/restore creek and pan structure to develop, subject to natural processes, including erosion and succession	The Proposed Development does not require works within the salt marsh such that there would be a direct impact to the creek and pan structure within the habitat. In addition, the Proposed Development will not result in alterations to the hydrology of the salt marsh habitats such that scour or loss of flow would cause changes to the creek and pan structure.	No potential for adverse effects on site integrity have been identified.
Physical structure: flooding regime	Hectares flooded; frequency	Maintain natural tidal regime	The Proposed Development will not result in changes to the natural tidal regime within the saltmarsh habitats.	No potential for adverse effects on site integrity have been identified.
Vegetation structure: zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	The potential spread of Japanese knotweed has potential to cause degradation to and alterations to the vegetation structure within the saltmarsh habitat. While Japanese knotweed is not associated with saline conditions, there is potential for stands to become established at the upper margins of the salt meadows in areas that are subject to less tidal inundation.  The establishment of invasive species in these areas has the potential to cause changes to the zonation within the salt meadow habitat.	Impacts on the vegetation structure would constitute an <b>adverse effect on site's integrity</b> in the absence of mitigation.
Vegetation structure: vegetation height	Centimetres	Maintain structural variation within sward	As outlined previously, the potential spread of Japanese knotweed has potential to cause degradation to and alterations to the vegetation structure within the saltmarsh habitats. Should it establish within the	Impacts on the vegetation structure would constitute an <b>adverse effect on site's</b>

<sup>47</sup> Mediterranean and Atlantic salt meadows are assessed here together as their conservation objectives overlap.

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
			upper saltmarsh, there is potential for alterations in vegetation structure and associated changes in vegetation height.	<b>integrity</b> in the absence of mitigation.
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of the area outside of the creeks vegetated	As outlined previously, there is potential for invasive species to establish within the upper saltmarsh habitat. Japanese knotweed infestations have been found to accelerate erosion during autumn and winter months following the annual dieback of vegetation. Increase of soil erosion has the potential to result in a reduction of the area outside of the creeks which is vegetated.	Impacts on the vegetation structure would constitute an <b>adverse effect on site's integrity</b> in the absence of mitigation.
Vegetation composition: typical species and sub-communities	Percentage cover at a representative sample of monitoring stops	Maintain range of sub- communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	As outlined previously, there is potential for invasive species to establish within the upper saltmarsh habitat. As the species become established there is the potential for the vegetation composition to become altered, with an associated loss of typical species which are associated with salt marsh.	Impacts on the vegetation communities would constitute an <b>adverse effect on site's integrity</b> in the absence of mitigation.
Vegetation structure: negative indicator species- <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass ( <i>Spartina anglica</i> ), with an annual spread of less than 1%	Common cordgrass has not been identified within the footprint of the Proposed Development. Given the nature of the habitats within the footprint of the Proposed Development there is no potential for the introduction or expansion of common cordgrass as a result of the works.	No potential for adverse effects on site integrity have been identified.

### 3.5.4 Potential for Adverse Effects on Baldoyle Bay SPA

Pathways for adverse effects on the Baldoyle Bay SPA have been identified. The potential for these pathways to result in adverse effects to the SPA is now assessed.

These potential effects are identified as follows:

- Potential for surface-water emissions to cause degradation to supporting wetland habitat
- Potential for spread of invasive species to cause degradation to supporting wetland habitat.
- Potential for temporary disturbance to certain ex situ wintering birds that may possibly use grassland habitats within the Zol of the proposed development. These species include Light-bellied Brent Geese and Golden Plover. Other SCI birds associated with this European Site are assessed as not being at risk of disturbance effects as they are associated with saltmarsh, mudflats and open water i.e. they will not regularly use grassland habitat within Zol of the proposed development.

SSCOs have been developed for Baldoyle Bay SPA. An assessment of the potential for adverse effects on the integrity of the Baldoyle Bay SPA with regard to these is presented in Table 3.9 (birds) and Table 3.10 (wetlands).

**Table 3.9: Assessment of Potential for Adverse Effects on the site Integrity of Baldoyle Bay SPA – Light-bellied brent Goose and Golden Plover**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Population Trend	Percentage change	Long term population trend stable or increasing	The Proposed Development has the potential to result in temporary (construction phase) disturbance to wintering waterfowl that may use adjacent grasslands to the proposed development. Given existing relatively high background noise and visual disturbance in the area (vehicles, planes, people), and the fact that works will largely avoid possible habitat (grassland), it is assessed that disturbance impacts are unlikely, and a worst-case effect would be temporary disturbance event and movement to adjacent alternative suitable habitat in the local area.	No potential for Adverse Effects on Site Integrity has been identified. Precautionary good practise mitigation outlined in Section 3.7.2 (monitoring by site EcOW) will be implemented to minimise temporary disturbance risk to all wintering birds including outlined
Distribution	Range, timing and intensity of use	No significant decrease in the range, timing and intensity of use of areas by these species, other than that occurring from natural patterns of variation	No impacts are likely as impacts are temporary and removed from the European site	No potential for Adverse Effects on Site Integrity has been identified.

**Table 3.10: Assessment of Potential for Adverse Effects on the site Integrity of Baldoyle Bay SPA – Wetlands**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 263 hectares, other than that occurring from natural patterns of variation	<p>The Proposed Development has the potential to result in a temporary (construction phase) deterioration in water quality caused by accidental pollution of surface waters. This has the potential to result in a degradation of wetland habitats associated with the SPA. Likewise, there is potential for degradation of habitat due to accidental spread of invasive species. These wetland habitats comprise key foraging habitat for a large number of birds associated with the SPA.</p> <p>The associated reduction in wetland quality has the potential to result in a lowering of the carrying capacity for wetland birds. However, this will not constitute a reduction in the permanent area occupied by wetland habitats.</p> <p>Precautionary mitigation outlined in Section 3.7.3 for protection of water quality is of value in any case.</p>	No potential for Adverse Effects on Site Integrity has been identified

### 3.5.5 Potential for Adverse Effects on North Bull Island SPA

Pathways for adverse effects on the North Bull Island SPA have been identified. The potential for these pathways to result in adverse effects to the SPA is now assessed.

These potential effects are identified as follows:

- Potential for surface-water emissions to cause degradation to supporting wetland habitat
- Potential for spread of invasive species to cause degradation to supporting wetland habitat.  
Potential for temporary disturbance to certain ex situ wintering birds that may possibly use grassland habitats within Zol of the proposed development. These include Light-bellied Brent Geese, Oystercatcher, Curlew, Black-tailed godwit, Black-headed gull and Golden Plover. Other SCI birds associated with this European Site are assessed as not being at risk of disturbance effects as they are associated with saltmarsh, mudflats and open water i.e. they will not regularly use grassland habitat within Zol of the proposed development.

SSCOs have been developed for North Bull Island SPA. An assessment of the potential for adverse effects on the integrity of the North Bull Island SPA with regard to these is presented in Table 3.11 (birds) and Table 3.12 (wetlands).

**Table 3.11: Assessment of Potential for Adverse Effects on the site Integrity of North Bull Island SPA – Light-bellied Brent Geese, Oystercatcher, Curlew, Black-tailed godwit, Black-headed gull and Golden Plover**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Population Trend	Percentage change	Long term population trend stable or increasing	The Proposed Development has the potential to result in temporary (construction phase) disturbance to wintering waterfowl that may use adjacent grasslands to the proposed development. Given existing relatively high background noise and visual disturbance in the area (vehicles, planes, people), and the fact that works will largely avoid possible habitat (grassland), it is assessed that disturbance impacts are unlikely, and a worst-case effect would be temporary disturbance event and movement to adjacent alternative suitable habitat in the local area.	No potential for Adverse Effects on Site Integrity has been identified. Precautionary good practise mitigation outlined in Section 3.7.2 (monitoring by site EcOW) will be implemented to minimise temporary disturbance risk to all wintering birds including outlined
Distribution	Range, timing and intensity of use	No significant decrease in the range, timing and intensity of use of areas by these species, other than that occurring from natural patterns of variation	No impacts are likely as impacts are temporary and removed from the European site	No potential for Adverse Effects on Site Integrity has been identified.

**Table 3.12: Assessment of Potential for Adverse Effects on the site Integrity of North Bull Island SPA – Wetlands**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,713 hectares, other than that occurring from natural patterns of variation	The Proposed Development has the potential to result in a deterioration in water quality caused by accidental pollution of surface waters. This has the potential to result in a degradation of wetland habitats associated with the SPA. Likewise, there is potential for degradation of habitat due to accidental spread of invasive species. These wetland habitats comprise key foraging habitat for a large number of birds associated with the SPA.  The associated reduction in wetland quality has the potential to result in a lowering of the carrying capacity for wetland birds. However, this will not constitute a reduction in the permanent area occupied by wetland habitats.	No potential for Adverse Effects on Site Integrity has been identified

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
			Precautionary mitigation outlined in Section 3.7.3 for protection of water quality is of value in any case.	

### 3.5.6 Potential for Adverse Effects on Malahide Estuary SPA

Pathways for adverse effects on the Malahide Estuary SPA have been identified. The potential for these pathways to result in adverse effects to the SPA is now assessed.

These potential effects are identified as follows:

- Potential for surface-water emissions to cause degradation to wetland habitat
- Potential for spread of invasive species to cause degradation to wetland habitat
- Potential for temporary disturbance to certain ex situ wintering birds that may possibly use grassland habitats within ZoI of the proposed development. These include Light-bellied Brent Geese, Oystercatcher, Black-tailed godwit and Golden Plover. Other SCI birds associated with this European Site are assessed as not being at risk of disturbance effects as they are associated with saltmarsh, mudflats and open water i.e. they will not regularly use grassland habitat within ZoI of the proposed development.

SSCOs have been developed for Malahide Estuary SPA. An assessment of the potential for adverse effects on the integrity of the Malahide Estuary SPA with regard to these is presented in Table 3.13 (birds) and Table 3.14 (wetlands).

**Table 3.13: Assessment of Potential for Adverse Effects on the site Integrity of Malahide Estuary SPA – Light-bellied Brent Geese, Oystercatcher, Black-tailed godwit and Golden Plover**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Population Trend	Percentage change	Long term population trend stable or increasing	The Proposed Development has the potential to result in temporary (construction phase) disturbance to wintering waterfowl that may use adjacent grasslands to the proposed development. Given existing relatively high background noise and visual disturbance in the area (vehicles, planes, people), and the fact that works will largely avoid possible habitat (grassland), it is assessed that disturbance impacts are unlikely, and a worst-case effect would be temporary disturbance event and movement to adjacent alternative suitable habitat in the local area.	No potential for Adverse Effects on Site Integrity has been identified. Precautionary good practise mitigation outlined in Section 3.7.2 (monitoring by site EcOW) will be implemented to minimise temporary disturbance risk to all wintering birds including outlined
Distribution	Range, timing and intensity of use	No significant decrease in the range, timing and intensity of use of areas by these species, other than that occurring from natural patterns of variation	No impacts are likely as impacts are temporary and removed from the European site	No potential for Adverse Effects on Site Integrity has been identified.

**Table 3.14: Assessment of Potential for Adverse Effects on the site Integrity of Malahide Estuary SPA – Wetlands**

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 765 hectares, other than that occurring from natural patterns of variation	The Proposed Development has the potential to result in a deterioration in water quality caused by accidental pollution of surface waters. This has the potential to result in a degradation of wetland habitats associated with the SPA. Likewise, there is potential for degradation of habitat due to accidental spread of invasive species. These wetland habitats comprise key foraging habitat for a large number of birds associated with the SPA. The associated reduction in wetland quality has the potential to result in a lowering of the carrying capacity for wetland birds. However, this will not constitute a reduction in the permanent area occupied by wetland habitats.	No potential for Adverse Effects on Site Integrity has been identified

Attribute	Measures	Targets	Potential Impact	Potential for Adverse Effects on Site Integrity
-----------	----------	---------	------------------	---

			Precautionary mitigation outlined in Section 3.7.3 for protection of water quality is of value in any case.	
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### 3.6 Mitigation Measures

The potential for adverse effects was identified on the basis of the precautionary principle to the following European sites:

- Baldoyle Bay SAC
- North Dublin SAC
- Malahide Estuary SAC

Mitigation is prescribed hereunder to address the impacts identified such that adverse effects on site integrity of the European site do not occur.

Mitigation measures are set out in accordance with the European Commission guidance on the: *'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, (2001).* And *'Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive (2018).'* Mitigation is described with respect to:

- How the measures will avoid / prevent / reduce the adverse impacts on the site to an acceptable level;
- The degree of confidence in their likely success;
- The timescale, relative to the Proposed Development, when they will be implemented;
- How and when the measures will be monitored.

All mitigation prescribed in this NIS must be implemented by the appointed Contractor for the works, in consultation with the Developer's Ecologist, and the relevant statutory bodies identified hereunder. The Contractor will incorporate the mitigation measures being outlined below into a Construction Environmental Management Plan (CEMP) for the Proposed Development and agree the CEMP with the Developer and the local authority in advance of mobilisation.

An outline CEMP has been produced for this project which includes mitigation details outlined in Section 3.7 of this NIS.

A summary of mitigation measures outlined in this section and its application to each of the European Sites identified with potential for effects is outlined in Table 3.15 below.

**Table 3.15: Mitigation Measure Summary**

Measure	Baldoyle Bay SAC	North Dublin Bay SAC	Malahide Estuary SAC
Mitigation for protection of water quality	✓	✓	✓
Mitigate Spread of Invasive Species	✓	✓	✓

While no specific mitigation measures are considered required to avoid adverse effects on site integrity, precautionary mitigation outlined for protection of water quality in the aforementioned SAC sites, and the presence of a site EcOW, are good ecological practise for the following European sites.

- Baldoyle Bay SPA (004016)
- North Bull Island SPA (004006)

- Malahide Estuary SPA (004025)

### 3.6.1 Pre-Construction Confirmatory Surveys

Given the dynamic distribution of species and habitats over time, changes may arise between baseline surveys informing this AA Screening and NIS (2019-2022), and construction (est. 2023). For example, invasive species distribution will change following treatment, or dispersal by humans, animals, or water.

Invasive species confirmatory surveys will be carried out to establish whether any new instances have become established within the ZoI of the Proposed Development. All surveys will be undertaken by a suitably qualified ecologist(s) who may be the Contractor's Ecological Clerk of Works (ECoW), but who will have demonstrable experience in the survey and assessment of the feature

The pre-construction invasive species survey will be carried out within the works areas, including compound locations and laydown areas, and along proposed access routes to identify the presence of all invasive species within and adjacent to works areas.

The invasive species survey will be carried out during the appropriate growing season (May – October). The findings of this invasive species survey will be incorporated into the measures below, by the Contractor's ECoW and any specialists.

Any stands of invasive species recorded within the ZoI will be clearly marked out as restricted areas. This exclusion zone will incorporate a buffer such that below ground growth is accounted for (4m for Japanese knotweed following Fennell et al., 2018<sup>48</sup>; buffer not required for other species). No works will be carried out within the exclusion zones unless approved by the Contractor's ECoW.

The results of pre-construction confirmatory surveys will inform the refinement of mitigation measures (if required) in Contractor method statements, and all results will be incorporated into Contractor's constraint mapping.

### 3.6.2 Ecological Supervision and Monitoring

An Ecologist/ Ecological Clerk of Works (ECoW) will be employed by the Contractor to oversee implementation of mitigation and deliver toolbox talks and preconstruction ecology surveys, as appropriate. This will include monitoring and auditing the works and contractor programmes and works method statements, to ensure mitigation is correctly implemented.

The ECoW will be a full member of a relevant environmental institute, such as the Chartered Institute of Ecology and Environmental Management (CIEEM) and have demonstrable experience in ecological supervision and habitat restoration works.

A suitably experienced EcOW/ ornithologist will be available during the construction phase to monitor and advise contractors on risk of temporary disturbance to wintering birds in particular where works are proposed adjacent to fields or grasslands being utilised by wintering wildfowl between October and March inclusive. The EcOW/ ornithologist will review proposed work programmes and have authority to instruct the contractor to temporarily modify work practises if a disturbance event is assessed as likely, e.g. high noise activity including concrete breaking may be paused temporarily. There will be no requirement for this role if works are conducted between April and September.

<sup>48</sup> Fennell, M., Wade, M. and Bacon, K.L., 2018. Japanese knotweed (*Fallopia japonica*): an analysis of capacity to cause structural damage (compared to other plants) and typical rhizome extension. *PeerJ*, 6, p.e5246.

The Contractor's ECoW will also ensure any disturbance licenses are arranged if any significant findings are determined from confirmatory pre-construction surveys outlined above. The Contractor's ECoW will advise on mitigation measures implementation including the scheduling of works and will be included in regular liaison meetings between project teams to ensure that plans are co-ordinated and effects are minimised.

Separate to the ECoW, or if the ECoW does not have appropriate experience, an Environmental clerk of works (EnCOW)/ Environmental Engineer, with appropriate experience of managing surface water runoff/ pollution control will be employed on the site. The EnCOW will have responsibility for ensuring water quality and other general environmental protection measures are suitable and appropriate, and that they are effectively monitored.

An independent Environmental Clerk of Works (EnCoW) will also be employed on behalf of the Employers Representative team, who will review and comment on the pre-construction survey reports, mitigation proposals, monitoring and compliance reports generated by the Contractor's ECoW. These monitoring and survey reports will also be provided to the local authority or other parties where required by condition.

### **3.6.3 Mitigation Against Water Quality Impacts to Surface Water**

The principle likely pollution sources from construction activities are from water crossings and works that will be conducted adjacent to watercourses. Other sources are contaminated site run-off, including silty water arising from exposed ground / stockpiles / and from accidental leaks / spills of oil / fuels from machinery or storage areas, and run off from areas where concrete pours are taking place.

Mitigation measures to avoid / prevent contaminated runoff and pollution from site are prescribed below.

**Table 3.16: Mitigation Against Surface Water Pollution**

Measure	How the measures will avoid / prevent / reduce impacts	Confidence in the likely success of the measure	Timescale for Implementation	Monitoring requirements	How the measures will avoid / prevent / reduce impacts
<p>At a minimum, all pollution control measures will be designed, installed, and maintained in accordance with measures outlined below and under the supervision of the Contractor's Environmental Clerk of Works (EnCoW).</p> <p>The pouring of concrete will be required during the construction phase. To prevent the runoff of concrete into nearby watercourses and drains, the following will be implemented.</p> <ul style="list-style-type: none"> <li>• No on-site batching will be permitted at the proposed works areas. Concrete will instead be transported to the site within a concrete truck.</li> <li>• Quick setting concrete mixes will be used to reduce the risk of contaminated run-off to the nearby watercourses.</li> <li>• Concrete trucks will be washed down in a sealed mortar bin / skip which has been examined in advance for any defects. This requirement will be communicated to each concrete truck driver prior to entering into the works area.</li> <li>• Where the isolated working area requires constant pumping to maintain a dry works area, pumps shall be turned off during the pour, and remain off until concrete has hardening negating a run-off risk; and such that the discharge will not result in a change in pH of +/-0.5 units.</li> <li>• Where concrete pours are required within the vicinity of a watercourse, the Contractor's EnCoW will regularly monitor the pH of the watercourse during concrete works using a handheld pH meter. Should any change in pH +/-0.5 be detected</li> </ul>	<p>Measures will prevent the uncontrolled releases of pollutants into the environment.</p>	<p>Measures prescribed as standard best practice and are aligned with CIRIA Guidelines C532</p>	<p>Pollution prevention measures will need to be in place before the enabling and construction works commence at each location.</p>	<p>Monitoring as part of the Emergency response plan will be subject to agreement with IFI.</p> <p>The Contractor's EnCoW will carry out ongoing monitoring of all pollution control measures.</p> <p>The Contractor EnCoW will report monitoring findings, and adaptive management actions taken in writing to the independent EnCoW within the Employer's Representative Team.</p>	<p>Measures will prevent and/or remedy the uncontrolled releases of pollutants into the environment.</p>

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concrete works shall immediately be ceased (handheld monitors will have maximum variance of +/- 0.1). The entry point to the watercourse will then be identified and implement appropriate measures to prevent further escape to the environment

- The Contractor's EnCoW will ensure that covers are available for freshly poured concrete to avoid wash off in the event of rain.
- Waste concrete slurry will be allowed to dry and taken to a licensed waste depot for disposal.
- The Contractor will schedule concrete works during relatively dry weather conditions (i.e. when there are no active Met Eireann yellow, orange or red warnings) to reduce the elevated risk of runoff.
- The Contractor's EnCoW will notify the Independent EnCoW employed within the Employer's Representative Team, the NPWS and IFI immediately of any concrete spills into watercourses.

**Silt Control Measures**

- Silt control measures will be used to control silt generated from activities on site and prevent it gaining access to surface drainage which could convey silt to larger streams and watercourses.
  - Silt control measures include silt traps which can be located in small drains where flow is small and silt fences where runoff from large areas needs to be controlled.
  - Silt fences must be installed in the working areas and not at the watercourse.
  - Access routes will be delineated such that an appropriate set back distance from watercourses is maintained. Where works are to be undertaken adjacent to watercourses the setback distance will be delineated by the EnCoW on site, with inputs from the ECoW if required.
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- Where distances between the works and watercourse allow, a minimum setback distance of 25m from the watercourse will be maintained.
  - Where the site is constrained, the best available set back distance will be employed taking account of the minimum working area required to facilitate the works.

#### **Silt Fences**

- Silt fences will be installed downslope of the area where silt is being generated on disturbed ground.
  - To be effective the silt curtain must contain the area where silt is generated and must terminate on high ground (i.e. an elevated area not in the watercourse).
  - Silt fences will be constructed using a permeable filter fabric (e.g. Hy Tex Terrastop Premium silt fence or similar) and not a mesh.
  - The base of the silt fence will be bedded at least 15-30 cm into the ground at two metre intervals.
  - Once installed the silt fence will be inspected regularly, daily during the proposed works, weekly on completion of the works for at least one month, but particularly after heavy rains.
  - The integrity of the silt fencing will be checked daily by the EnCoW and after poor weather conditions (rain or wind) and any failures rectified immediately.
  - Two lines of silt curtain / fence will be installed, where considered necessary, by the EnCoW.
  - Any build-up of sediment along the fence boundary will be removed daily.
  - Silt fences will be maintained until vegetation on the disturbed ground has re-established. Re-instatement method statements will be subject to approval by the EnCoW.
  - The silt fencing must be left in place until the works are completed (which includes removal of any temporary ground treatment).
-

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- Silt fences will not be removed during heavy rainfall.
  - The silt fence will not be pulled from the ground but cutaway at ground level and posts removed.
  - A record of when it was installed, inspected and removed will be maintained by the EnCoW.

#### Silt Traps

- The purpose of the trap is to reduce the level of solids in the slowly flowing water. The silt trap works by allowing a build-up of water behind it slowing flow and allowing solids to settle out. The following requirements will apply:
    - Silt traps will only be placed in drains downstream of working areas where the volume of water flow is expected to be low.
    - Silt traps will be made of terram or similar material, not mesh.
    - The trap will be staked into the banks of the drain / watercourse such that no water can flow around the sides.
    - The material will be bedded into the drain bed/watercourse to prevent water flowing beneath it.
    - The height of the trap will be lower than the bank heights. The upper edge will be fixed to a timber cross piece. This will allow water to overtop the silt trap and not burst through or around it.
    - Inspections will be carried out daily; during the proposed works, weekly on completion of the works for at least one month, and after heavy rains, and monthly thereafter until bare areas have developed new growth.
    - Any build-up of solids will be carefully removed without removing any vegetation growing on the bottom.
    - In sensitive areas a series of silt traps will be placed in the drain.
    - The silt trap will not be pulled from the ground but cutaway at ground level and posts removed.
-

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- A record of when it was installed, inspected and removed will be maintained by the EnCoW.

#### **PFAS**

Works near river crossings hydrologically linked to downstream European sites, where there is an identified potential for PFAS contamination occur primarily near Dublin airport and include the Mayne River, Santry River, Sluice and Cuckoo Stream crossings.

The risk of PFAS will be managed in line with the MetroLink PFAS Management Strategy for Dublin Airport<sup>49</sup> as relevant.

Works at river crossings hydrologically linked to downstream European sites, where there is an identified potential for PFAS contamination include Sluice River, Mayne River and Santry River. Mitigation to minimise risk of PFAS contamination will be implemented and will include.

- Instream works will not be undertaken if PFAS is detected and an alternative crossing method will be conducted that avoids disturbance to the stream bed.
- The works site will be delineated, segregating the site from any adjacent site with a dedicated access route.
- The works will be completed in stages and at each stage the soils to be excavated and water to be removed or managed will be tested for PFAS.
- All excavated material or water collected will be removed and transported to the Triage and Material Management Centre for testing and onward transportation.
- If instream works are undertaken, then they will be completed in dry or very low flow conditions.
- All potentially contaminated water extracted in the course of the works, will be treated as per

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<sup>49</sup> [https://downloads.metrolink.ie/oh/Response%20to%20WID%20Sub\\_Final.pdf#page=41&zoom=100,92,153](https://downloads.metrolink.ie/oh/Response%20to%20WID%20Sub_Final.pdf#page=41&zoom=100,92,153)

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appropriate methods identified in Annex E of the PFAS Management Strategy report.

- To prevent any cross contamination, dedicated plant and equipment will be used for the activity, stored within a secure location and cleaned when leaving the secure area with the water from this process also segregated and stored for suitable disposal.
- Any instream works will include for monitoring upstream and downstream in order to track any changes in the levels of PFAS during the full progression of the works. For the provision of the diversion works, suitable barriers, Geomembrane HDPE or similar, are to be procured to line the diversion excavations to prevent PFAS migration downstream of any inline watercourse works; and
- Backfilling will be undertaken with clean suitable fill material only.

Given that no instream works are proposed and the surface water mitigation measures prescribed, it is unlikely that an accident of sufficient scale would occur that would negatively impact on aquatic habitats.

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### 3.6.4 Mitigation to Prevent the Spread of Invasive Species

Field surveys identified the presence of the Third Schedule listed<sup>50</sup> invasive species Japanese Knotweed (*Fallopia japonica*) at several locations along the proposed cable route, that will be directly impacted by the works. There is therefore potential for the establishment of new stands of Japanese knotweed within the Proposed Development footprint prior to and during the commencement of construction.

It is an offence under Regulation 49 of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) to plant, disperse, allow, or cause to disperse, spread or otherwise cause to grow any plant species specified in the Third Schedule of the Regulations.

In the event that new invasive species locations are identified following pre-construction confirmatory surveys, in order to comply with the Regulations, the appointed Contractor will ensure biosecurity measures are implemented during the construction phase to ensure the introduction and/or spread of invasive species is prevented. Biosecurity measures which will be implemented during the construction phase are prescribed below.

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<sup>50</sup> Third Schedule listed invasive species are non-native plants and animals subject to strict legal restrictions, primarily in Ireland under the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011)

**Table 3.17: Mitigation to prevent the spread of Invasive species**

Measure	Confidence in the likely success of the measure	Timescale for Implementation	Monitoring requirements	How the measures will avoid / prevent / reduce impacts
<p>Japanese knotweed has been recorded within the Zol to the development. There is potential for additional stands of invasive species to be present within or adjacent to the works areas following establishment of new populations between baseline surveys, and construction.</p> <ul style="list-style-type: none"> <li>• Prior to works commencing a full invasive species survey will be carried out. The pre-construction invasive species survey will be carried out within the works areas, including compound locations and laydown areas, and along proposed access routes to identify the presence of all invasive species within and adjacent to works areas.</li> <li>• The invasive species survey will be carried out during the appropriate growing season (May – October). The findings of this invasive species survey will be incorporated into the measures below, by the Contractor's ECoW and any specialists.</li> <li>• Any stands of invasive species recorded within the Zol will be clearly marked out as restricted areas. This exclusion zone will incorporate a buffer such that below ground growth is accounted for (4m for Japanese knotweed<sup>51</sup> buffer is not required for other species). No works will be carried out within the exclusion zones unless approved by the Contractor's ECoW.</li> <li>• The Contractor's ECoW will carry out a toolbox talk for all construction personnel which will provide information on how to identify and manage invasive species. The toolbox talk will take place prior to works commencing in any areas where Invasive Species have been recorded.</li> </ul>	<p>Measures prescribed as best practice and are proven technologies / methods.</p>	<p>Biosecurity measures will be implemented throughout the duration of the construction works.</p>	<p>The ECoW will inspect and monitor all biosecurity measures to ensure they are undertaken correctly. All stands of Japanese knotweed identified within the Proposed Development Zol, and where construction activities have taken place proximal to Japanese knotweed stands must be monitored.</p> <p>Monitoring should continue over the span of two growing seasons, at a minimum, and until there is no sign of regrowth from all the previously identified areas where stands were present within the Zol of the Proposed Development.</p> <p>The ECoW will report monitoring findings, and adaptive management actions taken in writing to the independent EnCoW within the Employer's Representative Team.</p>	<p>Biosecurity measures will ensure any adverse effects associated invasive species spread are avoided.</p>

<sup>51</sup> Fennell, M., Wade, M., Bacon, K., (2018); Japanese knotweed (*Fallopia japonica*): An analysis of capacity to cause structural damage (compared to other plants) and typical rhizome extension

Measure	Confidence in the likely success of the measure	Timescale for Implementation	Monitoring requirements	How the measures will avoid / prevent / reduce impacts
<ul style="list-style-type: none"><li>• All machinery will be steam-cleaned prior to entering and before leaving site.</li><li>• In the event of the requirement for the excavation and disposal of Invasive Alien Species infected soil, the Contractor (EnCoW) will be responsible for the securing of appropriate derogation licences for the transportation and disposal of such material.</li></ul>				

### 3.7 Conclusions

The mitigation measures detailed in Section 3.7 of this NIS will ensure no adverse effects on the integrity of any European sites in light of the site's conservation objectives

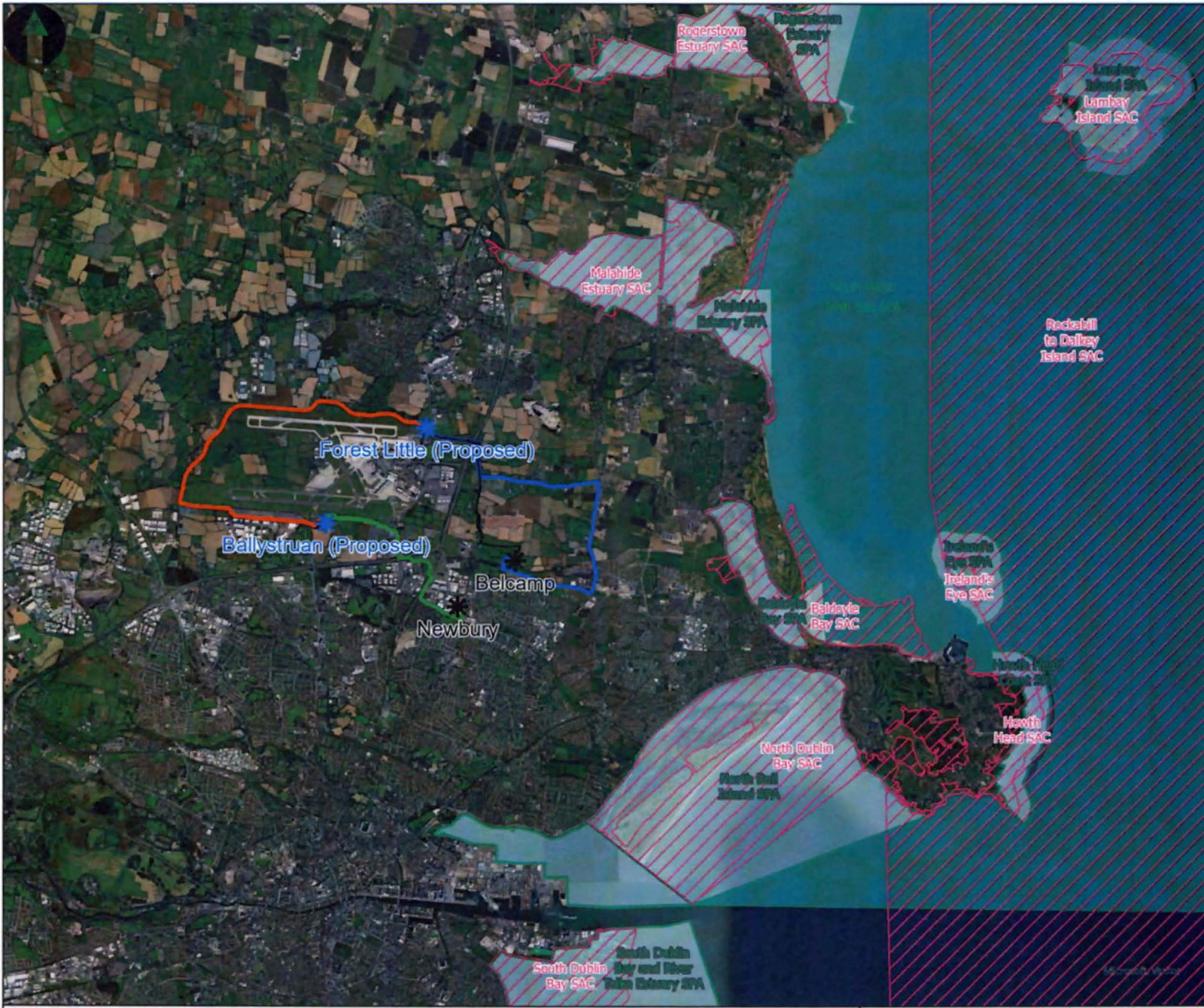
The NIS contains information which the Board, as competent authority, may consider in making its own complete, precise and definitive findings and conclusions and upon which the Board is capable of determining that all reasonable scientific doubt has been removed as to the effects of the Proposed Development on the integrity of the relevant European sites.

In the light of the conclusions of the assessment which it shall conduct on the implications for the European sites concerned, the Board is enabled to ascertain that the Proposed Development will not adversely affect the integrity of any of the European sites concerned.

## Appendices

A.	European Sites in Relation to the Proposed Development	108
B.	Habitat Map	109

## **A. European Sites in Relation to the Proposed Development**



- Key to Symbols**
- Proposed Substations
  - Existing Substations
  - Ballystruan to Newbury
  - Ballystruan to Newbury Existing Ducts
  - Forest Little to Ballystruan
  - Forest Little to Belcamp Option 2
  - Forest Little to Belcamp Option 1
  - Special Area of Conservation (SAC)
  - Special Protected Area (SPA)

**Notes**

01	21/01/2026	XW	Information	ET	MS
Rev	Date	Drawn	Description	Ch'kd	App'd

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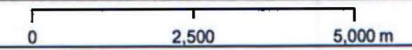
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**MetroLink 110kV Cable  
Planning Design**

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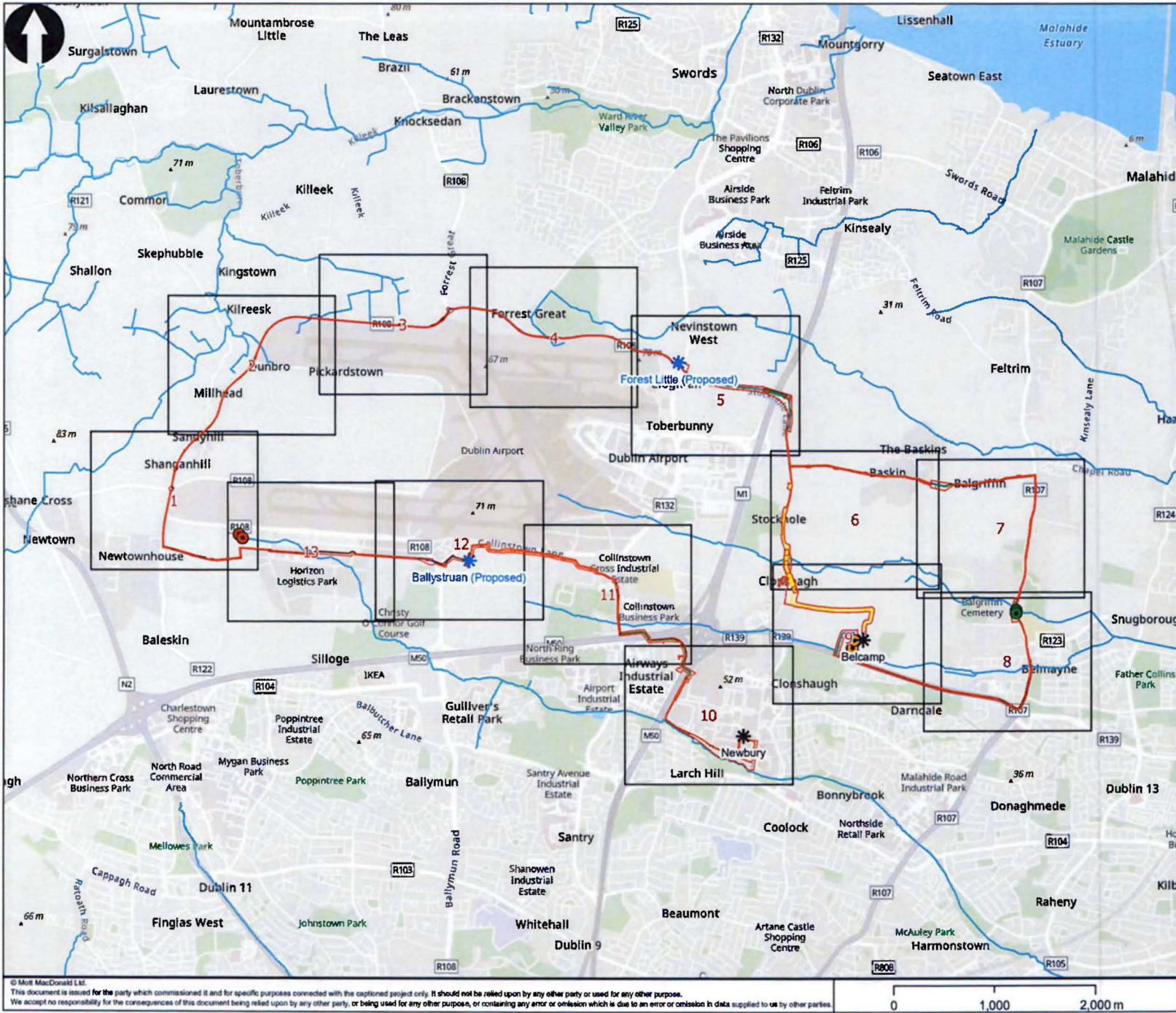
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Drawing Number  
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## B. Habitat Map



**Key to Symbols**

- Red Line Boundary
- Existing Substations
- Proposed Substation
- EPA River
- Forest Little to Belcamp Option 2
- Forest Little to Belcamp Option 1
- Forest Little to Ballystruan
- Ballystruan to Newbury Existing Ducts
- Ballystruan to Newbury

**Bat Roost Potential**

- High
- Moderate
- Low

**Notes**

Rev	Date	Drawn	Description	Ch'kd	App'd
02	25/05/2023	XW	Overview	ET	RM

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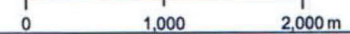
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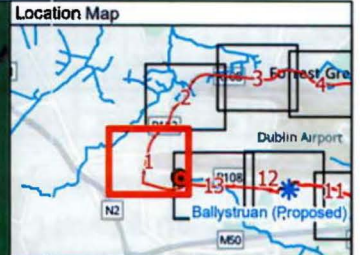
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**Title**  
MetroLink 110kV Cable  
Planning Design  
Habitat Map Overview

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Drawn	X Wan	Coordination	E Johnston
GIS Check	E Thi	Approved	R Macnaughton
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229100846-MMD-00-GIS-0011			

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- Key to Symbols**
- Red Line Boundary
  - EPA River
  - Forest Little to Belcamp Option 2
  - Forest Little to Ballystruan
- Fossitt**
- ▨ Amenity Grassland (GA2)
  - ▨ Buildings and Artificial Surfaces (BL3)
  - ▨ Dry Calcareous and Neutral Grassland (GS1)
  - ▨ Scrub (WS1)
  - Hedgerow (WL1)
- Bat Roost Potential**
- High

**Notes**

Q2	25/05/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Chk'd	App'd

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**Client**



**Title**  
MetroLink 110kV Cable  
Planning Design  
Habitat Map

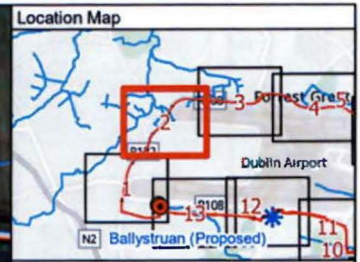
Page 1 of 13

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Drawing Number  
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- Key to Symbols**
- Red Line Boundary
  - EPA River
  - Forest Little to Ballystruan
- Fossitt**
- Buildings and Artificial Surfaces (BL3)

Notes

02	25/05/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Chk'd	App'd

**M** South Block  
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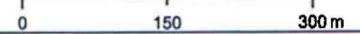
**M**  
**MOTT**  
**MACDONALD**



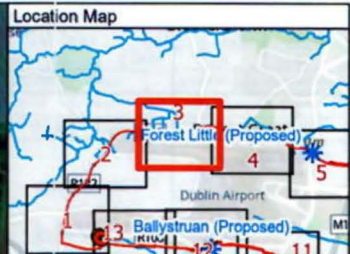
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MetroLink 110kV Cable  
Planning Design  
Habitat Map  
Page 2 of 13

Designed	X Wan	Eng Check	E Johnston
Drawn	X Wan	Coordination	E Johnston
GIS Check	E Tiri	Approved	R Macnaughton
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Drawing Number  
229100846-MMD-00-GIS-0011-2



- Key to Symbols**
- Red Line Boundary
  - EPA River
  - Forest Little to Ballystruan
- Fossitt**
- Amenity Grassland (GA2)
  - Buildings and Artificial Surfaces (BL3)
  - Dry Meadows and Grassy Verges (GS2)
  - Hedgerow (WL1)

**Notes**

02	25/05/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Chk'd	App'd

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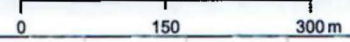


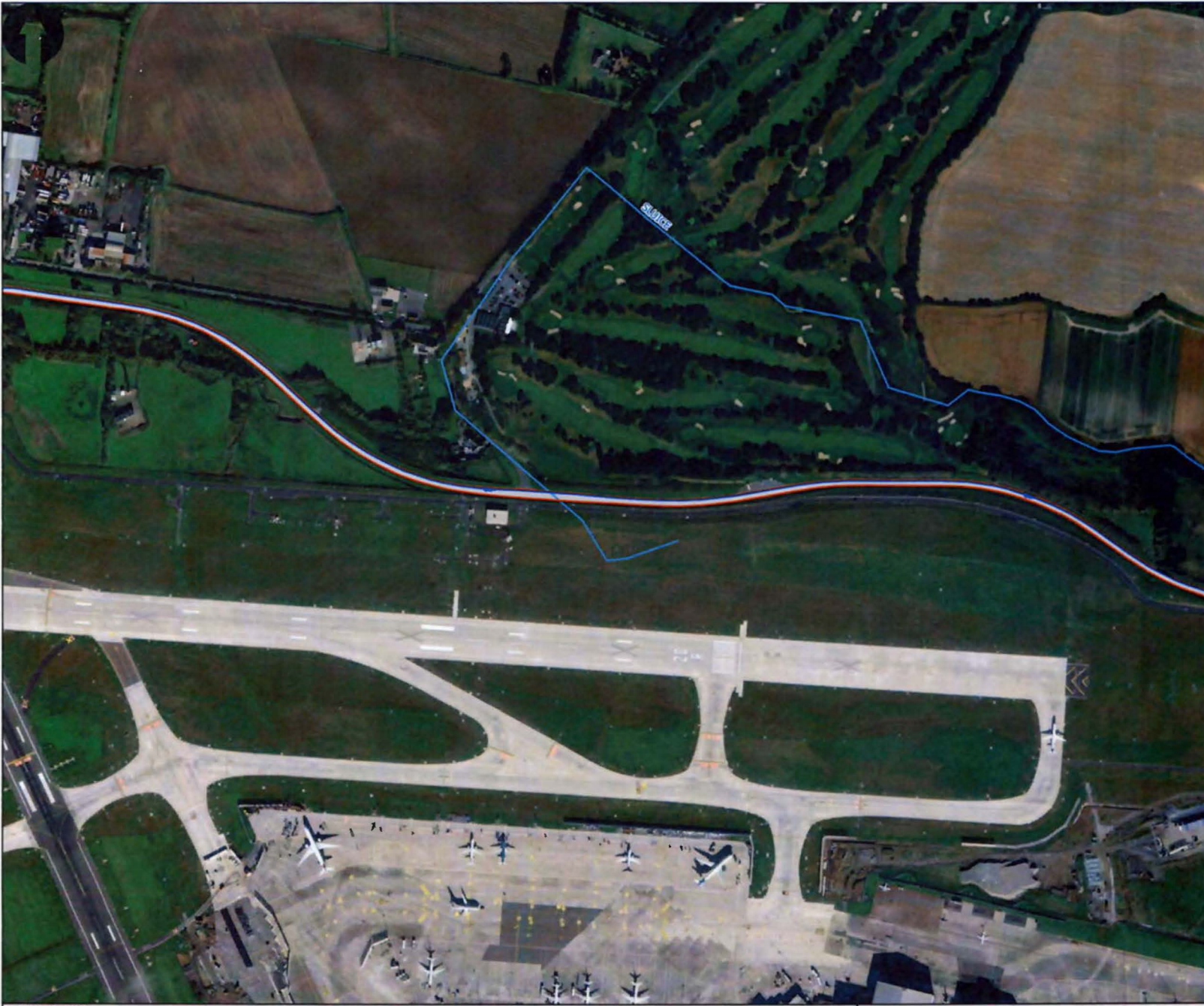
**Title**  
MetroLink 110kV Cable  
Planning Design  
Habitat Map

Designed	X Wan	Eng Check	E Johnston
Drawn	X Wan	Coordination	E Johnston
GIS Check	E Tiri	Approved	R Macnaughton
Scale at A3	Status	Rev	Security
1:5,000	PRE	P2	STD

Drawing Number  
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**Location Map**



- Key to Symbols**
- Red Line Boundary
  - EPA River
  - Forest Little to Ballystruan

**Fossitt**

- Buildings and Artificial Surfaces (BL3)

**Notes**

02	25/06/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Ch'K'd	App'd

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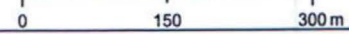


**Title**  
**MetroLink 110kV Cable  
Planning Design**  
Habitat Map

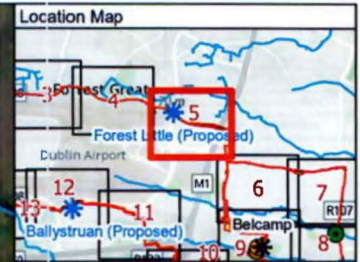
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Drawing Number  
**229100846-MMD-00-GIS-0011-4**



- Key to Symbols**
- Red Line Boundary
  - EPA River
  - ★ Japanese Knotweed
  - Forest Little to Belcamp Option 2
  - Forest Little to Belcamp Option 1
  - Forest Little to Ballystruan
- Fossilit**
- ▨ Amenity Grassland (GA2)
  - ▨ Arable Crops (BC1)
  - ▨ Broadleaved Woodland (WD1)
  - ▨ Buildings and Artificial Surfaces (BL3)
  - ▨ Dry Meadows and Grassy Verges (GS2)
  - ▨ Improved Agricultural Grassland (GA1)
  - ▨ Scrub (WS1)
  - ▨ Tree Line (WL2)
  - ★ Proposed Substations

**Notes**

02	25/05/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Chk'd	App'd

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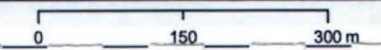


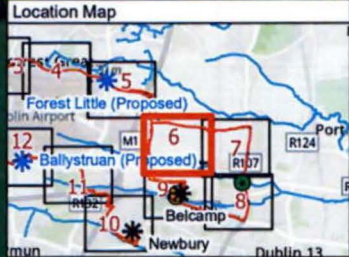
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Planning Design**  
Habitat Map  
Page 5 of 13

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Drawing Number  
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- Key to Symbols**
- Red Line Boundary
  - EPA River
  - ★ Japanese Knotweed
  - Forest Little to Belcamp Option 2
  - Forest Little to Belcamp Option 1
- Fossitt**
- Amenity Grassland (GA2)
  - Arable Crops (BC1)
  - Buildings and Artificial Surfaces (BL3)
  - Dry Calcareous and Neutral Grassland (GS1)
  - Improved Agricultural Grassland (GA1)
  - Scattered Trees and Parkland (WDS)
  - Scrub (WS1)
  - Hedgerow (WL1)
  - Treeline (WL2)

**Notes**

02	25/05/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Ch'kd	App'd

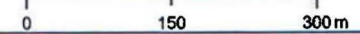
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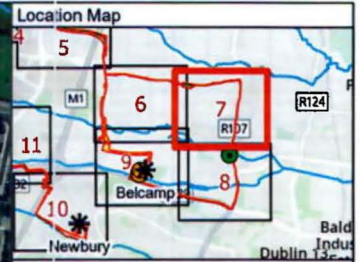
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Habitat Map

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Drawing Number  
**229100846-MMD-00-GIS-0011-6**



- Key to Symbols**
- Red Line Boundary
  - EPA River
  - Forest Little to Belcamp Option 1
- Fossitt**
- Buildings and Artificial Surfaces (BL3)
  - Dry Meadows and Grassy Verges (GS2)
  - Improved Agricultural Grassland (GA1)
  - Hedgerow (WL1)
  - Treeline (WL2)

**Notes**

02	25/05/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Chk'd	App'd

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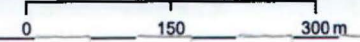
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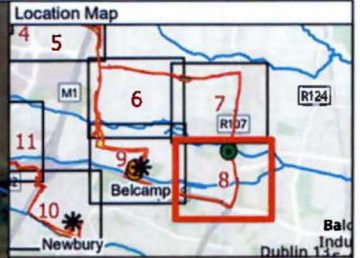
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Scale at A3	Status	Rev	Security
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- Key to Symbols**
- Red Line Boundary
  - EPA River
  - Forest Little to Belcamp Option 1
- Fossitt**
- Buildings and Artificial Surfaces (BL3)
  - Dry Meadows and Grassy Verges (GS2)
  - Recolonising Bare Ground (ED3)
  - Scrub (WS1)
  - Scrub (WS1)/ Marsh (GM1)
  - Hedgerow (WL1)
  - Treeline (WL2)
- Bat Roost Potential**
- Low

Notes

Rev	Date	Drawn	Description	Ch'kd	App'd
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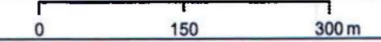
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Title  
**MetroLink 110kV Cable  
Planning Design**  
Habitat Map

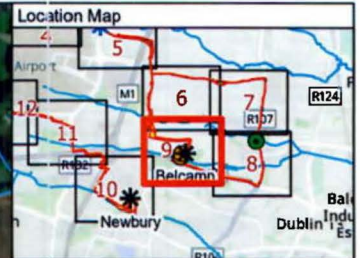
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Drawing Number  
**229100846-MMD-00-GIS-0011-8**



- Key to Symbols**
- Red Line Boundary
  - EPA River
  - Japanese Knotweed
  - Forest Little to Belcamp Option 2
  - Forest Little to Belcamp Option 1
- Fossils**
- Amenity Grassland (GA2)
  - Arable Crops (BC1)
  - Buildings and Artificial Surfaces (BL3)
  - Improved Agricultural Grassland (GA1)
  - Spoil and Bare Ground (ED2)
  - Hedgerow (WL1)
  - Treeline (WL2)
- Bat Roost Potential**
- High
  - Moderate
  - Existing Substations

**Notes**

02	25/05/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Ch'k'd	App'd

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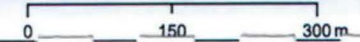


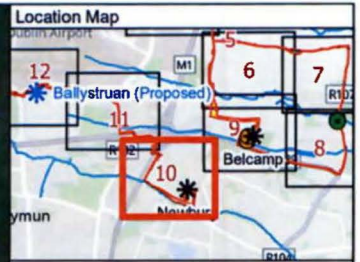
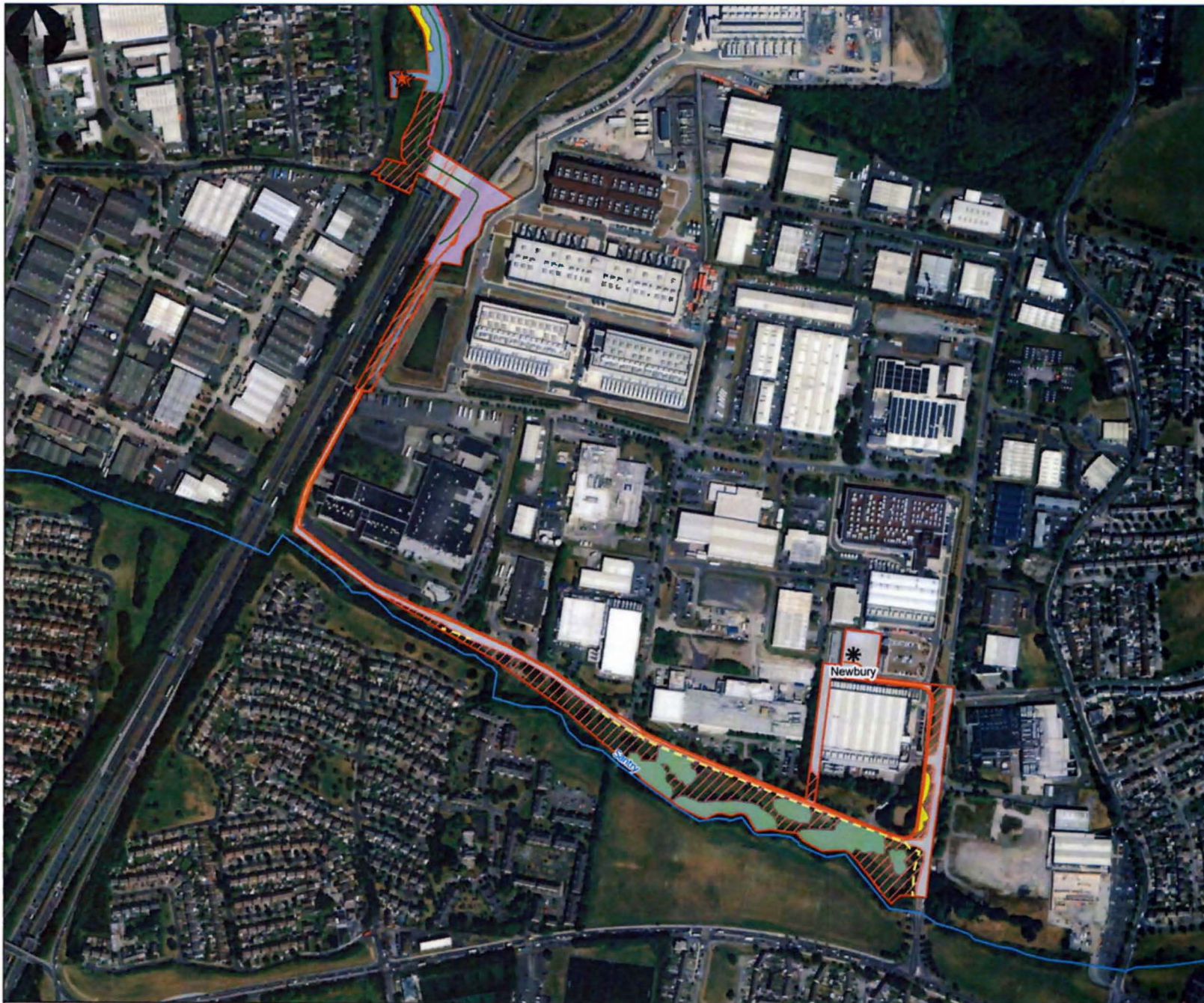
Title  
**MetroLink 110kV Cable Planning Design**  
Habitat Map  
Page 9 of 13

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Drawn	X Wan	Coordination	E Johnston
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- Key to Symbols**
- Red Line Boundary
  - EPA River
  - ★ Japanese Knotweed
  - Ballystruan to Newbury Existing Ducts
  - Ballystruan to Newbury
- Fossil**
- ▨ Amenity Grassland (GA2)
  - ▨ Broadleaved Woodland (WD1)
  - ▨ Buildings and Artificial Surfaces (BL3)
  - ▨ Recolonising Bare Ground (ED3)
  - ▨ Scrub (WS1)
  - ▨ Wet Grassland (GS4)
  - ▨ Hedgerow (WL1)
  - ▨ Treeline (WL2)
  - ★ Existing Substations

**Notes**

02	25/05/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Ch'K'd	App'd

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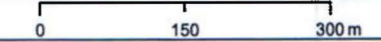


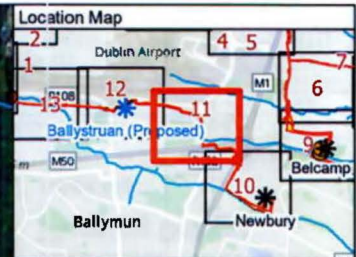
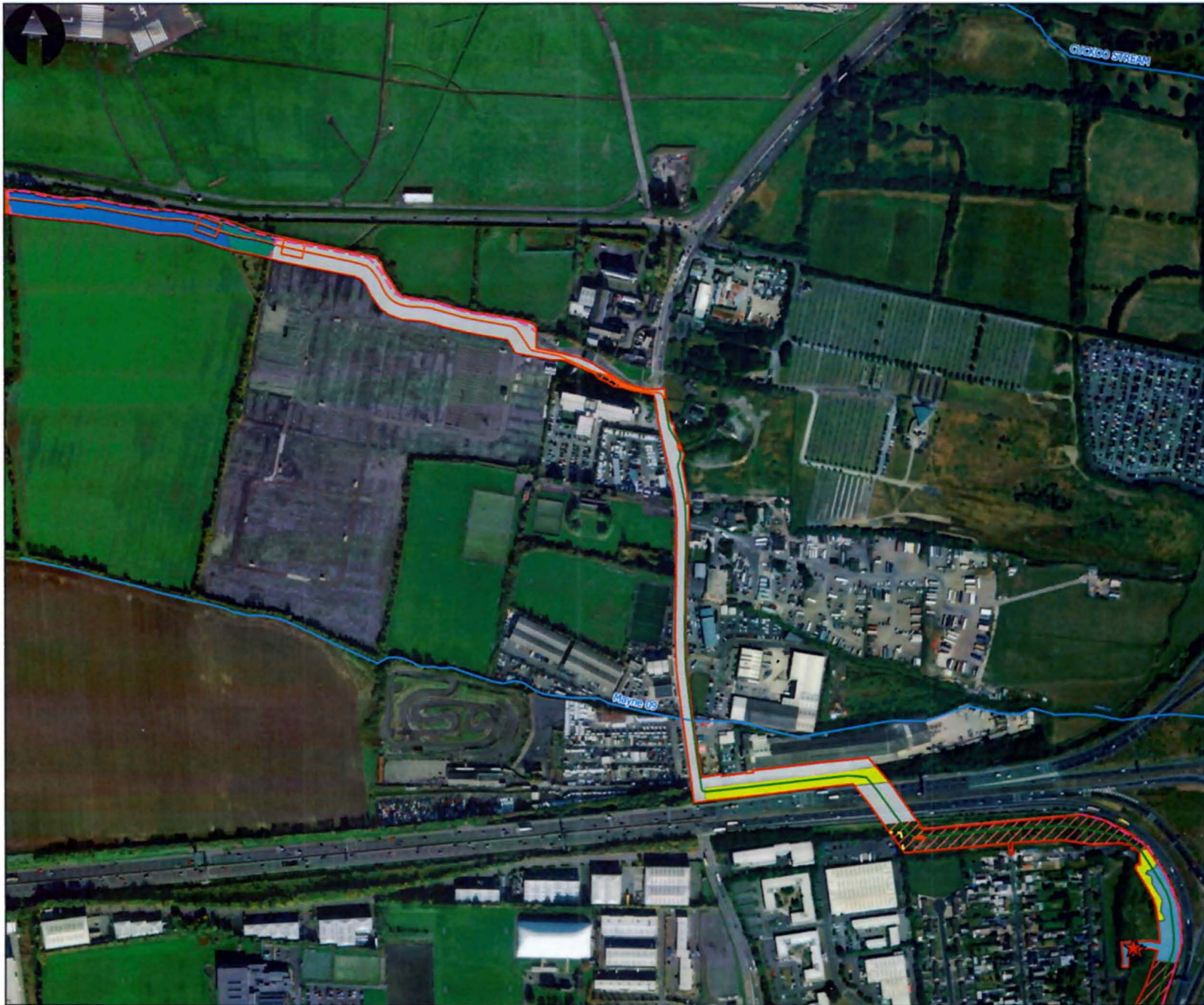
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 Planning Design**  
 Habitat Map  
 Page 10 of 13

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GIS Check	E Tri	Approved	R Macnaughton
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- Key to Symbols**
- Red Line Boundary
  - EPA River
  - ★ Japanese Knotweed
  - Ballystruan to Newbury Existing Ducts
  - Ballystruan to Newbury
- Fossitt**
- ▨ Amenity Grassland (GA2)
  - ▨ Arable Crops (BC1)
  - ▨ Buildings and Artificial Surfaces (BL3)
  - ▨ Dry Meadows and Grassy Verges (GS2)
  - ▨ Improved Agricultural Grassland (GA1)
  - ▨ Scrub (WS1)
  - ▨ Wet Grassland (GS4)
  - ▨ Hedgerow (WL1)
  - ▨ Treeline (WL2)

**Notes**

02	25/05/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Chk'd	App'd

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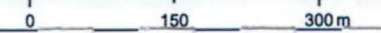
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Habitat Map

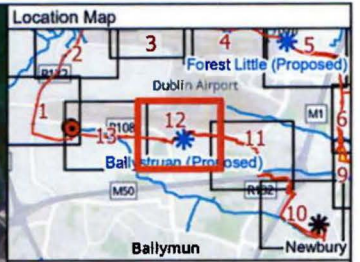
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- Key to Symbols**
- Red Line Boundary
  - EPA River
  - Forest Little to Ballystruan
  - Ballystruan to Newbury
- Fossilit**
- ▨ Amenity Grassland (GA2)
  - ▨ Arable Crops (BC1)
  - ▨ Buildings and Artificial Surfaces (BL3)
  - ▨ Improved Agricultural Grassland (GA1)
  - ▨ Recolonising Bare Ground (ED3)
  - ▨ Scrub (WS1)
  - ▨ Spoil and Bare Ground (ED2)
  - Hedgerow (WL1)
  - Tree Line (WL2)
  - ★ Proposed Substations

**Notes**

02	25/05/2023	XW	Habitat Map	ET	RM
Rev	Date	Drawn	Description	Ch'kd	App'd

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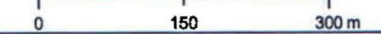


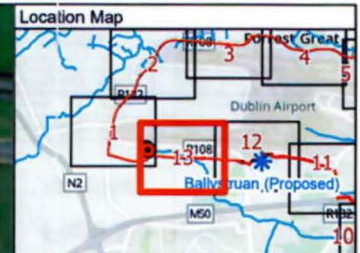
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- Key to Symbols**
- Red Line Boundary
  - EPA River
  - Forest Little to Belcamp Option 2
  - Forest Little to Ballystruan
- Fossitt**
- Amenity Grassland (GA2)
  - Buildings and Artificial Surfaces (BL3)
  - Dry Calcareous and Neutral Grassland (GS1)
  - Dry Meadows and Grassy Verges (GS2)
  - Scattered Trees and Parkland (WD5)
  - Scrub (WS1)
  - Spoil and Bare Ground (ED2)
  - Hedgerow (WL1)
- Bat Roost Potential**
- High

**Notes**

02	25/05/2023	XW	Habitat Map	ET	RM
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**Title**  
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Planning Design  
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Designed	X Wan	Eng Check	E Johnston
Drawn	X Wan	Coordination	E Johnston
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