codling wind park

Environmental Impact Assessment Report

Volume 3

Chapter 26 Material Assets - Built Services


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Abbreviations

Abbreviation	Term in Full
ABP	An Bord Pleanála
BGE	Bord Gáis Energy
Bgl	Below ground level
BT	British Telecoms
c.	Circa
CDP	City / county development plan
CEA	Cumulative Effects Assessment
COMAH	Control of Major Accident Hazards
COMREG	Commission for Communications Regulation
CRU	Commission for Regulation of Utilities
CWP	Codling Wind Park
CWPE	Codling Wind Park Extension
CWPL	Codling Wind Park Limited
DCC	Dublin City Council
DECC	Department of the Environment, Climate and Communications
DHLGH	Department of Housing, Local Government and Heritage
DTCAGSM	Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media
DWtE	Dublin Waste to Energy
EC	European Commission
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMP	Environmental Monitoring Plan
EPA	Environmental Protection Agency
ESB	Electricity Supply Board
ESBN	ESB Networks
EU	European Union
GIS (switchgear)	Gas insulated switchgear
GNI	Gas Networks Ireland
HDD	Horizontal directional drilling
HP	High Pressure

HSA	Health and Safety Authority
HV	High Voltage
IAM	Impact Assessment Matrix
ID	Inner diameter
IE	Industrial Emissions
IPC	Integrated Pollution Control
km	kilometres
UÉ	Uisce Éireann
kV	Kilovolt
LAP	Local Area Plan
LoD	Limit of Deviation
LP	Low Pressure
LV	Low Voltage
m	metres
mm	millimetres
MP	Medium Pressure
MV	Medium Voltage
N/A	Not applicable
OD	Outer diameter
ODA	Onshore development area
ODM	Ordnance Datum (Malin)
OEC	Onshore export cables
OHL	Overhead Line(s)
O&M	Operations and maintenance
OSI	Ordnance Survey Ireland
OTI	Onshore transmission infrastructure
TJB	Transition joint bay
UGC	Underground cable(s)
WWTP	Wastewater Treatment Plant

Definitions

Glossary	Meaning
the Applicant	The developer, Codling Wind Park Limited (CWPL).
Codling Wind Park (CWP) Project	The proposed development as a whole is referred to as the Codling Wind Park (CWP) Project, comprising of the offshore infrastructure, the onshore infrastructure and any associated temporary works.
Codling Wind Park Limited (CWPL)	A joint venture between Fred. Olsen Seawind (FOS) and Électricité de France (EDF) Renewables, established to develop the CWP Project.
Compound A	A temporary construction compound, support area and storage facility for the landfall works, and to support the installation of the onshore export cables. It will operate as a hub for the onshore construction works as well as acting as a staging post and secure storage for equipment and component deliveries.
Compound B	A temporary construction compound / laydown area for general cable route and onshore substation construction activities.
Compound C	A temporary construction compound for the onshore substation site. Contractor welfare facilities will be located in this compound as well as some material storage space.
Compound D	A temporary construction compound and laydown area to facilitate the construction of the bridge over the cooling water channel.
EirGrid	State-owned electric power transmission system operator in Ireland and nominated Offshore Transmission Asset Owner
ESB Networks (ESBN)	Owner of the electricity distribution system in the Republic of Ireland, responsible for carrying out maintenance, repairs and construction on the grid.
ESBN network cables	Three onshore export cable circuits connecting the onshore substation to the proposed ESBN Poolbeg substation, which will then transfer the electricity onwards to the national grid.
Environmental Impact Assessment (EIA)	A systematic means of assessing the likely significant effects of a proposed project, undertaken in accordance with the EIA Directive and the relevant Irish legislation.
Environmental Impact Assessment Report (EIAR)	The report prepared by the Applicant to describe the findings of the EIA for the CWP Project.
export cables	The cables, both onshore and offshore, that connect the offshore substations with the onshore substation.
gas insulated switchgear (GIS)	The onshore substation will be a gas insulated (GIS) switchgear design, where the HV equipment is designed to be insulated and cooled by pressurised gas.
high water mark (HWM)	The line of high water of ordinary or medium tides of the sea or tidal river or estuary.
horizontal directional drilling (HDD)	HDD is a trenchless drilling method used to install cable ducts beneath the ground through which underground cables can be pulled. HDD

	enables the installation of cables beneath obstacles such as roads, waterways and existing utilities.
landfall	The point at which the offshore export cables are brought onshore and connected to the onshore export cables via the transition joint bays (TJB). For the CWP Project the landfall works include the installation of the offshore export cables within Dublin Bay out to approximately 4 km offshore, where water depths that are too shallow for conventional cable lay vessels to operate.
limit of deviation (LoD)	Locational flexibility of permanent and temporary infrastructure is described as a LoD from a specific point or alignment.
onshore export cables	The cables which transport electricity generated by the WTGs from the TJBs at the landfall to the onshore substation.
onshore development area	The entire footprint of the OTI and associated temporary works that will form the onshore boundary for the planning application.
onshore transmission infrastructure (OTI)	The onshore transmission assets comprising the TJBs, onshore export cables and the onshore substation. The EIAR considers both permanent and temporary works associated with the OTI.
onshore substation	Site containing electrical equipment to enable connection to the national grid.
onshore substation site	The area within which permanent and temporary works will be undertaken to construct the onshore substation.
onshore substation site boundary	The physical boundary of the onshore substation site.
onshore substation operational site	The area within the operational site boundary within which operational activities will occur.
operations and maintenance (O&M) activities	Activities (e.g., monitoring, inspections, reactive repairs, planned maintenance) undertaken during the O&M phase of the CWP Project.
O&M phase	This is the period of time during which the CWP project will be operated and maintained.
parameters	Set of parameters by which the CWP Project is defined and which are used to form the basis of assessments.
planning application boundary	The area subject to the application for development consent, including all permanent and temporary works for the CWP Project.
Poolbeg 220kV substation	This is the ESBN substation that the ESBN network cables connect into, from the onshore substation. This substation will then transfer the electricity onwards to the national grid
temporary HDD compound 1	The area within Compound C that will house the ESBN network cable HDD entry or exit pits as well as associated plant, equipment and facilities.
temporary HDD compound 2	The area adjacent to the Poolbeg 200kV substation that will house the ESBN network cable HDD entry or exit pits as well as associated plant, equipment and facilities.
temporary tunnel compound 1	The area within Compound A, near the landfall, within which the Compound A tunnel launch shaft will be located.

temporary tunnel compound 2	The area within which the Shellybanks Road tunnel reception shaft will be located.
temporary tunnel compound 3	The area within the onshore substation site, within which the onshore substation tunnel launch shaft will be located.
transition joint bay (TJB)	This is required as part of the OTI and is located at the landfall. It is an underground bay housing a joint which connects the offshore and onshore export cables.
tunnel	The onshore export cables will be installed within a tunnel that extends from within Compound A, near the landfall, to the onshore substation site.
tunnel shaft	Located within the temporary tunnel compounds, the tunnel shafts will facilitate the two tunnel drives required to complete the construction of the tunnel.

26 MATERIAL ASSETS – BUILT SERVICES

26.1 Introduction

1. Codling Wind Park Limited (hereafter 'the Applicant') is proposing to develop the Codling Wind Park (CWP) Project, a proposed offshore wind farm (OWF) located in the Irish Sea approximately 13–22 km off the east coast of Ireland, at County Wicklow.

2. This chapter forms part of the Environmental Impact Assessment Report (EIAR) for the CWP Project. The purpose of the EIAR is to provide the decision-maker, stakeholders and all interested parties with the environmental information required to develop an informed view of any likely significant effects resulting from the CWP Project, as required by the European Union (EU) Directive 2011/92/EU (as amended by Directive 2014/52/EU) (the EIA Directive).

3. This EIAR chapter describes the potential impacts of the CWP Project's onshore transmission infrastructure (OTI) on Material Assets: Built Services (i.e., utility services) during the construction, operation and maintenance (O&M) and decommissioning phases. The OTI are situated on the Poolbeg Peninsula and includes the transition joint bays (TJBs), onshore export cables, the onshore substation and the Electricity Supply Board Networks (ESBN) network cables to connect the onshore substation to the Poolbeg 220kV substation. This chapter will also describe the potential impacts of the works at the landfall (landward of the high water mark (HWM)), where the offshore export cables are brought onshore and connected to the onshore export cables at the TJBs (hereafter these works are referred to as the 'OTI').

4. The Environmental Protection Agency (EPA) 2022 *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (hereafter referred to as the EPA EIAR Guidelines) recommend headings under which material assets may be addressed within an EIAR. They are: Built Services; Roads and Traffic; and Waste Management.

5. The EPA EIAR Guidelines (2022) also state the following in relation material assets:

   "In Directive 2011/92/EU this factor included architectural and archaeological heritage. Directive 2014/52/EU includes those heritage aspects as components of cultural heritage. Material assets can now be taken to mean built services and infrastructure. Traffic is included because in effect traffic consumes transport infrastructure. Sealing of agricultural land and effects on mining or quarrying potential come under the factors of land and soils".

6. The EPA EIAR Guidelines (2022) further outline the following topics to be considered within the assessment of built services, they are: electricity, telecommunications, gas, water supply infrastructure and sewerage. Therefore, this chapter addresses the assessment of built (utility) services only.

7. As mentioned, in some instances, traffic and transport may be included under material assets, as in effect traffic consumes transport infrastructure. However, for the purposes of this EIAR, traffic and transport are assessed separately in **Chapter 27 Traffic and Transport** and impacts on transportation services in terms of sea travel in the vicinity of the CWP Project are assessed in **Chapter 16 Shipping and Navigation.**

8. Furthermore, in terms of materials such as soil, stone, aggregates and waste, and effects on mining or quarrying resources, these fall under the factors of land and soils, and management of waste and resource materials (such as aggregates) These are addressed separately in **Chapter 19 Soils and Geology** and **Chapter 31 Waste and Resource Management** of this EIAR.

9. In summary, this EIAR chapter:

- Details the EIA scoping and consultation process undertaken and sets out the scope of the impact assessment for Material Assets - Built Services;
- Identifies the key legislation and guidance relevant to Material Assets - Built Services, with reference to the latest updates in guidance and approaches;
- Confirms the study area for the assessment and presents the impact assessment methodology for Material Assets - Built Services;
- Describes and characterises the baseline environment for Material Assets - Built Services, established from desk studies, project survey data and consultation;
- Defines the project design parameters for the impact assessment and describes any embedded mitigation measures relevant to the Material Assets - Built Services assessment;
- Presents the assessment of potential impacts on Material Assets - Built Services and identifies any assumptions and limitations encountered in compiling the impact assessment; and
- Details any additional mitigation and/or monitoring necessary to prevent, minimise, reduce or offset potentially significant effects identified in the impact assessment.

10. The assessment should be read in conjunction with **Appendix 26.1 Cumulative Effects Assessment**, which considers other plans, projects and activities that may act cumulatively with the CWP Project and provides an assessment of the potential cumulative impacts on Material Assets - Built Services. A summary of the CEA for Material Assets - Built Services is presented in **Section 26.11**.

26.2 Consultation

11. Consultation with statutory and non-statutory organisations is a key part of the EIA process. Consultation regarding Material Assets - Built Services has been undertaken to inform the approach to, and scope of, the assessment.

12. The key elements to date have included EIA scoping, consultation events and meetings with key stakeholders. The feedback received throughout this process has been considered in preparing the EIAR. EIA consultation is described further in **Chapter 5 EIA Methodology,** the **Planning Documents** and in the **Public and Stakeholder Consultation Report**, which has been submitted as part of the planning application.

13. **Table 26-1** provides a summary of the status of responses relating to key consultees during the consultation process relevant to Material Assets - Built Services and details how these issues have been considered in the production of this EIAR chapter.

Table 26-1 Consultation responses relevant to Material Assets - Built Services

Consultee	Comment	How issues have been addressed
Scoping responses		
EirGrid [28 June 2021]	The consultee responded that they had no material comment to make in relation to the Codling Wind Park Onshore EIA Scoping Report.	n/a
Gas Networks Ireland [30 April 2021]	No response received at this stage.	n/a
Topic Specific Meetings		

Consultee	Comment	How issues have been addressed
Utility companies	Project-wide consultation has been undertaken with the major utility companies regarding the interface with existing utilities and measures to protect these.	n/a
Other		
n/a	n/a	n/a

26.3 Legislation and guidance

26.3.1 Legislation

14. The main legislation that is applicable to the assessment of Material Assets - Built Services is summarised below. Further detail is provided in **Chapter 2 Policy and Legislative Context**.

- European Union (EU) Directive 2011/92/EU (as amended by Directive 2014/52/EU) on the assessment of the effects of certain public and private projects on the environment (the EIA Directive);
- The Planning and Development Act 2000 (as amended); and
- The Planning and Development Regulations 2001 (as amended).

26.3.2 Policy

15. The overarching planning policy relevant to the CWP Project is described in EIAR **Chapter 2 Policy and Legislative Context**.

16. The assessment of the CWP Project against relevant planning policy is provided in the **Planning Report**. This includes planning policy relevant to Material Assets - Built Services.

26.3.3 Guidance

17. There is no specific EU or national guidance for the assessment of Material Assets - Built Services in the context of EIA. However, the principal guidelines that were considered and consulted in the preparation of this chapter were:

- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022) (referred to as the EPA EIAR Guidelines);
- Guidelines for Planning Authorities and An Bord Pleanála (ABP) on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, August 2018);
- Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report (European Commission 2017); and
- Advice notes on Current Practice in the Preparation of Environmental Impact Statements (EPA, 2003).

26.4 Impact assessment methodology

18. **Chapter 5 EIA Methodology** provides a summary of the general impact assessment methodology applied to the CWP Project, which includes the approach to the assessment of transboundary and inter-related effects. The approach to the assessment of cumulative impacts is provided in **Chapter 5, Appendix 5.1 CEA Methodology**.

19. The following sections confirm the methodology used to assess the potential impacts on Material Assets - Built Services.

20. Impacts can be both positive and negative, direct and indirect, temporary and permanent in nature. This chapter assesses whether the OTI works have the potential to significantly impact the existing built service environment directly or indirectly in the vicinity of the onshore development area. Impacts are discussed in relation to the following utility assets:

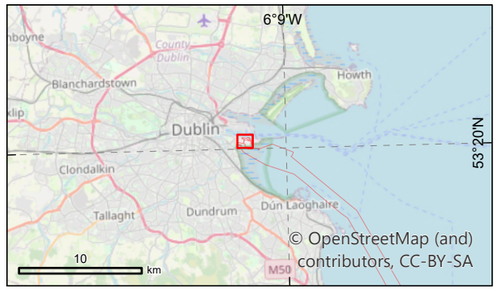
- Electricity network infrastructure (including overhead lines (OHLs) and underground cables (UGCs) and associated infrastructure, including substations and junction boxes);
- Gas network infrastructure (including transmission and distribution lines and associated infrastructure);
- Water network infrastructure (including storm / surface water drainage, potable water supply and foul water / sewer); and
- Telecommunications infrastructure.

26.4.1 Study area

21. The study area for the Material Assets - Built Services assessment has been defined on the basis of the location of the OTI, and where there is potential for (significant) effects to occur on utility assets as a result of activity associated with the construction, O&M and decommissioning phases.

22. Therefore, the study area identified for the assessment is the onshore development area (see **Figure 26-1**) and focused on built services identified in the immediate vicinity (within 50 m) of the OTI that may be affected during the construction, O&M and decommissioning phases.

23. Please refer to **Figures 26-2** to **26-5** below, which show the location of utilities identified within the onshore development area and the location of the OTI.



Legend

- Planning application boundary
- Onshore development area
- High water mark

codling wind park

Project: Codling Wind Park

Contractor: TOBIN

Website: www.tobin.ie

Figure 26-1
Project Onshore Development Area

CWP doc. number: CWP-TOB-ENG-08-01-MAP-1785

Internal descriptive code: PB - PAB..PB.RLB - HWM - (ORT.BS.21..EIAR.Vol.03.Ch.26.FIG.01)

Size: A3

Scale: 1:4,000

CRS: EPSG 2157

Rev.	Updates	Date	By	Chk'd	App'd
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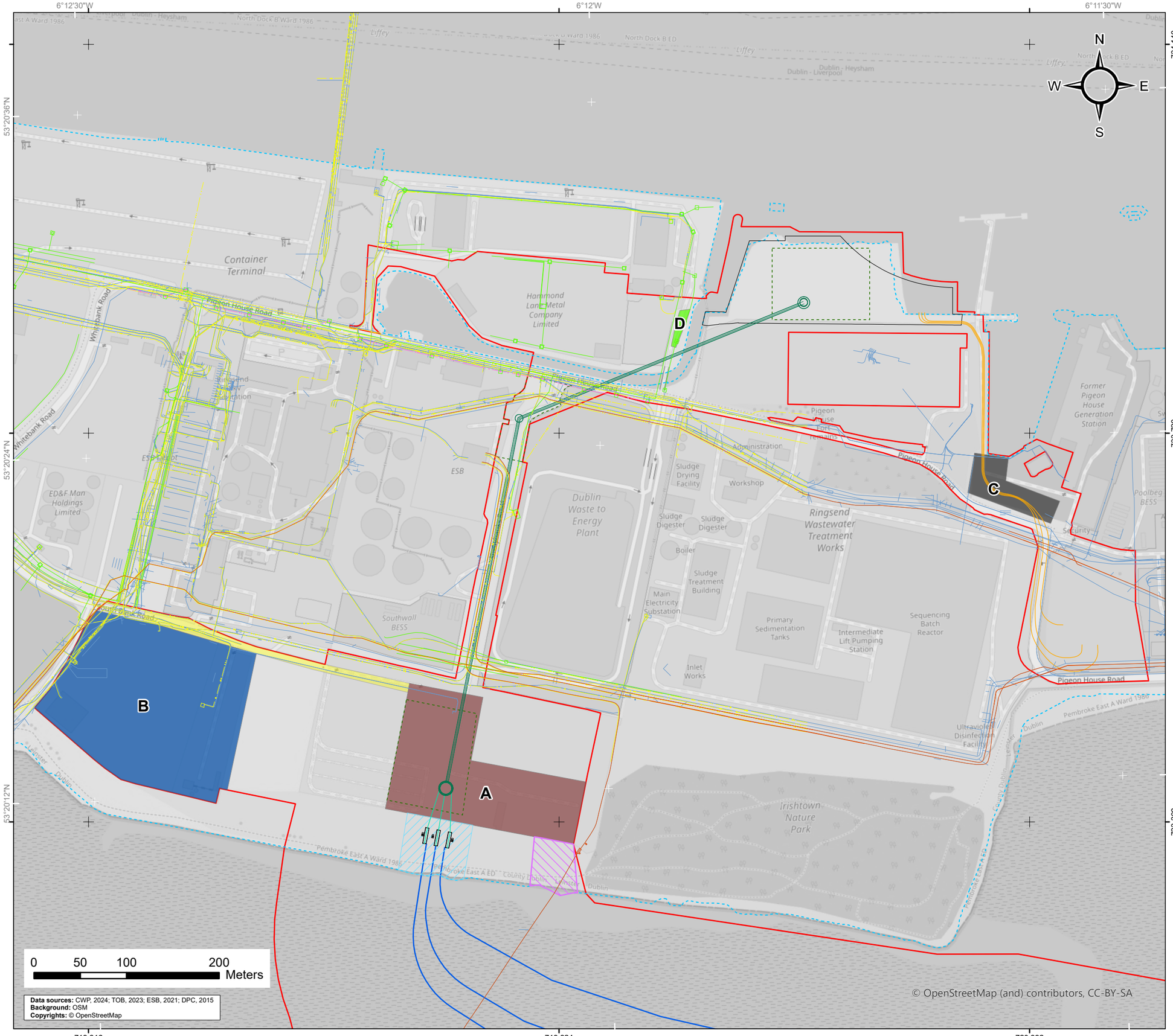

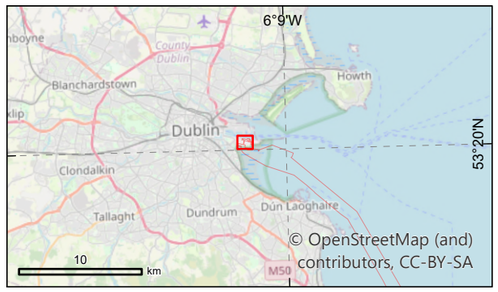

Legend

- Planning application boundary
- Onshore substation boundary (operational)
- High water mark
- Onshore export cable
- ESBN network cable
- Onshore export cable TJB connection
- Offshore export cable
- Transition joint bay (TJB)
- Temporary tunnel shaft compound
- Landfall works above the HWM
- Access ramp to the intertidal area

Construction compounds

- Construction compound A
- Construction compound B
- Construction compound C
- Construction compound D
- Temporary access route for construction compound A and B

Utilities

- Electrical - ESB – HV, MV, LV underground
- Electrical - ESB - LV - overhead
- Electrical - general
- Existing 220 kV underground lines
- Other ESB network infrastructure

codling wind park

Project: Codling Wind Park

Contractor: TOBIN

Website: www.tobin.ie

Figure 26.2
Existing electrical utilities and onshore development area

CWP doc. number: CWP-TOB-ENG-08-01-MAP-0975

Internal descriptive code: POOLB - LF4.to.COnSS.6..ENC..ALL.RLB.. CONSS.RLB..UTIL.ELE - EIAR.FIG.26.01

Size: A3

Scale: 1:4,000

CRS: EPSG 2157

Rev.	Updates	Date	By	Chk'd	App'd
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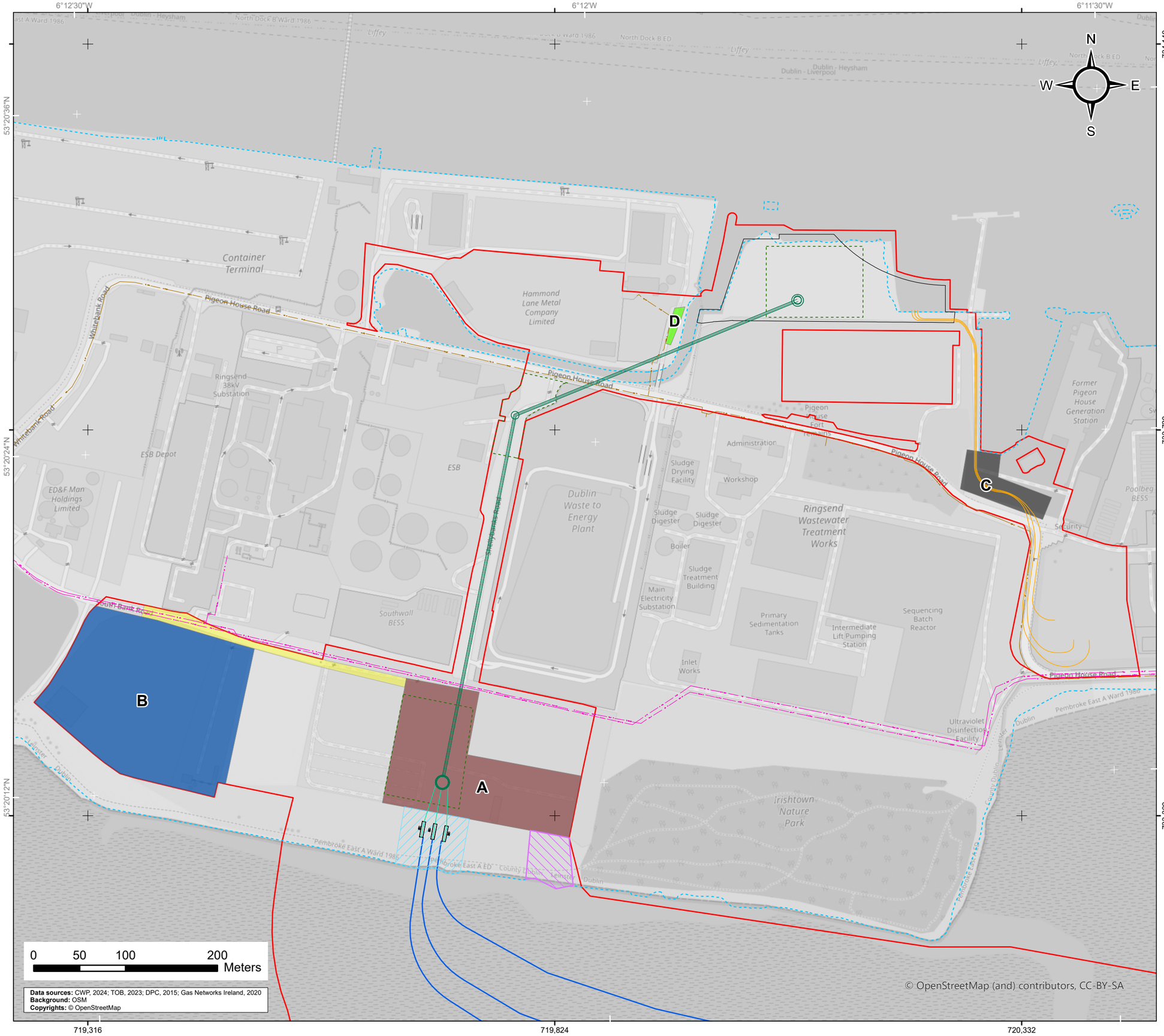

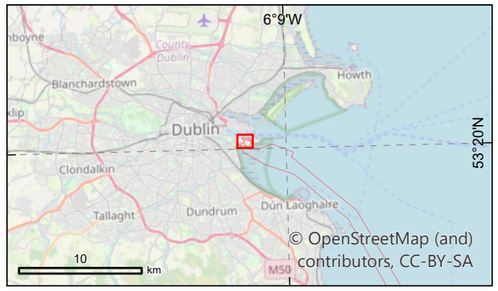

Legend

- Planning application boundary
- Onshore substation boundary (operational)
- High water mark
- Onshore export cable
- ESBN network cable
- Onshore export cable TJB connection
- Offshore export cable
- Transition joint bay (TJB)
- Temporary tunnel shaft compound
- Access ramp to the intertidal area
- Landfall works above the HWM

Construction compounds

- Construction compound A
- Construction compound B
- Construction compound C
- Construction compound D
- Temporary access route for construction compound A and B

Utilities

- Gasmains - Bord Gais - distribution
- Gasmains - Bord Gais - transmission

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Project: Codling Wind Park

Contractor: TOBIN

Website: www.tobin.ie

Figure 26.3
Existing gas utilities and onshore development area

CWP doc. number: CWP-TOB-ENG-08-01-MAP-0976

Internal descriptive code: POOLB - LF4.to.COnSS.6..ENC..ALL.RLB.. CONSS.RLB..UTIL.GAS - EIAR.FIG.26.02

Size: A3

Scale: 1:4,000

CRS: EPSG 2157

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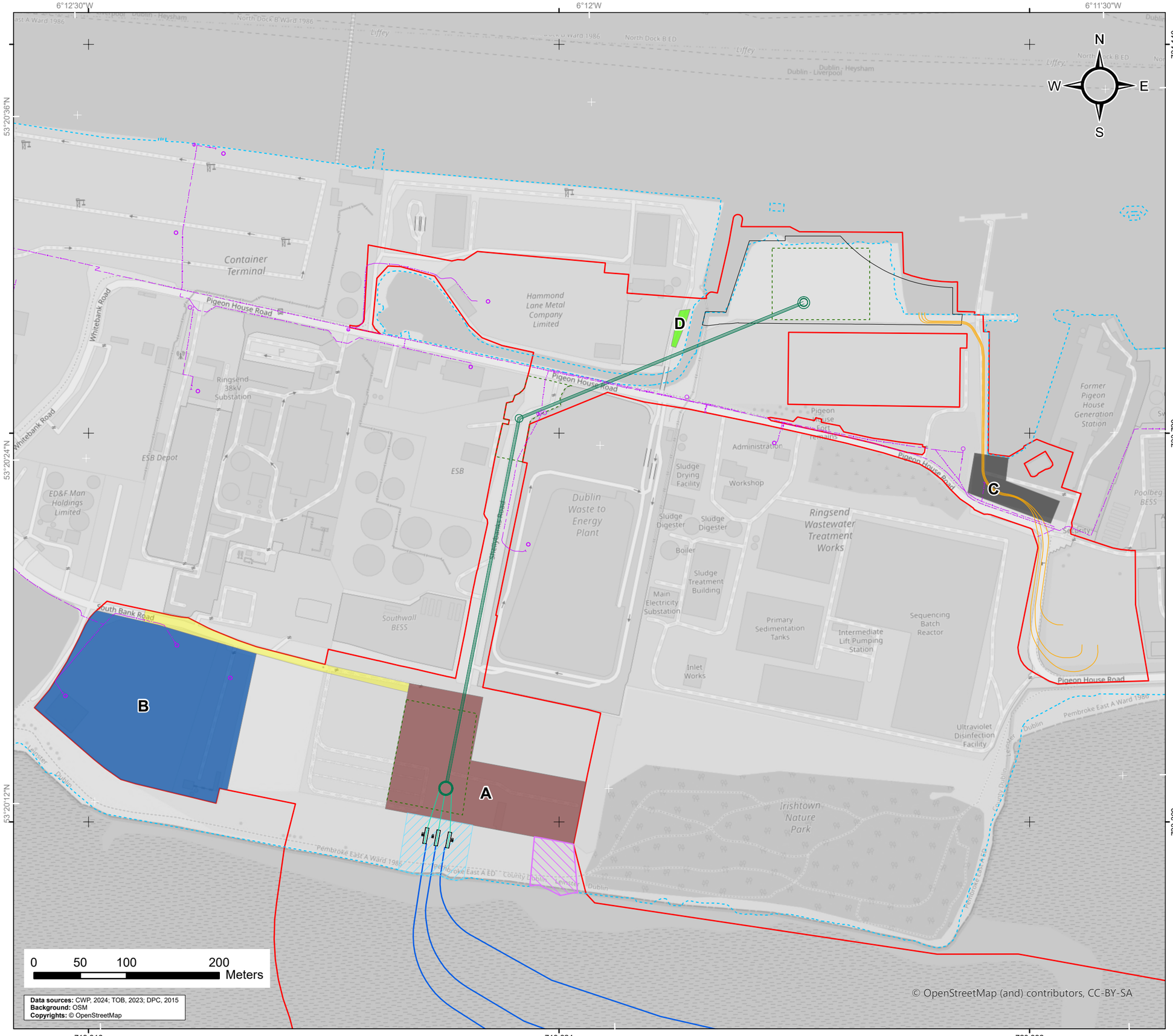

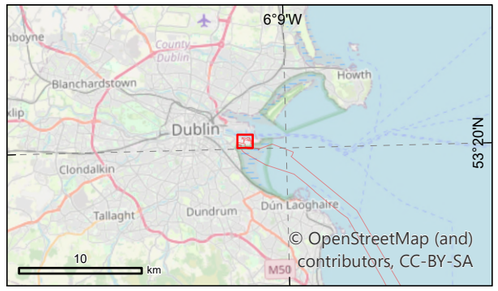

Legend

- Planning application boundary
- Onshore substation boundary (operational)
- High water mark
- Onshore export cable
- ESBN network cable
- Onshore export cable TJB connection
- Offshore export cable
- Transition joint bay (TJB)
- Temporary tunnel shaft compound
- Landfall works above the HWM
- Access ramp to the intertidal area

Construction compounds

- Construction compound A
- Construction compound B
- Construction compound C
- Construction compound D
- Temporary access route for construction compound A and B

Utilities

- Telecommunications - Eircom
- Telecommunications - general

codling wind park

Project: Codling Wind Park

Contractor: TOBIN
Website: www.tobin.ie

Figure 26.4
Existing telecom utilities and onshore development area

CWP doc. number: CWP-TOB-ENG-08-01-MAP-0977

Internal descriptive code: POOLB - LF4.to.COnSS.6..ENC..ALL.RLB.. CONSS.RLB..UTIL.TELECOM - EIAR.FIG.26.03

Size: A3
Scale: 1:4,000

CRS: EPSG 2157

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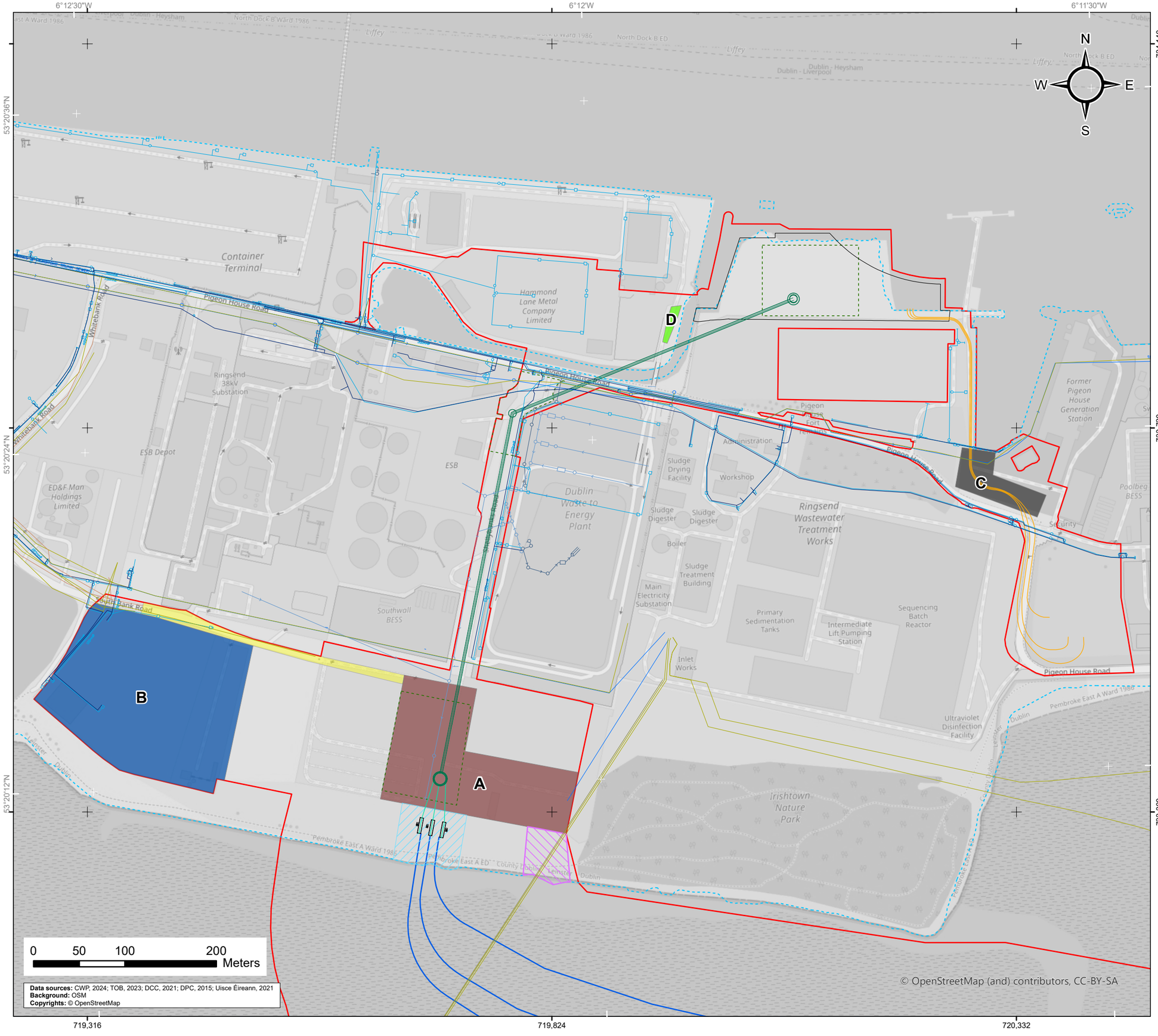

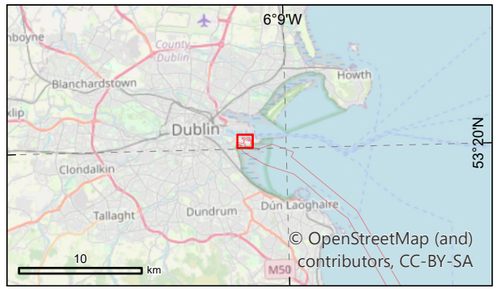

Legend

- Planning application boundary
- Onshore substation boundary (operational)
- High water mark
- Onshore export cable
- ESBN network cable
- Onshore export cable TJB connection
- Offshore export cable
- Transition joint bay (TJB)
- Temporary tunnel shaft compound
- Landfall works above the HWM
- Access ramp to the intertidal area

Construction compounds

- Construction compound A
- Construction compound B
- Construction compound C
- Construction compound D
- Temporary access route for construction compound A and B

Utilities

- Drainage - combined sewer
- Drainage - foul sewer
- Drainage - surface water
- Water - DMA 09 SV
- Water - watermains
- Surface mains
- Water system line
- Sewer system line
- Sewer system

codling wind park

Project: Codling Wind Park

Contractor: TOBIN

Website: www.tobin.ie

Figure 26-5
Existing water utilities and onshore development area

CWP doc. number: CWP-TOB-ENG-08-01-MAP-0978

Internal descriptive code: POOLB - LF4.to.COnSS.6..ENC..ALL.RLB.. CONSS.RLB..UTIL.WATER - EIAR.FIG.26.04

Size: A3

Scale: 1:4,000

CRS: EPSG 2157

Rev.	Updates	Date	By	Chk'd	App'd
00	Final for issue	2024/08/15	SP	DM/EA	ES

26.4.2 Data and information sources

Site-specific surveys

24. Information and data on the location and status of individual utility assets (electricity network, gas network, water network, telecommunications network) was obtained through non-intrusive (ground penetrating radar (GPR)) site investigations (SI) and intrusive SI (slit trenching), undertaken for the CWP Project. Scantec Geoscience Ltd. undertook the GPR SI and Causeway Geotech Ltd. undertook the slit trenching SI.

25. Information was also obtained from publicly available utility information and through direct liaison with the utility providers.

Desk study

26. A comprehensive desk-based review was also undertaken to inform the baseline for Material Assets - Built Services. Key data sources used to inform the assessment are set out in **Table 26-2**.

Table 26-2 Data sources

Data	Source	Date	Notes
EPA Maps	EPA	May 2024	Environmental mapping available via the EPA Geoportal.
Google maps	Google	May 2024	Mapping of the Poolbeg Peninsula.
Utility asset and built service infrastructure – Electrical, water, gas, telecommunications.	Utility providers and publicly available information.	November 2023	Identification of utilities present within the onshore development area.
Communications / Telecommunications (coverage and mobile mast sites)	ComReg SiteViewer[1]	June 2023	SiteViewer mapping provided by ComReg, which provides an indication of telecommunications/mobile masts in the area.

26.4.3 Impact Assessment

27. The significance of potential effects has been evaluated using a systematic approach, based upon identification of the importance/value of receptors and their sensitivity to the project activity, together with the predicted magnitude of the impact.

[1] https://coveragemap.comreg.ie/map - https://siteviewer.comreg.ie/#explore

28. The terms used to define receptor sensitivity and magnitude of impact are based on those set out in the EPA EIAR Guidelines (2022). These criteria have been adapted in order to implement a specific methodology for Material Assets - Built Services.

Sensitivity of receptor

29. For each effect, the assessment identifies receptors sensitive to that effect and implements a systematic approach to understanding the impact pathways and the level of impacts on given receptors.

30. The definitions of receptor sensitivity for the purpose of the Material Assets - Built Services assessment are provided in **Table 26-3**.

31. For the purposes of the EIAR, the criteria for existing built service infrastructure (utilities) assets have been considered to be either 'Very High' to 'High', given their importance (national/regional/local), sensitivity to disruption and limited capacity to accommodate change by damage/diversion/closure.

Table 26-3 Criteria for determination of receptor sensitivity

Sensitivity	Criteria
Very High	• High-pressure (HP) gas network pipelines (i.e. transmission lines (≥4bar)); • High-voltage (HV) electricity infrastructure (i.e. distribution cables / lines >110 kV); • Potable water supply infrastructure and large-scale foul water infrastructure – transmission / distribution pipelines (i.e. trunk mains and trunk foul or combined sewers); • Surface water sewers (≥300 mm diameter); • Telecommunications (i.e., telephone, internet, television cables and networks); • Electrical infrastructure associated with the road network, including cables and signalling systems; • Other identified private services.
High	• Low-pressure (LP) and medium-pressure (MP) gas network pipelines gas distribution pipework (≤4bar); • Electricity medium-voltage (MV) and low-voltage (LV) distribution infrastructure (<110 kV); • Potable water supply – arterial network; • Combined surface water sewers; • Foul sewers; • Surface water sewers (≤300 mm diameter).
Medium	N/A – no utilities / services are deemed to be lower than 'high' sensitivity.
Low	
Negligible	

Magnitude of impact

32. The scale or magnitude of potential impacts (both beneficial and adverse) depends on the degree and extent to which the CWP Project activities associated with the OTI may change the environment, which usually varies according to project phase (i.e., construction, O&M and decommissioning).

33. Factors that have been considered to determine the magnitude of potential impacts include:

- Area of influence/spatial extent;
- Duration of impact; and
- Proximity to existing infrastructure.

34. The criteria for defining magnitude of impact for the purpose of the Material Assets - Built Services assessment are provided in **Table 26-4**.

Table 26-4 Criteria for determination of magnitude of impact

Magnitude	Criteria
Very High	• Disruption to utility assets is longer term (lasting longer than one month); • Affected stakeholders are not notified or are only notified at very short notice prior to disruption occurring; • The level of service or infrastructure originally provided by the asset is not fully reinstated.
High	• Disruption to utility assets lasting up to one month; • Affected stakeholders are notified at short notice prior to disruption occurring; • The level of service or infrastructure originally provided is not fully reinstated.
Medium	• Disruption to utility assets, lasting up to one week; • Affected stakeholders are notified prior to disruption occurring; • The level of service or infrastructure originally provided is reinstated.
Low	• Disruption to utility assets, lasting up to two days; • Affected stakeholders are given appropriate advance notice prior to disruption occurring; • The level of service or infrastructure originally provided is reinstated and/or improved.
Negligible	• Disruption to utility assets lasts for a number of hours and up to one day; • Affected stakeholders are given appropriate advance notice prior to disruption occurring and they experience very little overall change; • The level of service originally provided by the asset / infrastructure is reinstated and/or improved.

Significance of effect

35. As set out in **Chapter 5 EIA Methodology**, an Impact Assessment Matrix (IAM) is used to determine the significance of an effect. In basic terms, the potential significance of an effect is a function of the sensitivity of the receptor and the magnitude of the impact, as shown in **Table 26-5**.

36. The matrix provides a framework for the consistent and transparent assessment of predicted effects across all technical chapters, however it is important to note that individual assessments are based on relevant guidance and the application of professional judgement.

37. The matrix provides levels of effect significance ranging from Imperceptible to Profound, as defined in the EPA EIAR Guidelines (2022). For the purposes of this assessment effects rated as being 'Significant – Moderate' or above are considered to be significant in EIA terms.

38. Effects rated as being 'Moderate' are effectively significant / not significant subject to professional judgement, with a rationale provided for this in the main assessment. Effects identified as less than moderate significance are not considered to be significant in EIA terms.

Table 26-5 Impact Assessment Matrix for determination of significance of effect

Sensitivity of Receptor	Magnitude of Impact				
	Very High	High	Medium	Low	Negligible
Very High	Profound	Very Significant	Significant	Moderate	Slight
High	Very Significant	Significant	Significant-Moderate	Moderate-Slight	Not Significant
Medium	Significant	Significant-Moderate	Moderate	Slight	Imperceptible
Low	Moderate	Moderate-Slight	Slight	Not Significant	Imperceptible
Negligible	Slight	Not Significant	Imperceptible	Imperceptible	Imperceptible

26.5 Assumptions and limitations

39. No particular limitations were identified or encountered in relation to the development of this chapter and the assessment of Material Assets - Built Services.

40. Given that the study area is generally industrial in nature, with existing energy generation infrastructure present, the area contains a dense network of existing utility assets.

41. Information and data on the location and status of utility assets within the study area was obtained through intrusive and non-intrusive SI and available utility data (as described in **Section 26.4.2**). Available data up to November 2023 has been used in the preparation of the baseline for the existing environment, allowing for the identification of the key sensitive utility assets in the study area.

42. However, due to the nature of maintenance/upgrade activity required for utility assets over time, as well as ongoing and planned development associated with the Poolbeg West Strategic Development Zone (SDZ) and other projects in the area, there is the possibility that some information may be out of date or new or additional utilities may be present, close to when or shortly after the EIAR is submitted for planning approval, or at the time the project is due to commence.

43. There has been and there will continue to be ongoing engagement with utility providers, with the incorporation of up-to-date utility plans (i.e., from utility/service providers) prior to the commencement of any activities.

26.6 Existing environment

44. The onshore development area is located on the Poolbeg Peninsula, situated on the east side of Dublin City, adjacent to both Dublin Bay and the River Liffey, and east of the River Dodder and Grand Canal Dock.

45. The Poolbeg Peninsula is an area of land which has been gradually reclaimed since approximately the 1960's. The area is characterised by heavy industrial development, including port facilities (including berthing, docking and storage), electricity infrastructure, wastewater treatment and thermal waste treatment. In terms of land use, CORINE 2018 land-cover mapping, available via the EPA Geoportal[2], identifies the area as 'Land type 121 Artificial Surfaces – Industrial, commercial and transport units'.

46. There are numerous underground utility assets in the area. The Poolbeg Peninsula has two power-generating stations, storage sites for national oil reserves, wastewater treatment and numerous effluent/wastewater drainage channels. Some above-ground utilities remain in the area; however, the majority of services are underground.

47. According to the ComReg SiteViewer, the closest telecommunication masts to the OTI are situated on the Poolbeg Peninsula. A mast site (operated by Three mobile network) is situated c.400 m to the east of the ESBN network cables, within the ESB Poolbeg lands, and another mast site (operated by Vodafone, Meteor (Eir) and Three mobile networks) is situated c.350 m west of the onshore export cable. Other telecommunication masts are present at Dublin Port to the north and northwest of the OTI, and at Ringsend to the southwest.

48. Shellybanks 220 kV Substation (inc. Shellybanks 220 kV gas Insulated Switchgear (GIS) and Shellybanks 220 kV Air Insulated Switchgear (AIS) Substations) are present off Pigeon House Road (east of ESBN network cables). The Poolbeg AGI and Gas Compressor House are also noted as being situated here, within the boundary of the ESB Poolbeg Generating Station. The Ringsend 38 kV Substation, which lies within the boundary of the ESB Dublin Bay Power, is located c. 320 m west of the onshore export cables.

49. A number of industrial licensed (Industrial Emissions (IE) / Integrated Pollution Control (IPC)) facilities were identified in the vicinity of the onshore development area. Licensed waste facilities are addressed in **Chapter 31 Waste and Resource Management** of this EIAR. The Ringsend Wastewater Treatment Plant (WWTP), operating under the Waste Water Discharge Licence D0034-01 Uisce Éireann, serving the Greater Dublin Area Agglomeration, is situated to the south of the onshore substation and east of the onshore export cables.

50. Licence holders for the discharge of trade effluent to surface water or groundwater identified in the vicinity include Dublin City Council (DCC) Cooling Water Pump House (Poolbeg/Irishtown Wastewater Treatment Works) which operates under a Section 4 Discharge Licence (LDW/001/93).

51. A number of fuel and chemical storage facilities (COMAH Establishments[3]) are present in the Poolbeg area. COMAH establishments are categorised in two tiers; Upper Tier and Lower Tier. COMAH establishments in the vicinity of the onshore development area.

52. No major transport infrastructure services are present within the onshore development area or on the Poolbeg Peninsula. The potential for effects on transport infrastructure is addressed in **Chapter 16 Shipping and Navigation** and **Chapter 27 Traffic and Transport** of this EIAR.

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[2] EPA Geoportal Site - https://gis.epa.ie/

[3] https://www.hsa.ie/eng/Your_Industry/Chemicals/Legislation_Enforcement/COMAH/Information_to_the_Public/Lower_Tier_Establishments_by_Region/Lower_Tier_Establishments_in_Dublin_Louth/

53. Utilities and services have been identified within the onshore development area, particularly along the onshore export cables and the ESBN network cables routes. The identified utilities are outlined in the following sections.

26.6.1 Landfall works area above the HWM (including Compound A and B and temporary access ramp)

54. A single ESB line (ESB mapping) was noted along the northern boundary of Compound A and temporary access route for Compounds A and B, and existing surface water drainage was noted within Compound A. Utility assets (ESB and water) were identified within the area covered by Compound B, and the area where the temporary access ramp is proposed.

55. There will be limited intrusive works at Compounds A and B, aside from works required to install the tunnel shaft situated within Compound A.

26.6.2 Onshore export cables (including Compound D)

56. The onshore export cables will run from the temporary tunnel compound 1 (within Compound A) to the onshore substation. They will be routed underground by tunnel (beginning at the tunnel shaft at temporary tunnel compound 1) broadly following the alignment of the Shellybanks Road north, crossing Pigeon House Road and continuing through the southeast corner of the Ecocem Ireland site, before crossing under Compound D to the onshore substation site. Please refer to **Figures 26-2**–**26-5** in **Section 26.4**, which show the location of utilities present within the onshore development area and their proximity to the onshore export cables.

57. Utility assets identified along the onshore export cable route, are set out in **Table 26-6** below.

Table 26-6 Utility assets identified along the route of the onshore export cables

Utility Type	Description

Water	• Drainage infrastructure:
	  ○ Surface water drainage / sewers;
	  ○ Foul water culverts / sewers;
	  ○ Combined sewers.
	• Watermains infrastructure; and
	• Watercourse – Dublin Bay Power outfall.

ESBN	• ESBN HV / LV / MV cables including:
	  ○ HV, MV, LV underground lines;
	  ○ LV overhead lines;
	  ○ 220 kV underground lines; and
	  ○ Electrical – general connections and other ESB Network infrastructure.

Gas	• Transmission gas mains; and • Distribution gas mains.
Telecommunications	• Telecoms ducts and chambers.

26.6.3 Onshore substation

58. Utility mapping of the area indicates no underground or overground utilities are present at the location of the onshore substation buildings. An Uisce Éireann discharge point is present immediately on the CWP planning application boundary, at the northeast corner of the onshore substation site, however, there is no direct interface with this.

26.6.4 ESBN network cables (including Compound C): Onshore substation to the Poolbeg 220 kV substation

59. The ESBN network cables route from the onshore substation to the Poolbeg 220 kV substation is c. 400 m; Compound C is situated along this route at the Pigeon House Hotel. The route has been divided in to two sections: A (265 m open cut) and B (135 m HDD).

60. Please refer to **Figures 26.2**–**26.5** in **Section 26.4**, which shows the location of utilities and interface locations with the OTI.

61. **Table 26-7** provides a summary of the utilities identified along the ESBN network cables route.

Table 26-7 ESBN network cables route: Identified utility assets

ESBN Networks Cables: Section Reference	Utility Type	Description
A (open cut)	Water	• Uisce Éireann culvert; • Foul water sewer; • Combined sewer; and • Watermains infrastructure.
B (HDD)	ESBN	• HV 220 kV UGCs; and • Other ESB Network infrastructure.
	Water	Watermains
	Gas	Distribution gas mains
	Telecommunications	Telecoms ducts and chambers

26.6.5 Predicted future baseline

62. Without the implementation of the CWP Project, the predicted future baseline in terms of Material Assets - Built Services, is expected to continue to evolve in line with existing baseline trends.

63. However, it is noted that the onshore development area falls within the lands subject to development by DPC as part of their Masterplan programme. Additionally, the northern part of the Poolbeg Peninsula, on which the onshore substation is located, is zoned Employment (Heavy) – Zone Z7 in the Dublin City Development Plan 2022–2028. Furthermore, part of the landfall area falls into the Poolbeg West SDZ.

64. On this basis, the onshore development area could see some development (and interaction with the Material Assets - Built Services) in future years, subject to planning permission.

65. With continued development of the surrounding area, it is expected that future installations and upgrades would be made by the utility service providers in the vicinity and within the onshore development area boundary.

66. The potential implications of climate change and natural trends have been considered in the context of built service infrastructure. As current evidence shows more extreme weather events are occurring because of climate change, there is potential that risk of flooding, mainly coastal, within the study area could impact built services, resulting in disruption or damage. Risks associated with flooding are assessed within **Chapter 32 Risk of Major Accidents and Disasters**.

67. No other climate change or natural trend influences are considered relevant to this assessment.

26.7 Scope of the assessment

68. An EIA Scoping Report for the OTI was published on 6 May 2021. The Scoping Report was uploaded to the CWP Project website and shared with regulators, prescribed bodies and other relevant consultees, inviting them to provide relevant information and to comment on the proposed approach being adopted by the Applicant in relation to the onshore elements of the EIA.

69. Based on the overall outcomes of project-wide consultation, and refinement of the CWP Project design, the potential impacts to Material Assets - Built Services (i.e., the identified utility assets) scoped into the assessment are listed below in **Table 26-8**.

70. Design parameters which have the potential to impact existing utility assets primarily relate to the installation of the onshore export cables and ESBN network cables infrastructure.

Table 26-8 Potential impacts scoped into the assessment

Impact No.	Description of impact	Notes
Construction		
Impact 1	Disruption to utility assets / services	There is potential for disruption to utility assets and associated services during the construction phase of the OTI.
Decommissioning		
Impact 1	Disruption to utility assets / services	There is potential for disruption to utility assets and associated services

Impact No.	Description of impact	Notes
		during the decommissioning phase of the OTI. Activities associated with decommissioning are not predicted to exceed those assessed for the construction phase. In most cases, impacts are expected to be of a similar type and magnitude to those anticipated during the construction phase, but generally of a shorter duration and smaller scale.

71. Potential impacts to Material Assets - Built Services scoped out of the assessment are listed below in **Table 26-9.**

Table 26-9 Potential impacts scoped out of the assessment

Description of impact	Justification for scoping out
Disruption to utility assets / services (O&M phase)	Disruption to utility assets / services during the O&M phase has been scoped out of the assessment. Maintenance inspections will be undertaken approximately annually, using pre-constructed access points at the TJBs (two man-holes per TJB), with no requirement for digging or excavation works. Excavation works would only be required in a fault repair scenario; in this scenario cables would need to be pulled at the TJBs and excavation would be required. The potential for this scenario to occur is very low. Furthermore, fault repair works would be temporary, and only take place at the TJBs location, where no existing /services are present. The onshore substation will be unmanned during the O&M phase. Any maintenance activity at the substation would be temporary. The overall potential for disruption to utility assets / services during the O&M phase would be negligible and is not predicted to have significant effects.
Demand on services (Construction, O&M and decommissioning phases)	Demand on services has been scoped out of the assessment for all phases. **Construction and decommissioning phase** There will be a demand for services during the construction and decommissioning phases. This will primarily relate to site office(s) and welfare facilities (e.g., power supply via generators, wastewater management, and wash and sanitary facilities). <u>Wastewater</u> Periodic emptying of foul water collection tanks will be carried out by a licensed wastewater disposal company. Overall, this would be intermittent and temporary in nature and is not predicted to have significant effects. <u>Potable water</u> Potable water demand will also be minimal as it is only required to supply basic welfare facilities (e.g., toilet and wash hand basins,

Description of impact	Justification for scoping out
	canteen facilities) at construction site compounds and for some construction activities. Electricity Power supply will be initially provided via on site generators but then it is likely that a direct connection to the grid will be put in place for the duration of the construction phase. On-site generators will be maintained for back up as required. Demand for electricity supply from the grid during construction will be negligible compared to the electricity generated and supplied to the grid by the project once it is constructed and operational. Telecommunications: Telecoms services (e.g., mobile and broadband internet communication services) will be required during the construction phase for site offices and construction phase management. A hardwired connection to the telecoms infrastructure is proposed for the duration of the construction phase. **Operational and maintenance phase** During the O&M phase, the onshore substation will be unmanned (apart from scheduled maintenance visits). Overall demand on services will be low and is not predicted to have significant effects. Any demand on services during this phase would be intermittent and primarily associated with use of welfare facilities during maintenance visits. Wastewater The only sources of wastewater on site will be basic welfare facilities to facilitate the scheduled maintenance visits by personnel. Although the onshore substation is close to the Ringsend WWTP, records do not show any public sewers near the site. On this basis, separate gravity collection systems will be used to collect foul water generated at the onshore substation site (i.e., from the two GIS buildings) and to discharge it to sealed holding tanks. Each tank will be fitted with a high-level alarm linked to the site telemetry/SCADA system to notify site operators when the storage capacity of the units is approaching capacity. A licensed wastewater disposal company will periodically empty the tanks. Details of foul water management are outlined within the Onshore Substation Site Drainage and Water Supply Design Report, included as part of the planning submission. Potable water: Potable water demand will also be minimal as it is only required to supply basic welfare facilities (e.g., toilet and wash hand basin). Separate service connections are proposed for the two GIS buildings. It is proposed that the onshore substation site will be supplied by a new 100–150 mm watermain which will be supplied from an existing 300mm watermain. Smaller service connections (approx. 25 mm diameter) will be taken from this pipeline to supply the GIS buildings while the watermain will then be looped around the compound to provide an emergency water supply for firefighting.

Description of impact	Justification for scoping out
	Details of potable water requirements are outlined within the Onshore Substation Site Drainage and Water Supply Design Report, included as part of the planning submission. Electricity: Electricity supply will be required for the day-to-day running of the onshore substation (24 hours per day, 7 days a week), including safety and security systems (e.g., SCADA, fire protection), lighting and welfare facilities. Electricity supply will be obtained from the grid. A back-up generator will be installed at the main GIS building to enable a secure power supply in the event of an outage. Overall, demand for electricity supply from the grid will be negligible compared with the electricity generated and supplied back to the grid by the project. Telecommunications: Telecoms services will be required during the O&M phase for management of the onshore substation. A hardwired connection to the telecoms infrastructure is proposed for the duration of the O&M phase. Consideration of predicted demand on services has been undertaken in the carbon balance assessment (see **Chapter 28 Climate Assessment**).
Impacts to Major Transport Infrastructure	No major transport infrastructure services are present within the onshore development area; therefore, potential for interaction with or effect on these has been scoped out of this assessment. The potential for effects on transport infrastructure will be addressed in **Chapter 16 Shipping and Navigation** and **Chapter 27 Traffic and Transport**.
Impacts on waste generation and management infrastructure	The potential for effects on waste generation and management infrastructure will be addressed in **Chapter 31 Waste and Resource Management.**

26.8 Assessment parameters

26.8.1 Background

72. Complex, large-scale infrastructure projects with a terrestrial and marine interface such as the CWP Project, are consented and constructed over extended timeframes. The ability to adapt to changing supply chain, policy or environmental conditions and to make use of the best available information to feed into project design, promotes environmentally sound and sustainable development. This ultimately reduces project development costs and therefore electricity costs for consumers and reduces CO_2 emissions.

73. In this regard the approach to the design development of the CWP Project has sought to introduce flexibility where required, among other things, to enable the best available technology to be constructed and to respond to dynamic maritime conditions, whilst at the same time to specify project boundaries, project components and project parameters wherever possible, whilst having regard to known environmental constraints.

74. **Chapter 4 Project Description** describes the design approach that has been taken for each component of the CWP Project. Wherever possible the location and detailed parameters of the CWP Project components are identified and described in full within the EIAR. However, for the reasons

outlined above, certain design decisions and installation methods will be confirmed post-consent, requiring a degree of flexibility in the planning consent.

75. Where necessary, flexibility is sought in terms of:

- Up to two options for certain permanent infrastructure details and layouts such as the WTG layouts.
- Dimensional flexibility; described as a limited parameter range i.e. upper and lower values for a given detail such as cable length.
- Locational flexibility of permanent infrastructure; described as Limit of Deviation (LoD) from a specific point or alignment.

76. The CWP Project had to procure an opinion from An Bord Pleanála to confirm that it was appropriate that this application be made and determined before certain details of the development were confirmed. An Bord Pleanála issued that opinion on 25th March 2024 (as amended in May 2024) and it confirms that the CWP Project could make an application for permission before the details of certain permanent infrastructure described in **Section 4.3** of **Chapter 4 Project Description** is confirmed.

77. In addition, the application for permission relies on the standard flexibility for the final choice of installation methods and O&M activities.

78. Notwithstanding the flexibility in design and methods, the EIAR identifies, describes and assesses all of the likely significant impacts of the CWP Project on the environment.

26.8.2 Options and dimensional flexibility

79. Where the application for permission seeks options or dimensional flexibility for infrastructure or installation methods, the impacts on the environment are assessed using a representative scenario approach. A "representative scenario" is a combination of options and dimensional flexibility that has been selected by the author of this EIAR chapter to represent all of the likely significant effects of the project on the environment. Sometimes, the author will have to consider several representative scenarios to ensure all impacts are identified, described and assessed.

80. For Material Assets - Built Services the infrastructure design and installation techniques with potential to give rise to Material Assets - Built Services impacts have been confirmed in the planning application and consequently the assessment is confined to a single scenario for all construction and O&M phase impacts.

81. Design parameters relevant to the assessment of Material Assets - Built Services are outlined in **Table 26-10** below.

26.8.3 Limit of deviation

82. Where the application for permission seeks locational flexibility for infrastructure, the impacts on the environment are assessed using a LoD. The LoD is the furthest distance that a specified element of the CWP Project can be constructed.

83. LoD within the onshore development area (seaward of the high water mark) are noted below in **Table 26-11**. This chapter assesses the specific preferred location for permanent infrastructure, however, the potential for the LoD to give rise to any new or materially different effects compared to those presented in **Section 26.10** of this chapter has been considered.

84. For Material Assets - Built Services, a conclusion is provided in **Table 26-11** which confirms that the LoDs for the permanent infrastructure relevant to Material Assets - Built Services will not give rise to

any new or materially different effects. The LoDs are therefore not considered further within this assessment.

Table 26-10 Design Parameters relevant to assessment of Material Assets - Built Services

Impact	Detail	Value	Notes / Assumptions
Construction			
Impact 1: Disruption to utility assets / services	**Landfall**		This impact relates to the potential for disruption to utility assets and services during the construction phase.
	Installation methods and effects		
	Number of TJBs	3	
	Area of site clearance at the TJBs (m^2)	2,200	
	Area of site clearance between TJBs and the high water mark (HWM) (m^2)	2,200	
	Temporary access ramp		
	Dimensions of temporary access ramp (including route from main compound) (L x W) (m)	60 x 10	
	Area of site clearance for temporary access ramp (m^2)	600	
	Onshore export cables		
	Temporary infrastructure		
	Number of tunnel shafts and temporary tunnel compounds	3	
	Combined area for tunnel compounds for the onshore export cable route (m^2)	20,215[4]	
	Installation methods and effects		

[4] Note: temporary tunnel compounds 1 & 3 are located within Compound A and the onshore substation site respectively.

Impact	Detail	Value	Notes / Assumptions
	Total tunnel length (m)	740	
	First tunnel drive distance (m)	330	
	Second tunnel drive distance (m)	410	
	Tunnel internal diameter (ID) (m)	3.0	
	Tunnel outer diameter (OD) (m)	3.6	
	Tunnel invert level (m) below ODM	-25.30	
	Main compound launch shaft dimensions (m) below ODM	27.5	
	Shellybanks road reception shaft dimensions (m) below ODM	27.5	
	Onshore substation launch shaft dimensions (m) below ODM	28.63	
	Overall duration to complete tunnel construction and cable duct installation (months)	21	
	Onshore substation		
	Total footprint of temporary site clearance inc. access roads (m^2)	20,090	
	ESBN network cables		
	Temporary infrastructure		
	Number of temporary HDD compounds	2	
	Installation methods and effects		
	Number of open cut sections	1	

Impact	Detail	Value	Notes / Assumptions
	Number of HDD sections	1	
	Length of ESBN network cable ducts and associated cables (m)	400	
	Total length of open cut section (m)	265	
	Total length of HDD section (m)	135	
	Depth of the HDD installation at its deepest (m bgl)	10	
	Construction compounds (Compounds A-D)		
	Compound A area (m^2)	19,800	
	Compound B area (m^2)	32,300	
	Compound C area (m^2)	3,350	
	Compound D area (m^2)	360	
Decommissioning			
Impact 1: Disruption to utility assets / services	It is recognised that legislation and industry best practice change over time. However, for the purposes of the EIA, at the end of the operational lifetime of the CWP Project, it is assumed that all OTI will be removed where practical to do so. In this regard, for the purposes of an assessment scenario for decommissioning impacts, the following assumptions have been made: • The TJBs and onshore export cables (including the cable ducting) shall be completely removed. • The landfall cable ducts and associated cables shall be completely removed. • The underground tunnel, within which the onshore export cables will be installed shall be left in situ and may be re-used for the same or another purpose. • The onshore substation buildings and electrical infrastructure shall be completely removed. • The reclaimed land, substation platform, perimeter structures and the new access bridge at the onshore substation site will remain in situ and may re-used for the same or another purpose.		

Impact	Detail	Value	Notes / Assumptions
	• The ESBN network cables (including the cable ducting) shall be completely removed. The general sequence for decommissioning is likely to include: • Dismantling and removal of electrical equipment; • Removal of ducting and cabling, where practical to do so; • Removal and demolition of buildings, fences, and services equipment; and • Reinstatement and landscaping works. Closer to the time of decommissioning, it may be decided that removal of certain infrastructure, such as the TJBs, landfall cable ducts and associated cables, onshore export cables and ESBN networks cables, would lead to a greater environmental impact than leaving the components in situ. In this case it may be preferable not to remove these components at the end of their operational life. In any case, the final requirements for decommissioning of the OTI, including landfall infrastructure, will be agreed at the time with the relevant statutory consultees. It is anticipated that for the purposes of an assessment scenario, the impacts will be no greater than those identified for the construction phase. It is anticipated that for the purposes of an assessment scenario, the impacts will be no greater than those identified for the construction phase.		

Table 26-11 Limit of deviation (LoD) relevant to assessment of Material Assets - Built Services

Project component	Limit of deviation (LoD)	LoD impact summary
TJBs	0.5 m either side (i.e. east / west) of the preferred TJB location	No potential for new or materially different effects.
Landfall cable ducts	Defined LoD boundary (see **Chapter 4 Project Description**)	No potential for new or materially different effects.
Location of onshore substation revetment perimeter structure	Defined LoD for sheet piling at toe of the revetement	No potential for new or materially different effects.

26.9 Primary mitigation measures

85. Throughout the evolution of the CWP Project, measures have been adopted as part of the evolution of the project design and approach to construction to avoid or otherwise reduce adverse impacts on the environment. These mitigation measures are referred to as 'primary mitigation'. They are an inherent part of the CWP Project and are effectively 'built in' to the impact assessment.

86. Primary mitigation measures relevant to the assessment of Material Assets - Built Services are set out in **Table 26-12**. Where additional mitigation measures are proposed, these are detailed in the impact assessment (**Section 26.10**). Additional mitigation includes measures that are not incorporated into the design of the CWP Project and require further activity to secure the required outcome of avoiding or reducing impact significance.

Table 26-12 Primary mitigation measures

Project Element	Description
Construction Phase	Installation methodologies: The onshore export cable and ESBN network cable installation methods (i.e., underground tunnelling and HDD) have been selected / designed in order to mitigate by avoidance impacts on existing below ground infrastructure identified within the onshore development area. In terms of the open cut trenching for the ESBN network cables, the following options will be implemented, where utilities are present: • Locate below the existing utility service: The ESBN network cables would be positioned below the existing utility service, keeping the minimum allowed spacing between both, as determined by the utility service provider; • Locate above the existing utility service: The ESBN network cables would be positioned above the existing utility service. Furthermore, the depth to the top of the cable ducts could be reduced to a minimum of 450 mm below surface level, as per the Health and Safety Authority's (HSA) 'Code of Practice for Avoiding Danger from Underground Services'. This depth would accommodate the required separation from the service being crossed and would provide sufficient mechanical protection to the cable; and/or • Diversion of the existing utility service: An existing utility could be diverted to facilitate the installation of the ESBN network cables.

26.10 Impact assessment

26.10.1 Identified Interfaces with existing utility assets

87. Following identification of existing utility assets within the onshore development area boundary, a review of crossing locations, based on the OTI layout, was undertaken.

88. **Table 26-13** below provides a summary of the interface, with utility assets identified within the onshore development area.

Table 26-13 OTI: Identified Interfaces with utility assets

OTI	Installation methodology	Utilities present? (Yes / No)	Utility type present	Description of OTI interface with utility assets
Landfall (works above the HWM)	Open cut and cofferdam	No	N/A	No utilities were identified at the landfall area above the HWM.
Temporary access ramp	Geotextile layer & compacted stone surface on to the existing ground	Yes	Electrical, Water	Existing HV (220kV underground lines) electrical infrastructure and Water (sewer) infrastructure has been identified within the access ramp area see **Figures 26-2** and **26-5**).
Compound A (inc. the onshore export cable TJB connection)	N/A	Yes	Electrical, Water	A single ESB network infrastructure line and water infrastructure (surface water drainage (potentially redundant)) and part of a combined sewer line) has been identified within the Compound A area (see **Figures 26-2** and **26-5**).
Temporary access route for Compound A and B	Compacted stone surface on to the existing ground	Yes	Electrical, Gas, Water, Telecoms	Electrical (ESB HV/MV/LV UGCs), water (watermains, drainage/sewer), gas mains (transmission) and telecoms (Eircom) infrastructure has been identified within the area of the temporary access route for Compounds A and B (see **Figures 26-2** to **26-5**).
Compound B	N/A	Yes	Electrical, Water, Telecoms	Electrical (ESB HV/MV/LV UGCs), water (watermains, drainage/sewer) and telecoms (Eircom) infrastructure has been identified within Compound B area see **Figures 26-2, 26-3** and **26-5**).
Onshore export cable	Temporary tunnel compound 1 and associated tunnel shaft (Main compound launch shaft) (within Compound A)	Yes	Electrical, Water	Temporary tunnel compound 1 and its associated tunnel shaft are situated within Compound A, where a single ESB network infrastructure line (just within the boundary of the compound) and water infrastructure (surface water drainage (potentially redundant)) has been identified (see **Figures 26-2** and **26-5**).
	Tunnel (tunnel alignment and	Yes	Electrical, Gas,	Electrical (ESB LV OHLs and HV/MV/LV UGCs) (see **Figure**

OTI	Installation methodology	Utilities present? (Yes / No)	Utility type present	Description of OTI interface with utility assets
	temporary tunnel compounds 2 and 3 and associated tunnel shafts (Shellybanks road reception shaft and onshore substation launch shaft respectively))		Water, Telecoms	**26-2**), gas mains (transmission / distribution) (see **Figure 26-3**), water infrastructure (watermains, drainage/sewer) (see **Figure 26-5**) and telecoms infrastructure (Eircom) (see **Figure 26-4**) are present at a number of locations along the onshore export cable route (i.e., along Shellybanks Road, Pigeon House Road and the southern and eastern boundary of the Ecocem Ireland site).
Compound C	N/A	Yes	Telecoms, Water	Telecoms (Eircom) and water (watermains, drainage/sewer) infrastructure are located across and along the boundary of this compound and in the lands surrounding Pigeon House Hotel, (see **Figures 26-4** and **26-5**).
Compound D	N/A	Yes	Electrical, Gas	General electrical and distribution gas mains infrastructure located along the boundary of this compound (see **Figure 26-2**).
Onshore substation	Building construction / piling / excavation works	No	N/A	Utility mapping indicates no underground or overground utilities are present at the onshore substation site. An Uisce Éireann discharge point is present immediately on the CWP planning application boundary, at the northeast corner of the onshore substation site.
ESBN network cables	Open cut and HDD	Yes	Electrical	Electrical infrastructure is present at locations along the ESBN network cables route (see **Figure 26-2**), including HV (220kV underground lines) electrical infrastructure identified at the junction of Pigeon House Road and the entrance to ESB Poolbeg Generating Station.
		Yes	Gas	Gas mains infrastructure is present on Pigeon House Road along the ESBN network cables route (see **Figure 26-3**).

OTI	Installation methodology	Utilities present? (Yes / No)	Utility type present	Description of OTI interface with utility assets
				Interface identified with gas mains infrastructure present on Pigeon House Road.
		Yes	Water	Water infrastructure is present at locations along the ESBN network cables route (see **Figure 26-5**). Water service infrastructure (watermains, gravity sewer and drainage) identified along the ESBN network cables route at the at the junction of Pigeon House Road and the entrance to ESB Poolbeg Generating Station.
		Yes	Telecoms	Telecoms infrastructure is present at locations along the ESBN network cables route(see **Figure 26-4**). Telecoms infrastructure identified along the ESBN network cables route at the lands surrounding Pigeon House (c. 45 m west of the building), and at the junction of Pigeon House Road and the entrance to ESB Poolbeg Generating Station.

26.10.2 Construction phase

89. The potential environmental impacts arising from the construction of the CWP Project are listed in **Table 26-10**, along with the parameters against which each construction phase impact has been assessed. A description of the potential effect on Material Assets - Built Services receptors caused by each identified impact is given below.

Impact 1: Disruption to Utility Assets / Services

90. Construction works requiring excavation have the potential to disrupt utility assets, particularly where utilities are present underground. In terms of the OTI, the main potential for crossings with existing utilities occurs along the routes of the onshore export cables and ESBN network cables, where there are several known utility assets of varying diameters and depths.

91. Utility assets that are present where works are required have been identified and construction methodologies have been selected to mitigate impacts on existing infrastructure at the crossing locations. The onshore export cables are to be installed by tunnelling, while the ESBN network cables are to be installed through a combination of open cut and HDD.

92. **Table 26-14** provides a summary of the installation proposals and identifies whether there is potential for direct interface with utility assets.

Table 26-14 Proposed construction methodologies for the installation of the onshore export cable and ESBN network cables, relative to existing utility assets

OTI area	Utility interface type	Installation methodology	Direct interface with utility assets through installation methodology?
Landfall (works above the HWM)	N/A	Open cut and cofferdam	No existing utility assets located within this area; therefore, no interface with utility assets is predicted at this location.
Temporary access ramp	Electrical, Water	Geotextile layer and compacted stone surface onto the existing ground	No direct interface with utility assets is predicted as no intrusive/excavation works are planned where existing utilities are located.
Compound A (inc. the onshore export cable TJB connection)	Water	N/A	No direct interface with utility assets is predicted at Compound A as no intrusive/excavation works are planned where existing utilities are located.
Temporary access route for Compound A and B	Electrical, Gas, Water, Telecoms	Compacted stone surface onto the existing ground	No direct interface with utility assets is predicted at the temporary access route for Compound A and B as no intrusive/excavation works are planned where existing utilities are located.
Compound B	Electrical, Water, Telecoms	N/A	No direct interface with utility assets is predicted at Compound B as no intrusive/excavation works are planned where existing utilities are located.
Onshore export cables	Electrical, Gas, Water, Telecoms	Temporary tunnel compound 1 and associated tunnel shaft (Main compound launch shaft) (within Compound A)	Installation of the tunnel shaft will involve excavation to c. 27.5 m below ODM. The proposed shaft location is not situated where existing utilities are identified (see **Figures 26-2** to **26-5**).
		Tunnel (tunnel alignment and temporary tunnel compounds 2 and 3 and associated tunnel shafts (Shellybanks road reception shaft and onshore substation launch shaft respectively))	No direct interface with utility assets is predicted along the onshore export cable route as no intrusive/excavation works are planned where existing utilities are located, and the chosen method for cable installation is tunnelling, which will avoid identified utilities. Installation of tunnel shafts within temporary tunnel compounds 2 and 3 will involve excavation to c. 27.5 – 28.63 m below ODM. These are not planned where existing utilities are located (see **Figures 26-2** to **26-5)**. No utility assets / services were identified at the onshore substation site. Therefore, there is no

OTI area	Utility interface type	Installation methodology	Direct interface with utility assets through installation methodology?
			potential for direct interface with utilities at the onshore substation site.
Compound C	Telecoms, Water	n/a	No direct interface with utility assets is predicted at Compound C as no intrusive/excavation works are planned where existing utilities are located.
Compound D	Electrical, Gas	n/a	No direct interface with utility assets is predicted at Compound D as no intrusive/excavation works are planned where existing utilities are located.
Onshore substation	N/A	Building construction / piling / excavation works	No direct interface with utility assets is predicted as no intrusive/excavation works are planned where existing utilities are located. An Uisce Éireann discharge point is present immediately on the CWP planning application boundary, at the northeast corner of the onshore substation site. However, there is no direct interface with this.
ESBN network cables	Electrical, Gas, Water, Telecoms	Open cut and HDD	The chosen method for the installation of the ESBN network cables is a combination of open cut and HDD. The open cut method will avoid existing utilities, with appropriate spacing requirements, or a planned diversion of existing utilities will be undertaken in coordination with utility service providers. The HDD method allows for cables to be installed beneath existing utilities, thereby avoiding them and the potential for direct interface.

Receptor sensitivity

93. A mix of utility assets have been identified and, when reviewed individually, the assigned sensitivity of the identified utility assets ranges from 'High' to 'Very High'.

94. Identified utility assets primarily fall into the category of 'Very High' sensitivity. This is due to their importance in terms of asset value and required reliance in terms service supply. For the purposes of this assessment, all identified utility assets are considered to be of **'Very High'** sensitivity.

Magnitude of impact

95. The main potential for crossing existing utilities occurs along the onshore export cables and ESBN network cables routes.

96. However, the chosen methodologies, tunnelling (onshore export cables) and open cut and HDD (ESBN network cables), go above or below existing utilities assets / services and will avoid any impacts. Where these methods cannot be facilitated, the existing utility will be diverted in coordination with the relevant utility service provider.

97. If a disruption to existing utility assets is required during installation works, it is predicted that the disruption would be for only a short time, and it would be undertaken in consultation with the relevant utility service provider and with appropriate levels of notice. All levels of existing service would be reinstated.

98. The potential for the discovery of unidentified key utility assets is low. Extensive SI and mapping have been undertaken to identify utility assets present within the onshore development area boundary.

99. The potential for any impact or disruption to utility assets during the construction phase is predicted to be '**Negligible**'.

Significance of the effect

100. The sensitivity of utility assets receptors identified within the study area was considered to be **'Very High**' for all asset types and the magnitude the of impact was assessed as '**Negligible**'. Therefore (as per the matrix in **Table 26-5**), an effect of '**Slight**' adverse significance is predicted in terms of potential for disruption to utility assets, which is not significant in EIA terms.

Additional mitigation

101. Based on the predicted level of effect, additional mitigation is not required beyond the embedded mitigation described in **Section 26.9**. However, additional mitigation will also be implemented during the construction phase of the OTI.

102. Measures to avoid or otherwise minimise impacts to existing utility asset owners / services providers within the onshore development area are described in the Construction Environmental Management Plan (CEMP):

- Prior to the commencement of the project and construction phase, there will be engagement with all utility asset owners / service providers;
- Utility assets / services (underground and overhead) will be identified and clearly marked prior to any pre-construction (site clearance) / construction / demolition activity occurring;
- Any proposed building works will require a minimum clearance distance of 1 m either side of electrical cables;
- No excavations will take place without prior consultation with relevant utility asset owners / service providers;
- Prior to any mechanical excavation taking place ESBN will be consulted with and the exact locations of all underground electricity cables established and verified;
- All works undertaken in the vicinity of underground assets will be carried out in accordance with current HSA guidance, namely the HSA 'Code of Practice for Avoiding Danger from Underground Services';
- All works will be undertaken with in accordance with the exclusion and safe operating distances around electricity infrastructure as set out in the ESB Code of Practice, as well as HSA guidance including the 'Code of Practice for Avoiding Danger from Overhead Electricity Lines';
- Liaison with asset owners / service providers will continue / be ongoing as required throughout the construction phase.

Residual effect

103. Due to the sensitivity of the receptors being **'Very High**', with mitigation by design and the adoption of the primary and additional mitigation measures, the magnitude of effect will remain '**Negligible**'. The

significance of the residual effect is therefore predicted to remain '**Slight**', which is not significant in EIA terms.

26.10.3 Decommissioning phase

104. It is recognised that legislation and industry best practice change over time. However, for the purposes of the EIA, at the end of the operational lifetime of the CWP Project, it is assumed that all OTI will be removed where practical to do so. In this regard, for the purposes of an assessment scenario for decommissioning impacts, the following assumptions have been made:

- The TJBs and onshore export cables (including the cable ducting) shall be completely removed.
- The landfall cable ducts and associated cables shall be completely removed.
- The underground tunnel, within which the onshore export cables will be installed shall be left in situ and may be reused for the same or another purpose.
- The onshore substation buildings and electrical infrastructure shall be completely removed.
- The reclaimed land, substation platform, perimeter structures and the new access bridge at the onshore substation site will remain in situ and may reused for the same or another purpose.
- The ESBN network cables (including the cable ducting) shall be completely removed.

105. The general sequence for decommissioning is likely to include:

- Dismantling and removal of electrical equipment;
- Removal of ducting and cabling, where practical to do so;
- Removal and demolition of buildings, fences, and services equipment; and
- Reinstatement and landscaping works.

106. Closer to the time of decommissioning, it may be decided that removal of certain infrastructure, such as the TJBs, landfall cable ducts and associated cables, onshore export cables and ESBN networks cables, would lead to a greater environmental impact than leaving the components in situ. In this case it may be preferable not to remove these components at the end of their operational life. In any case, the final requirements for decommissioning of the OTI, including landfall infrastructure, will be agreed at the time with the relevant statutory consultees.

107. Appropriate decommissioning methodologies will be selected to mitigate by avoidance any impacts on infrastructure identified within the onshore development area. Consultation with existing utility asset owners, approval of crossing / diversions agreements prior to decommissioning, and adherence with relevant legislation and guidance at the time of decommissioning will be implemented.

108. Activities associated with decommissioning are not predicted to exceed those assessed for the construction phase. Furthermore, in most cases, impacts are expected to be no greater than, and of a similar type and magnitude to, those anticipated during the construction phase, but generally of a shorter duration and smaller scale.

26.11 Cumulative impacts

109. A fundamental component of the EIA is to consider and assess the potential for cumulative effects of the CWP Project with other projects, plans and activities (hereafter referred to as 'other development').

110. **Appendix 26.1** presents the findings of the cumulative effects assessment (CEA), which considers the residual effects presented in this Material Assets - Built Services assessment, alongside the potential effects of other proposed and reasonably foreseeable developments. Cumulative effects are considered across the construction phase of the CWP Project. Cumulative effects are therefore the combined effect of the CWP Project in combination with the effects from a number of different projects.

There is potential for the construction phase of the CWP Project to coincide with the construction phase of the developments stated in **Appendix 26.1**. This creates a potential for cumulative impacts to occur.

111. The detail and scope of the decommissioning works for the CWP Project will be determined by the relevant legislation and guidance at the time of decommissioning. It is anticipated that the impacts will be no greater than those identified for the construction phase and therefore no separate assessment of cumulative impacts during the decommissioning phase is presented within this CEA.

112. In summary, the CEA for Material Assets - Built Services does not identify any significant cumulative effects resulting from the CWP Project alongside other developments and no additional mitigation is required beyond that already described in **Section 26.9** and **Section 26.10**.

26.12 Transboundary impacts

113. There are no transboundary impacts with regard to Material Assets - Built Services, as the onshore development area would not be sited near to any international boundaries. Transboundary impacts are therefore scoped out of this assessment and are not considered further.

26.13 Inter-relationships

114. The inter-related effects assessment considers the potential for all relevant effects across multiple topics to interact, spatially and temporally, to create inter-related effects on a receptor group. This includes incorporating the findings of the individual assessment chapters to describe potential additional effects that may be of greater significance when compared to individual effects acting on a receptor group.

115. The term ‘receptor group’ is used to highlight the fact that the proposed approach to the inter-relationships assessment has not assessed every individual receptor considered in this chapter, but instead focuses on groups of receptors that may be sensitive to inter-related effects.

116. **Chapter 5 EIA Methodology** provides a matrix to show at a broad level where across the EIAR interactions between effects on different receptor groups have been identified.

117. The potential inter-related effects that could arise in relation to Material Assets - Built Services are presented in **Table 26-15**.

Table 26-15 Inter-related effects (phase) assessment for Material Assets - Built Services

Impact / receptor	Related chapter	Phase assessment
Impact 1: Disruption to utility assets	Chapter 19 Soils and Geology	During the construction phase, soils will be excavated to facilitate the construction activities for the CWP Project. There is potential for a spatial interaction, where utilities are present underground, as soils are being excavated. The management of excavated materials and ground settlement is addressed in **Chapter 19 Soils and Geology**. The interaction between construction activities and existing utilities is captured in this chapter, **Chapter 26 Material Assets -**

Impact / receptor	Related chapter	Phase assessment
		Built Services. Mitigations are outlined to prevent impacts on utilities during the construction phase. On this basis, it is not anticipated that there will be inter-related effects produced that are of greater significance than those already assessed.

26.14 Potential monitoring requirements

118. No monitoring is required in relation to Material Assets: Built Services.

26.15 Impact assessment summary

119. This chapter of the EIAR has assessed the potential environmental impacts on Material Assets - Built Services from the construction and decommissioning phases of the OTI associated with the CWP Project. This section, including **Table 26-16**, summarises the impact assessment undertaken and confirms the significance of any residual effects following the application of additional mitigation.

120. No specific comments were made in relation to Material Assets - Built Services as part of the scoping consultation process. Project-wide consultation in relation to the presence of utilities services/assets has been undertaken with the key utility service providers regarding the interface with existing utilities and measures to protect these. This will continue through the construction phase.

121. Receptors are considered to be the utility assets (i.e., electricity network infrastructure, gas network infrastructure, water network infrastructure and telecommunications infrastructure) identified within the onshore development area.

122. Based on refinement of the CWP Project design, the potential impact to utility service/assets scoped into the assessment was disruption to utility assets / services (during the construction phase and decommissioning phase). Impacts relating to the O&M phase were scoped out of the assessment.

123. Information and data on the location and status of individual utility assets used to inform this Material Assets - Built Services assessment was obtained through non-intrusive (GPR) and intrusive (such as slit trenching) SI undertaken as part of the overall CWPL Project, as well as from publicly available utility information and data obtained through liaison with the utility providers.

124. Construction and cable route methodologies (i.e., underground tunnelling, open cut and HDD) have been incorporated as part of the engineering design, to mitigate and/or avoid impacts on existing infrastructure identified within the onshore development area boundary.

125. The sensitivity of utility assets in the study area was considered to be '**Very High**' for all asset types and the magnitude of impact for all asset types is assessed as '**Negligible**'. During the construction phase, an effect of '**Slight**' adverse significance on Material Assets - Built Services was predicted for all utility assets identified, which is not significant in EIA terms.

126. Whilst there were no significant effects identified, additional mitigation relating to safe construction practices (in line with HSA and ESB guidance) and ongoing engagement with the utility service providers will also be implemented during the construction phase.

127. Due to the sensitivity of the receptors being **'Very High**', with mitigation by design and the adoption of the primary and additional mitigation measures the magnitude of effect will remain '**Negligible**'. The

significance of the residual effect is therefore predicted to remain '**Slight**', which is not significant in EIA terms.

128. Activities associated with decommissioning are not predicted to exceed those assessed for the construction phase. Furthermore, in most cases, impacts are expected to be no greater than, and of a similar type and magnitude to, those anticipated during the construction phase, but generally of a shorter duration and smaller scale.

Table 26-16 Summary of potential Impacts and residual effects

Potential impact	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect	Additional mitigation	Residual effect
Construction						
Impact 1: Disruption to utility assets / services	Utility assets	Very High	Negligible	**Slight** (not significant)	While no significant effects were identified, additional mitigation relating to ongoing engagement with utility service providers and safe construction / operating distances will be implemented, as detailed in **Section 26.10**.	**Slight** (not significant)
Decommissioning						
Impact 1: Disruption to utility assets / services	Utility assets	Very High	It is anticipated that for the purposes of an assessment scenario, impacts will be no greater than those identified for the construction phase (not significant).			

26.16 References

129. Department of Housing, Planning and Local Government (2018). Guidelines for Planning Authorities and An Bord Pleanála (ABP) on carrying out Environmental Impact Assessment.

130. Dublin City Council (DCC) (2022). Dublin City Development Plan 2022–2028.

131. DCC (2019). Poolbeg West Planning Scheme 2019.

132. Environmental Protection Agency (EPA) (2003). Advice Notes on Current Practice in the Preparation of Environmental Impact Statements.

133. EPA (2022). Guidelines on the information to be contained in Environmental Impact Assessment Reports.

134. European Commission (2017) Environmental Impact Assessment of Projects – Guidance on the preparation of the environmental impact assessment report (Directive 2011/92/EU as amended by 2014/52/EU).