codling wind park

Environmental Impact Assessment Report

Volume 3

Chapter 22 Archaeological, Architectural and Cultural Heritage


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Abbreviations

Abbreviation	Term in full
ABP	An Bord Pleanála
ACA	Architectural Conservation Area
c.	Circa
CDP	City / county development plan
CEA	Cumulative Effects Assessment
CWP	Codling Wind Park
CWPE	Codling Wind Park Extension
CWPL	Codling Wind Park Limited
CWP OIW	CWP Onshore infrastructure works
DAHG	Department of Arts, Heritage and the Gaeltacht
DCHG	Department of Culture, Heritage and the Gaeltacht
DCC	Dublin City Council
DHLGH	Department of Housing, Local Government and Heritage
EC	European Commission
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
ESB	Electricity Supply Board
ESBN	ESB Networks
EU	European Union
GIS	Geographic Information System
GLVIA3	Guidelines for Landscape & Visual Impact Assessment, Third Edition
GSI	Geological Survey Ireland
HDD	Horizontal directional drilling
IAM	Impact Assessment Matrix
LAP	Local Area Plan
mAOD	Metres above ordnance datum
MAC	Maritime Area Consent
MAP	Maritime Area Planning
MHWM	Mean high water mark
NIAH	National Inventory of Architectural Heritage

NMS	National Monuments Services
ODA	Onshore development area
OEC	Onshore export cables
OIW	Onshore infrastructure works
OWF	Offshore wind farm
O&M	Operations and maintenance
OSI	Ordnance Survey Ireland
RMP	Record of Monuments and Places
RPS	Record of Protected Structures
SMR	Sites and Monuments Record
TJB	Transition joint bay
WEI	Wind Energy Ireland
WTG	Wind turbine generator
ZAP	Zone of archaeological potential
ZTV	Zone of theoretical visibility

Definitions

Glossary	Meaning
the Applicant	The developer, Codling Wind Park Limited (CWPL).
array site	The area within which the wind turbine generators (WTGs), inter-array cables (IACs) and the offshore substation structures (OSSs) are proposed.
borehole	A site investigation technique where a narrow bore is drilled down to assess the underlying stratigraphy (made ground and natural subsoils)
burnt spread	A common Bronze Age archaeological site formed by discarded heat affected stones, often used to heat water within a trough or pit.
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.
coursed (masonry)	The placement of masonry, during construction, in regular lines.
cremation cemetery	A Bronze Age archaeological site where human cremations are interred within a pit.
demesne landscape	A designed parkland landscape established in association with country houses during the 18th and 19th centuries.
dressed (masonry)	A stone block that has been sized and smoothed.
Dun Laoghaire Harbour	The historic harbour of Dun Laoghaire on the southern shore of Dublin Bay with limits defined as the areas contained within and including the East and West piers of Dún Laoghaire Harbour and within 600 metres of the entrance to that harbour, together with any adjoining land, banks, inlets and havens vested in Dún Laoghaire

	Harbour Company and the docks, piers, jetties, quays and other works vested in that company.
ecclesiastical enclosure	An early medieval religious foundation, often including an early medieval church, burial ground and associated activity.
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 *(previously the ESB grid connection)*	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.
generating station	Comprising the wind turbine generators (WTGs), inter array cables (IACs) and the interconnector cables.
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 onshore export cables from can be pulled. HDD enables the installation of cables beneath obstacles such as roads, waterways and existing utilities.
inter-array cables (IACs)	The subsea electricity cables between each WTG between and the OSSs.
interconnector cables	The subsea electricity cables between OSSs.
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 Bayout to approximately 4 km offshore, where water depths that are too shallow for conventional cable lay vessels to operate.
landing slip	A ramp into the sea that allows a boat to securely tie up to a harbour wall.
limit of deviation (LoD)	Locational flexibility of permanent and temporary infrastructure is described as a LoD from a specific point or alignment.
lintel	A horizontal beam spanning an opening, such as a door or window.
Martello Towers	Small defensive coastal forts that were built across the British Empire during the 19th century, from the time of the French Revolutionary Wars.

offshore export cables	The cables which transport electricity generated by the wind turbine generators (WTGs) from the offshore substation structures (OSSs) to the TJBs at the landfall.
offshore export cable corridor (OECC)	The area between the array site and the landfall, within which the offshore export cables will be installed along with cable protection and other temporary infrastructure for construction.
offshore infrastructure	The permanent offshore infrastructure, comprising of the WTGs, IACs, OSSs, interconnector cables, offshore export cables and other associated infrastructure such as cable and scour protection.
offshore substation structure (OSS)	A fixed structure located within the array site, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
offshore transmission infrastructure (OfTI)	The offshore transmission assets comprising the OSSs and offshore export cables. The EIAR considers both permanent and temporary works associated with the OfTI.
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 construction the onshore substation.
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.
opes	Architectural term for the description of window or door openings within a structure.
parameters	Set of parameters by which the CWP Project is defined and which are used to form the basis of assessments.
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
promontory fort	A natural coastal promontory that has been modified to create a defensive position, often prehistoric in date.
radio carbon date	A scientific means of dating organic archaeological remains by the measurement of carbon in the artefact/ sample.

revetment	A facing of impact-resistant material applied to a bank or wall in order to absorb the energy of incoming water and protect it from erosion.
reveals	Inner surface of a window or door opening.
slit trench	A site investigation technique where a narrow trench is manually excavated in order to assess for the presence of existing services and depth of made/natural ground.
stratigraphy	A term to describe the vertical formation of soils and deposits beneath the ground.
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.
trial/test pits	A site investigation technique where a pit is manually excavated in order to assess for the presence of existing services and depth of made/natural ground.
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.
wind turbine generator	All the components of a wind turbine, including the tower, nacelle, and rotor.

22 ONSHORE ARCHAEOLOGY, ARCHITECTURAL AND CULTURAL HERITAGE

22.1 Part A Onshore

22.1.1 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 is split into Part A and Part B which addresses potential impacts on onshore archaeology, architectural and cultural heritage arising from onshore transmission infrastructure (OTI) and landfall (landward of the high-water mark (HWM)) and impacts on onshore receptors arising from offshore infrastructure respectively.

4. Potential impacts of the offshore infrastructure on marine archaeology and cultural heritage during the construction, operation and maintenance (O&M) and decommissioning phases are detailed in **Chapter 14 Marine Archaeology and Cultural Heritage.**

5. In summary, this EIAR chapter:

   - Details the EIA scoping and consultation process undertaken and sets out the scope of the impact assessment for archaeology, architectural and cultural heritage;
   - Identifies the key legislation and guidance relevant to archaeology, architectural and cultural heritage, with reference to the latest updates in guidance and approaches;
   - Confirms the study area for the assessment and presents the impact assessment methodology for archaeology, architectural and cultural heritage;
   - Describes and characterises the baseline environment for archaeology, architectural and cultural heritage, 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 archaeology, architectural and cultural heritage assessment;
   - Presents the assessment of potential impacts on archaeology, architectural and cultural heritage 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.

6. Additional information to support the assessment includes:

   - **Appendix 22.1 Cumulative Effect Assessment**;
   - **Appendix 22.2 Representative Scenarios and Limits of Deviation**;
   - **Appendix 22.3 Catalogue of Recorded Archaeological, Architectural and Cultural Heritage Sites**; and
   - **Appendix 22.4 Wireframes**.

7. Part A of the EIAR chapter describes the potential impacts of the OTI on archaeology, architectural and cultural heritage during the construction, O&M and decommissioning phases. The OTI is 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. Part A will also describe the potential impacts of the works at the landfall (landward of the HWM), where the offshore export cables are brought onshore and connected to the onshore export cables at the TJBs (hereafter referred to as the 'OTI').

22.1.2 Consultation

8. Consultation with statutory and non-statutory organisations is a key part of the EIA process. Consultation with regard to archaeology, architectural and cultural heritage has been undertaken to inform the approach to and scope of the assessment.

9. 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.

10. **Table 22-1** provides a summary of the key issues raised during the consultation process relevant to onshore archaeology, architectural and cultural heritage and details how these issues have been considered in the production of this EIAR chapter.

Table 22-1 Consultation responses relevant to Onshore Archaeology, Architectural and Cultural Heritage

Consultee	Comment	How issues have been addressed
Scoping responses		
Dublin Port Company (DPC) 14 June 2021	Noted the importance of the Great South Wall (GSW) as a recorded protected structure and in providing marine protection.	This structure is fully noted and included within this chapter along with its statutory protections.
Topic specific meetings		
Development Applications Unit (DAU): Heritage Division, Underwater Archaeological Unit (UAU) 28 September 2022	High potential for shipwreck and marine heritage constraints. Importance of the built heritage/architectural heritage in the area. Importance of the GSW and the Harbour Wall.	All recorded archaeological and architectural heritage features are described in this chapter and potential impacts assessed accordingly. The marine archaeological environment is addressed in **Chapter 14 Marine Archaeology and Cultural Heritage**.
Dublin City Council (DCC): Heritage Team 9 November 2022	DCC noted: Consideration would be required in terms of how above ground structures will look with existing	The impact to existing built heritage is considered in **Section 22.1.9** Reinstatement proposals for underground

Consultee	Comment	How issues have been addressed
	structures in the area, such as the Pigeon House Power Station and former Pigeon House Hotel. CWPL should confirm how land will be reinstated once the underground structures are in place. DCC noted the presence of the Poolbeg West Strategic Development Zone (SDZ).	structures is detailed in **Section 22.9.** The consideration of the Poolbeg West SDZ is addressed in the **Planning Report**.
DCC: Heritage Team 8 March 2024	DCC noted: The importance of underground archaeology within the Poolbeg Peninsula, in addition to built heritage. That application should provide evidence on the 'buildability' of the onshore substation façade at the site. Need to provide appropriate sections & drawings to demonstrate how the OTI and landfall are minimising/avoiding impacts on heritage features.	All recorded archaeological and architectural heritage features are described in this chapter and potential impacts assessed accordingly. The onshore substation façade is considered in the **Codling Wind Park, Onshore Substation, Architects Design Statement**, provided with the planning application. A set of planning drawings are provided within the with the planning application.
Other		
DAU: Architectural Advisory Unit Email correspondence issued: most recently 8 April 2024	No response at this stage	N/A

22.1.3 Legislation and guidance

Legislation

11. The main legislation that is applicable to the assessment of archaeology, architectural and cultural heritage is summarised below. Further detail is provided in **Chapter 2 Policy and Legislative Context**.

The following legislation, standards and guidelines were consulted as part of the assessment.

- 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);

- The Planning and Development Regulations, 2001 (as amended);
- National Monuments Act, 1930, as amended;
- Heritage Act, 1995, as amended;
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999.

12. The National Monuments Act 1930, as amended by various acts including but not limited to, the National Monuments (Amendment) Act 1954, the National Monuments (Amendment) Act 1987, the National Monuments (Amendment) Act 1994 and the National Monuments (Amendment) Act 2004 (together the National Monuments Acts) make provision for the protection and preservation of national monuments, archaeological monuments and archaeological objects in Ireland. The description of the existing environment in this chapter takes account of those statutory designations and the chapter takes account of the legislative monitoring and licencing requirements as mitigation.

13. The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 (the 2023 Act) was enacted by the Oireachtas in late 2023 and aims to address a range of structural issues, simplify terminology, as well as provide a single accessible piece of legislation. At the date of writing many sections of the 2023 Act have yet to commence. It is not anticipated that this will result in statutory protection being extended to any potential receptors apart from those already considered in this chapter and the chapter already identifies as mitigation the monitoring and licencing requirements that will come into force when the 2023 Act is commenced. Accordingly, the EIAR conclusions are likely to be unchanged should the 2023 Act commence fully while the application is moving through the planning process.

Policy

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

15. The assessment of the CWP Project against relevant planning policy is provided in the **Planning Report**. This includes planning policy relevant to **Chapter 22 Onshore Archaeology, Architectural and Cultural Heritage.**

Guidance

16. The principal guidance and best practice documents used to inform the assessment of potential impacts on onshore archaeology, architectural and cultural heritage are summarised below.

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (hereafter referred to as the Environmental Protection Agency (EPA) Guidelines) (EPA, 2022);
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Environment, Community and Local Government, August 2018); and
- Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Advice Notes on Current Practice in the Preparation of Environmental Impact Assessments (EPA, 2003);
- Frameworks and Principles for the Protection of the Archaeological Heritage (formerly Department of Arts, Heritage, Gaeltacht, and Islands, 1999);
- Architectural Heritage Protection Guidelines for Planning Authorities (DoHLGH, updated 2022).

22.1.4 Impact assessment methodology

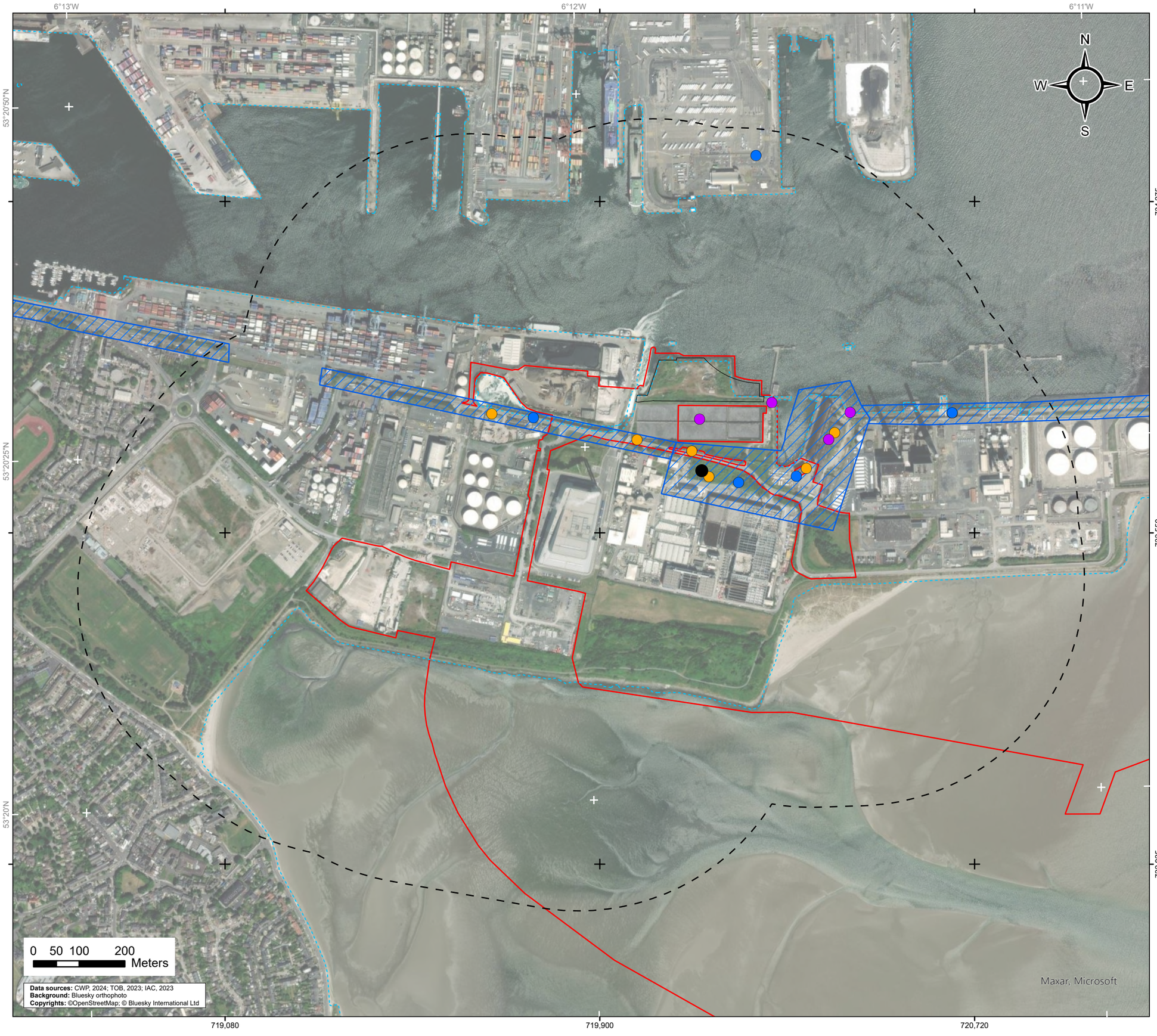
17. **Chapter 5 EIA Methodology** provides a summary of the general impact assessment methodology applied to the CWP Project. The following sections confirm the methodology used to assess the potential impacts on archaeology, architectural and cultural heritage.

18. The approach to the assessment of cumulative impacts, transboundary impacts and interrelated effects is provided in **Sections 22.1.11**, **22.1.12** and **22.1.13** respectively.

Study area

19. The study area for the onshore archaeology, architectural and cultural heritage assessment has been defined as extending 500 m from the boundary of the onshore development area (**Figure 22-1**). Whilst the study area included the marine environment, the marine archaeological resource is dealt with in **Chapter 14 Marine Archaeology and Cultural Heritage** prepared by Wessex Archaeology.

20. Study areas are not determined in guidance documents from the National Monument Service (DoHLGH) and as such the definition of the study area is based on the professional judgement of the authors.



Legend

- Planning application boundary
- Onshore substation boundary (operational)
- High water mark
- Study area (500 m buffer from the onshore development area)
- Archaeological heritage sites
- Built heritage sites
- Dublin city industrial heritage record (DCIHR) sites
- Zone of archaeological potential

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Project: Codling Wind Park

Contractor: TOBIN

Website: www.tobin.ie

Figure 22.1
Proposed onshore development area: 500 m study area

CWP doc. number: CWP-TOB-ENG-08-01-MAP-1783

Internal descriptive code: CWP-TOB-ENG-08-01-MAP-1028 and PB - PAB..SS.PP - ARCHA.POT.ZONE..BUILT.HERIT..HWM - (EIAR.Vol.03.Ch.22.FIG.01)

Size: A3

Scale: 1:8,000

CRS: EPSG 2157

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

Site specific surveys

21. Field inspection is necessary to determine the extent and nature of archaeological and historical remains, and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The archaeological, architectural and cultural heritage field inspections were carried out by the authors in March and May of 2023. The inspections entailed:

- Walking the onshore development area and its immediate environs;
- Noting and recording the terrain type and land usage;
- Noting and recording the presence of features of archaeological or historical significance;
- Verifying the extent and condition of any recorded sites; and
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

Desk study

22. The following sources were consulted as part of the paper study of the study area:

- United Nations Educational, Scientific and Cultural Organization (UNESCO): properties inscribed on the World Heritage List and those nominated for inclusion on the tentative list;
- Record of Monuments and Places for County Dublin;
- Sites and Monuments Record for County Dublin;
- The Shipwreck Inventory of Ireland (Louth, Meath, Dublin and Wicklow);
- National Monuments in State Care Database;
- Preservation Orders List;
- Topographical files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- Dublin City Development Plan 2022–2028;
- Poolbeg West Planning Scheme 2019;
- Dublin City Industrial Heritage Record;
- National Inventory of Architectural Heritage;
- Aerial photographs; and
- Excavations Bulletin (1970–2022).

23. *UNESCO World Heritage list* was developed to encourage member states to protect and manage their natural and cultural heritage. Properties considered for inclusion have cultural, historical, scientific or other significance, considered to be of outstanding value to humanity. There are three sites inscribed onto the UNESCO World Heritage List on the island of Ireland. These comprise the Giant's Causeway and Causeway Coast, Brú na Bóine and Skellig Michael, none of which lie within the study area. In addition, there are no sites included on the tentative list (July 2022) located within the study area.

24. *Record of Monuments and Places* (RMP) is a list of archaeological sites known to the National Monuments Section, which are afforded legal protection under Section 12 of the National Monuments (Amendment) Act 1994, as amended and are published as a record. Archaeological sites are defined by zones of archaeological potential (ZAP), as shown within the RMP mapping for each county.

25. *Sites and Monuments Record* (SMR) holds documentary evidence and field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known, e.g. only a site type and townland are recorded. These are known to the National Monuments Section as 'un-located sites' and cannot be afforded legal protection due to lack of locational information. As a result, these are omitted from the RMP.

SMR sites are also listed on a website maintained by the Department of Housing, Local Government and Heritage (DoHLGH) – www.archaeology.ie.

26. *National Monuments in State Care Database* is a list of all the National Monuments in State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of the remains of each Monument. The Minister for the DoHLGH may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

27. *Preservation Orders List* contains information on Preservation Orders and/or Temporary Preservation Orders, which have been assigned to a site or sites. Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the National Monuments Act (1930). Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 National Monuments Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

28. *The topographical files of the National Museum of Ireland* are the national archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information on the discovery of sites of archaeological significance.

29. *Cartographic sources* are important in tracing land use development within the onshore development area as well as providing important topographical information on areas of archaeological potential (AAP) and the development of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape.

30. *Documentary sources* were consulted to gain background information on the archaeological, architectural and cultural heritage landscape of the onshore development area. Full references of information consulted are included in **Section 22.3** of this chapter.

31. *Development Plans* contain a catalogue of all the Protected Structures and archaeological sites within the county. The Dublin City Development Plan (2022–2028) and Poolbeg West Planning Scheme (2019) were consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the onshore development area.

32. *The National Inventory of Architectural Heritage (NIAH)* is a state initiative established under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999 tasked with making a nationwide record of significant local, regional, national and international structures, which in turn provides county councils with a guide as to what structures to list within the Record of Protected Structures.

33. *Dublin City Industrial Heritage Record* (DCIHR) makes recommendations for sites to be added to the Record of Protected Structures (RPS) in the City Development Plan and is maintained by DCC. It is a policy of the Council to have regard for the DCIHR with regards to planning applications (Policy BHA16).

34. *Aerial photographic coverage* is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its likely potential for archaeology. A number of sources were consulted including aerial photographs held by the Ordnance Survey and Google Earth, along with aerial photographs held by the ESB Archives.

35. *Excavations Bulletin* is a summary publication that has been produced every year since 1970. The hard copy publication summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. Since 2011 the summaries have been published online (www.excavations.ie) with records from 1970–2024 available.

Impact assessment

36. 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.

37. The terms used to define receptor sensitivity and magnitude of impact are based primarily on statutory protections. These criteria have been adopted in order to implement a specific methodology for archaeology, architectural and cultural heritage.

Sensitivity of receptor

38. 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.

39. The definitions of receptor sensitivity for the purpose of the archaeology, architectural and cultural heritage assessment are provided in **Table 22-2**.

Table 22-2 Criteria for determination of receptor sensitivity

Sensitivity	Criteria
High	Sites of International Importance: UNESCO World Heritage Properties National Monuments (including tentative list) Monuments subject to Preservation Orders RMP SMR RPS Architectural Conservation Area (ACA)
Medium	Conservation Areas (CA) Sites listed on the NIAH (upstanding) DCIHR (with extant or high potential of associated archaeological remains) AAPs identified through documentary or cartographic research. Sculptures/Memorials/Buildings not on NIAH/RPS (based on professional judgement) Tangible Cultural Heritage Demesne landscapes
Low	Sites listed on the NIAH (destroyed) Sites listed on the DCIHR (destroyed or low potential of associated archaeological remains)

	Lands where previous disturbance may have affected the potential archaeological resource. Sculptures/Memorials/Buildings not on NIAH/RPS (based on professional judgement)
Negligible	Lands subject to previous disturbance, where any cultural heritage remains are likely to have been wholly removed.

Magnitude of impact

40. The scale or magnitude of potential impacts (both beneficial and adverse) depends on the degree and extent to which the CWP Project activities may change the environment, which usually varies according to project phase (i.e. construction, operation and maintenance and decommissioning).

41. As per the EPA Guidelines, the nature of impacts can be categorised as follows:

- Quality: Positive, neutral or negative
- Nature: Direct, indirect
- Probability: Likely or unlikely
- Duration: Momentary, brief, temporary, short-term, medium-term, long-term, permanent, reversible
- Frequency: Once, rarely, occasionally, frequently, constantly

42. The criteria used to assess the different impacts associated with the CWP Project are shown in **Table 22-3**. The criteria have been defined in consideration of the EPA Guidelines (EPA 2022).

Table 22-3 Criteria for determination of magnitude of impact

Magnitude	Criteria
High	These impacts arise where an archaeology, architectural or cultural heritage site, either below ground or upstanding, is completely altered or irreversibly destroyed.
Medium	An impact which, by its magnitude, duration or intensity, alters an important aspect of the archaeological, architectural and cultural heritage environment, including the setting of upstanding monuments / structures. An impact like this would be where part of a site would be permanently impacted upon, leading to a loss of character, integrity and data about an archaeological or cultural heritage feature/site. A beneficial or positive impact that permanently enhances or restores the character and/or setting of a feature of archaeological or cultural heritage significance in a clearly noticeable manner.
Low	An impact where a change to a structure/monument is proposed, which although noticeable, is not such that the archaeological or cultural heritage integrity of the site is compromised, and where there will be no significant loss of data about the site. A beneficial or positive impact that results in partial or temporary enhancement of the character and/or setting of a feature of archaeological or cultural heritage significance in a clearly noticeable manner.
Negligible	An impact on an archaeological, architectural or cultural heritage feature or monument capable of measurement but without noticeable consequences. There would be very minor changes to the character and integrity of the asset and no loss of data about the site.

	A beneficial or positive impact on an upstanding archaeological or cultural heritage structure or feature that is capable of measurement but without noticeable consequences.

Significance of effect

43. The likely significance of effects upon the archaeological, architectural and cultural heritage resource, is determined by considering the magnitude of the impact and the baseline rating of the sites or structures identified within the study area (i.e. the sensitivity or value of the cultural heritage asset).

44. Having assessed the potential magnitude of effect with respect to the sensitivity / value of the asset, the overall significance of the effect is then classified as not significant, imperceptible, slight, moderate, significant, very significant, or profound (**Plate 22-1** EPA Chart showing typical classifications of the Significance of Effect), as per the EPA guidance (2002, 53).

45. Effects rated as being 'Moderate' are effectively significant / not significant subject to professional judgement, with a rationale provided for this in the main assessment.

46. Effects identified as less than moderate significance are not considered to be significant in EIA terms.

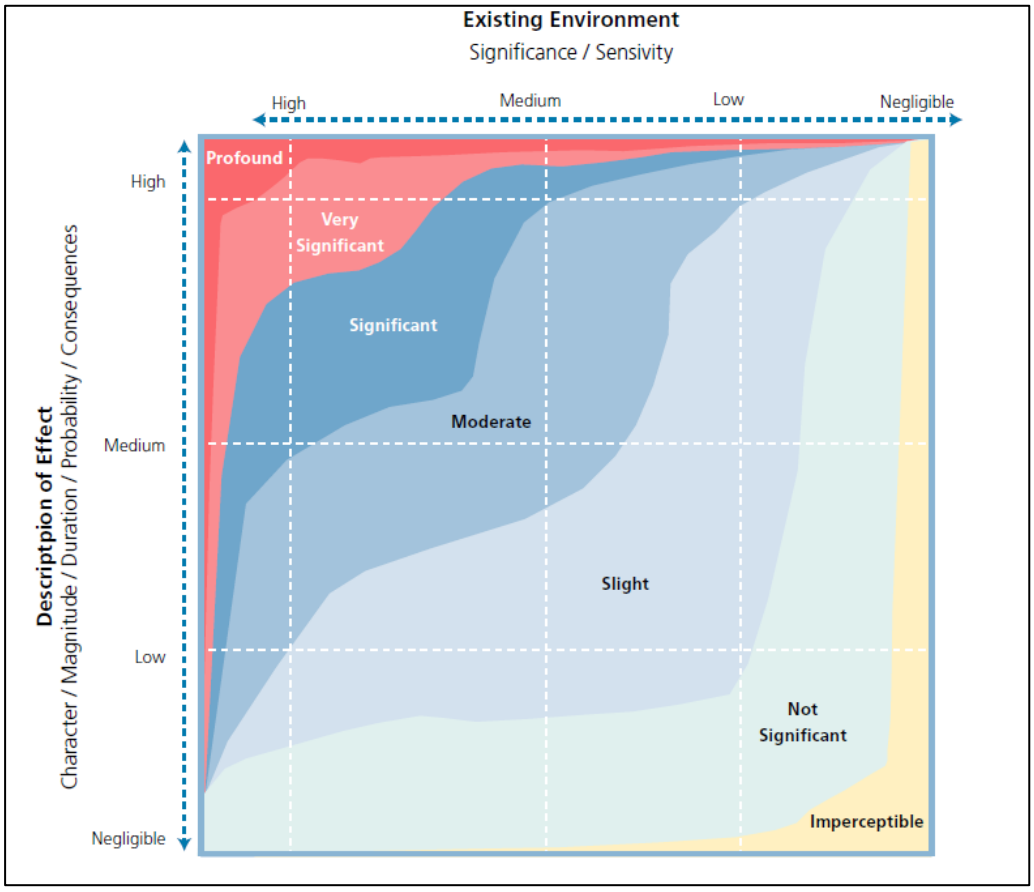


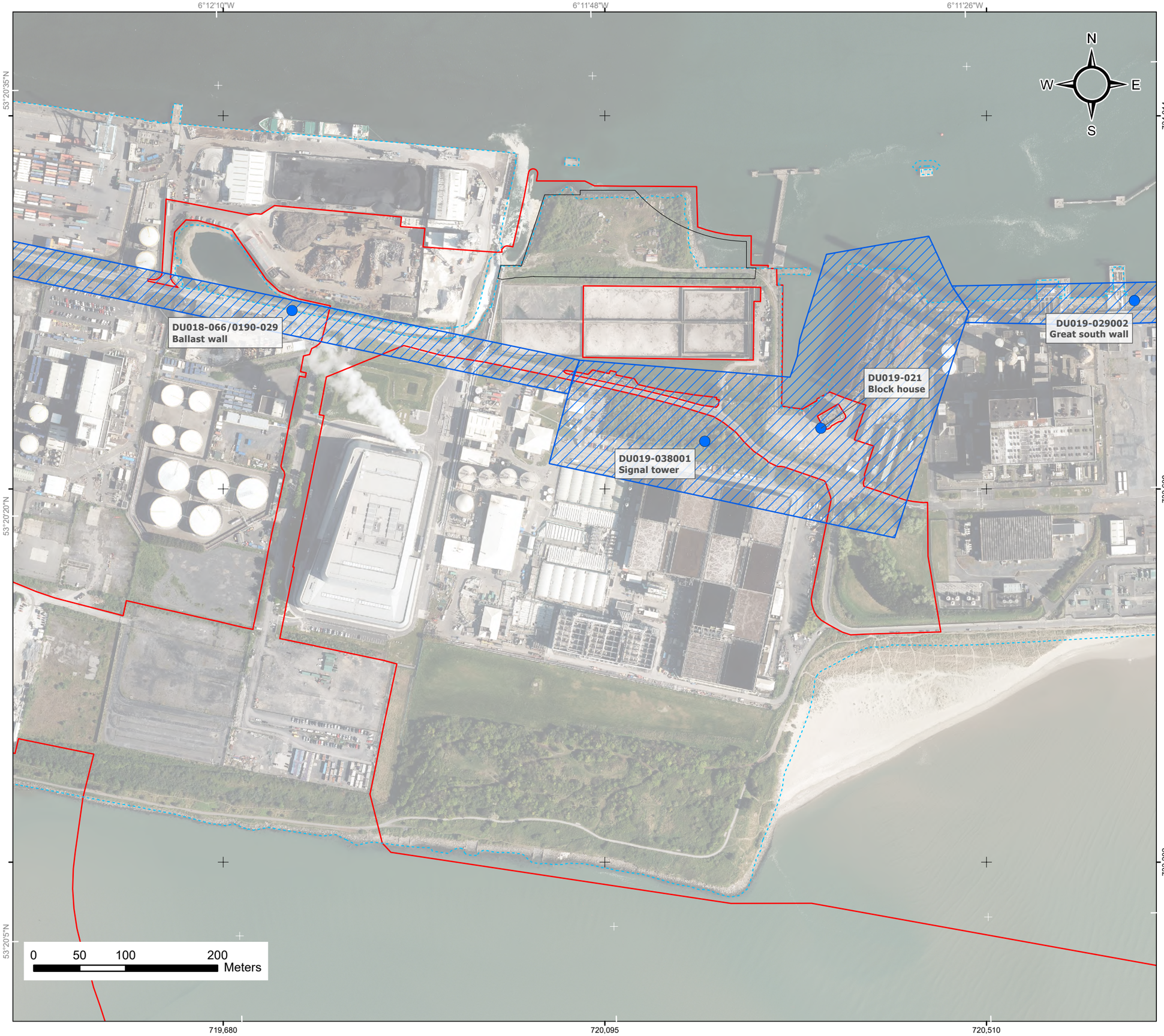
Plate 22-1 EPA Chart showing typical classifications of the Significance of Effect

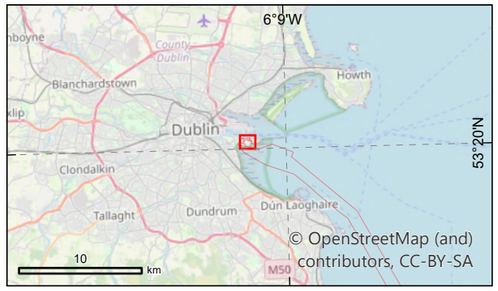
22.1.5 Assumptions and limitations

47. No overarching assumptions or limitations have been identified that apply to the assessment for archaeological, architectural and cultural heritage. Where routine assumptions have been made in the course of undertaking the assessment, these are noted in the following sections.

22.1.6 Existing environment

48. The following sections provide a description of the baseline conditions for archaeology, architectural and cultural heritage. Recorded archaeological sites are illustrated on **Figure 22-2**, with structures included in the RPS shown on **Figure 22-3**. DCIHR sites are shown on **Figure 22-4**.





Legend

- Planning application boundary
- Onshore substation boundary (operational)
- High water mark
- Zone of archaeological potential
- Archaeological heritage sites

codling wind park

Project: Codling Wind Park

Contractor: TOBIN

Website: www.tobin.ie

Figure 22.2
Onshore development area showing recorded monuments and zones of archaeological potential

CWP doc. number: CWP-TOB-ENG-08-01-MAP-1029

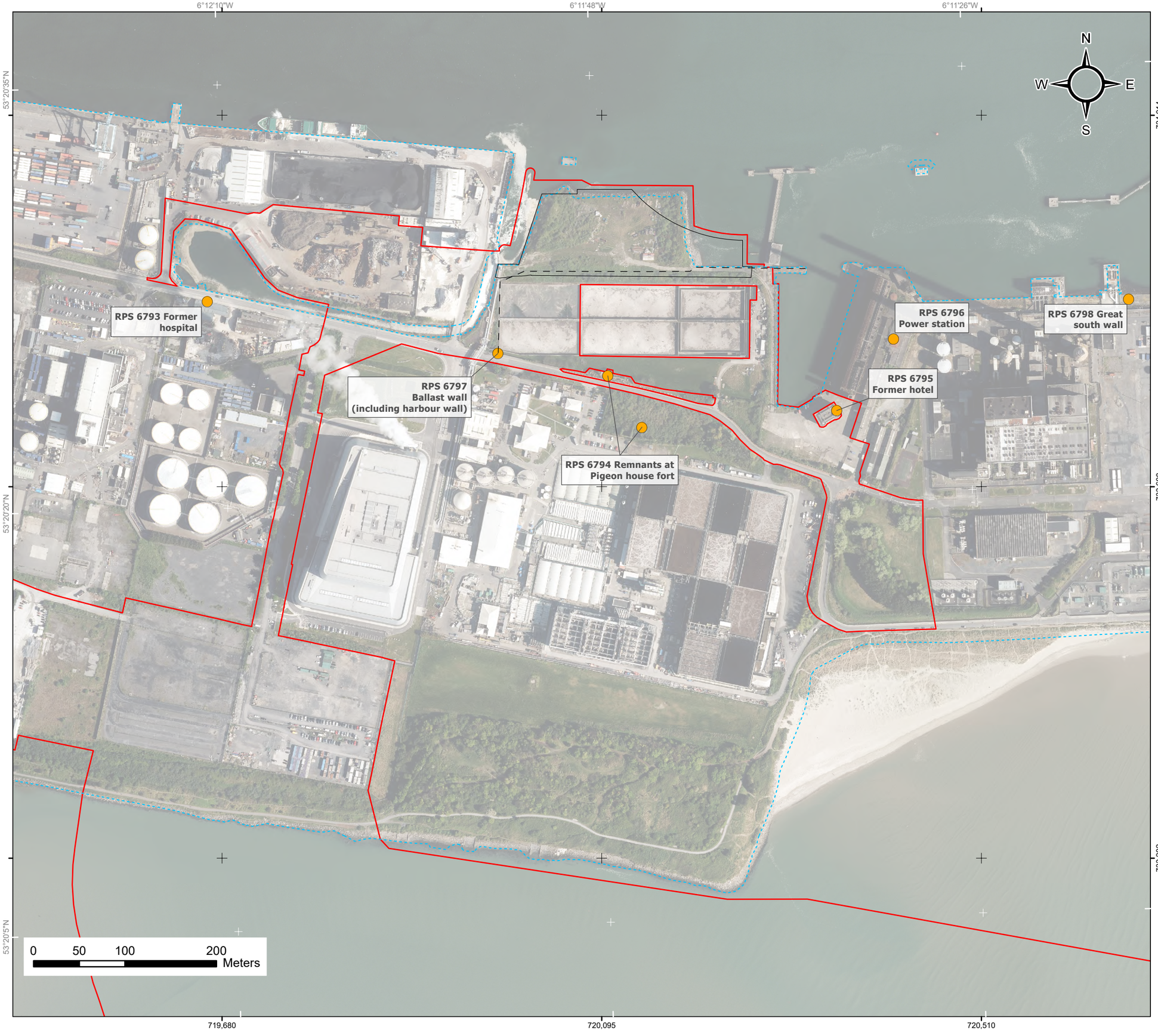
Internal descriptive code: POOLB - PAB..PROTECTED.STRUCTURES - EIAR.FIG.22.02

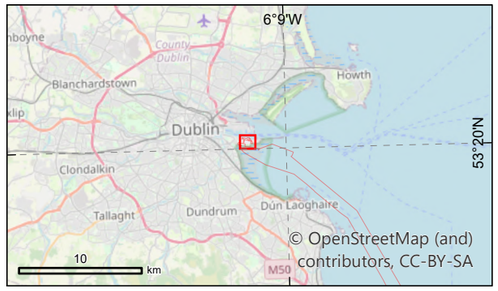
Size: A3

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





Legend

- Planning application boundary
- Onshore substation boundary (operational)
- High water mark
- Built heritage sites

codling wind park

Project: Codling Wind Park

Contractor: TOBIN

Website: www.tobin.ie

Figure 22.3
Onshore development area showing protected structures

CWP doc. number: CWP-TOB-ENG-08-01-MAP-1028

Internal descriptive code: POOLB – PAB..MONUMENTS..ARCHA - EIAR.FIG.22.01

Size: A3

Scale: 1:4,000

CRS: EPSG 2157

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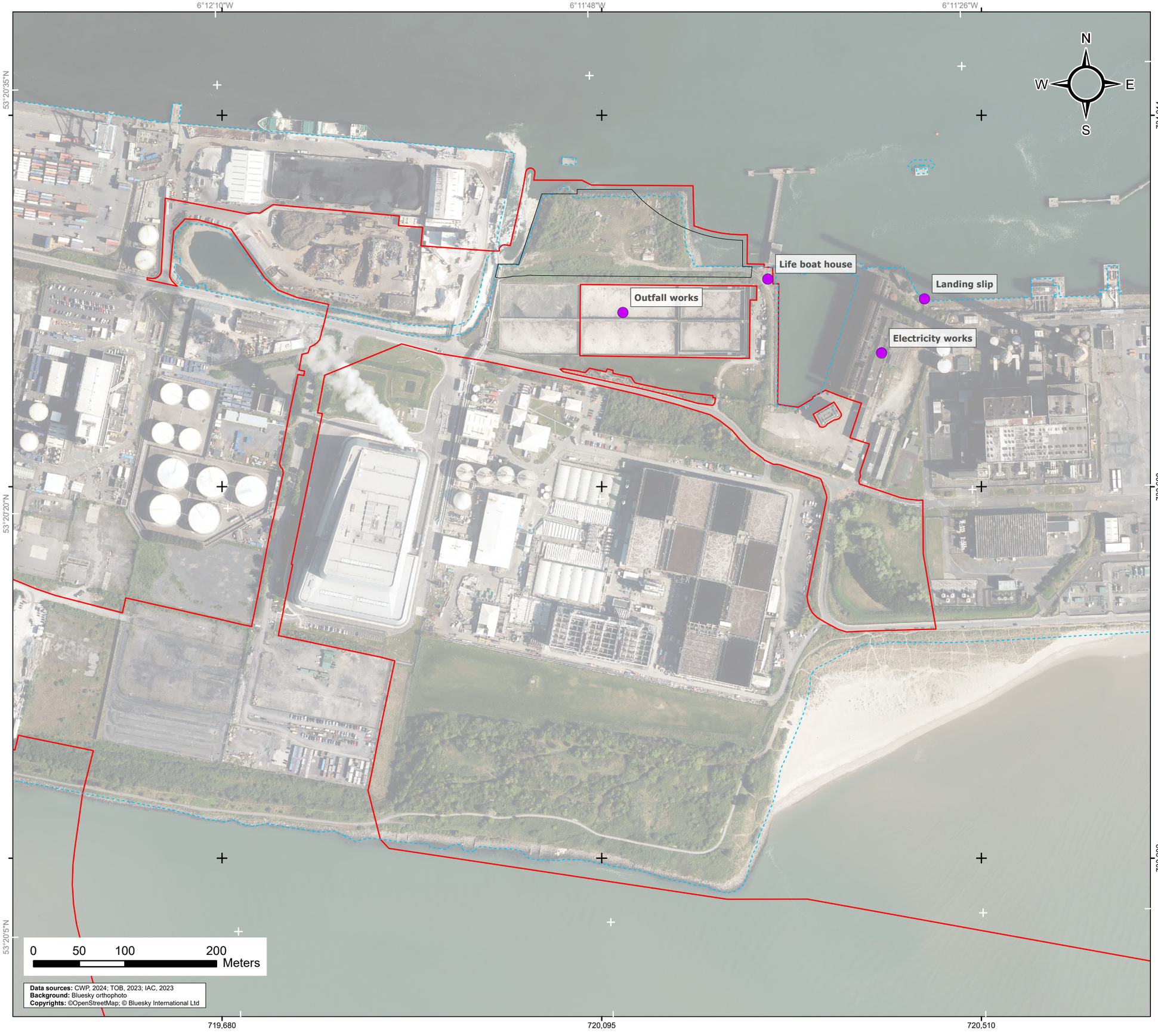
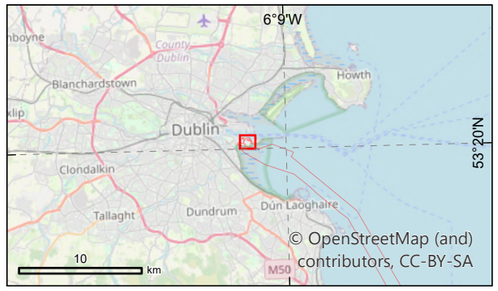




Legend

- Planning application boundary
- Onshore substation boundary (operational)
- High water mark
- Dublin city industrial heritage record (DCIHR) sites

codling wind park

Project: Codling Wind Park

Contractor: TOBIN

Website: www.tobin.ie

Figure 22.4 Dublin city industrial heritage record (DCIHR) sites

CWP doc. number: CWP-TOB-ENG-08-01-MAP-1030

Internal descriptive code: POOLB.PP - PAB..DCIHR - EIAR.FIG.22.03

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

Archaeological, architectural and cultural heritage background

Prehistoric period

49. Although recent discoveries may push back the date of human activity by a number of millennia (Dowd and Carden 2016), the Mesolithic period (c. 8000–4000 BC) is the earliest time for which there is clear and widespread evidence of prehistoric activity in Ireland. During this period people hunted, foraged and gathered food and appear to have had a mobile lifestyle. There is no recorded evidence of early prehistoric activity within the area surrounding the onshore development area, although the River Liffey and Dublin Bay would have made Dublin an attractive location for occupation given the resources available in riverine/coastal environments (Clarke 2002, 1). Mesolithic deposits have been identified within the former estuarine area associated with the River Liffey and along the shores of Dublin Bay, north and south (Mitchell 1972). Mesolithic fish traps were excavated from within estuarine layers at Spencer Dock, c. 3km to the northwest (McQuade and O'Donnell 2007).

50. During the Neolithic period (4000–2500 BC) communities became less mobile and their economy became based on the rearing of stock and cereal cultivation. This transition was accompanied with major social change. Agriculture demanded an altering of the physical landscape; forests were rapidly cleared and field boundaries constructed. There are no previously recorded archaeological sites dating to this period within the vicinity of the onshore development area. The river and estuary would have still remained as major resources to be exploited during this period, proven by the Neolithic fish trap discovered within the estuarine silts at Spencer Dock (McQuade and O'Donnell 2007). A polished stone axehead (MNI Ref.: IA/54/76) is also recorded in the NMI Topographical Files from a garden in Sandymount, to the south of the onshore development area, indicating that the wider region was utilised by Neolithic groups.

51. Evidence for Bronze Age (2500–800 BC) activity is similarly focused upon the River Liffey and remains of a burnt spread dating to the early Bronze Age have been excavated on the northern shore of the Liffey at Hammond Lane, c. 4.8km west-northwest of the onshore development area (Licence Ref.: 16E0080, Bennett 2003:535). This activity may relate to domestic or industrial activity and suggests nearby settlement. Further evidence for early Bronze Age activity was uncovered at Kilmainham in the form of a small cremation cemetery located on a gravel ridge overlooking the Liffey. The cemetery comprised of six burial pits, each of which contained cremated human bone (Licence Ref.: 02E0067, Bennett 2006:665).

52. The first evidence for Dublin acting as a significant fording point or routeway dates to the late Bronze Age. An extensive wooden riverside revetment, c. 130m long, was excavated at Islandbridge, c. 6.9km west of the onshore development area. Dates from the timbers ranged from the late Bronze Age into the Iron Age and the structure may have been associated with a fording place at Kilmainham (Licence Ref.: 07E0261, Bennett 2007:519).

53. Evidence for fording of the Liffey in the Iron Age was identified at Ormond Quay at the confluence of the Liffey and one of its northern tributaries, the River Bradogue, c. 4.1km to the west of the onshore development area. The earlier of the two prehistoric structures found at this site was a timber braced gravel bank with an associated pathway made of hurdles (pre-fabricated wattle panels), which was in turn succeeded by a brushwood platform. The structures were located at the river's edge and were radiocarbon dated to c. 160–60 BC. (Licence Ref.: 04E1206, 2008:428). They may relate to activities associated with exploiting the resources along the river's floodplain or, given the site's proximity to the supposed location of the 'ford of the hurdles' at Usher's Island (discussed below), they may have been associated with a crossing point of the Liffey.

Early Medieval Period (AD 500–1100)

54. The area now known as “County Dublin” straddled the ancient Kingdoms of *Brega* (north of the River Tolka) and *Laigin* (south of the Tolka). The name Dublin (*Duiblinn*) – meaning black pool – is generally taken to refer to the tidal pool that was located at the confluence of the Poddle and Liffey directly southeast of the site of the present Dublin Castle; c. 3.9km west of the onshore development area. This pool gave its name to an early ecclesiastical foundation the first secure reference to which dates to AD 790 when the Annals of Ulster state that ‘Siadal, abbot of the church of Duiblinn died,’ (Duffy 2014).

55. Two distinct names for Dublin are encountered in the contemporary sources, these being *Duiblinn* and *Baile Áth Clíath* – the settlement of the ford of the hurdles. A 12th century poem, the *Senchas Gall*, states that the inhabitants of Dublin ‘do not know at all of what kind the hurdle-ford was,’ (Boyle and Breatnach 2015) suggesting that a bridge had replaced the ford some time previously. The ford is believed to have crossed the Liffey at the point between Ormond Quay to the north and Usher’s Quay to the south.

56. Howard Clarke has suggested that Dublin formed as two separate settlements which would explain why the town has two names: ‘*Duiblinn*’ for the ecclesiastical enclosure, and ‘*Baile Ath Cliath’* for the secular settlement, developed to guard over the ‘ford of the hurdles’, (1990, 58).

57. Clarke identified the possible position of the ecclesiastical enclosure as a roughly pear-shaped boundary 335m north-south by 260m east-west c. 3.9km west of the onshore development area (2002). The alignment of Stephen Street Upper, Peters Row and White Friars Street may represent a remnant of this oval ecclesiastical enclosure (DU018-020389). Clarke equates *Baile Áth Clíath* with a confluence of streets at Cornmarket close to St Audoen’s Church, c. 500m northwest (2002). It has been suggested that the *Duiblinn* ecclesiastical foundation may have served as the chief church of a minor dynastic group – the *Uí Fergusa*, who were part of a confederation that extended their hegemony over the province of Leinster from AD 738 to 1042. This may well be the case given that Bishop Siadal of *Duiblinn* (d. 790) was of sufficient status to be mentioned in the same annalistic entry as list of seven kings and nobles who died in that year – ‘among them the church-heads of Glendalough and Downpatrick,’ (Duffy 2014).

58. Clarke’s identification of the *Duiblinn* foundation has been challenged in recent years as excavations at St Peter’s Church, purportedly in the northwest quadrant of Clarke’s enclosure identified ditches and burials likely to be of 11th–15th century date, but did not encounter any earlier material (Duffy 2019). The excavation of portions of the St Michael-le-Pole graveyard close to the banks of the *Duiblinn* and the dating of several burials to 7th–10th centuries (Licence Ref.: 04E0237, Bennett 2004:0546) would seem to confirm this as the location of the original ecclesiastical enclosure.

Medieval period (AD1100–1600)

59. Following the Anglo-Norman invasion of Ireland in 1169, the medieval town of Dublin enjoyed a period of renewed prosperity and development, which continued until the beginning of the 14th century. The Anglo-Norman administration was responsible for reinforcing the town walls with defensive towers. Further improvements to the defences involved erecting a number of gates on the built-up streets outside the walls and supplementing the defensive gates already in place along the town wall itself (Halpin 2000).

60. It was also during this period that the first substantial reclamations of land occurred along the Liffey at Woodquay, west of the onshore development area (Halpin 2000). The 1192 Dublin Charter admitted that citizens were free to 'improve themselves in making buildings…. upon the water', implying that

land was being reclaimed from the river at that date. Throughout the medieval period the onshore development area remained within the mudflats associated with the River Liffey estuary.

61. The townland name Irishtown is believed to have originated in the Anglo-Norman period, when suspicion of the native Irish led to restrictions on this group. The Irish traders were permitted to trade in the city by daylight hours only, with many choosing to establish small settlements outside the city walls (Bennet 1991), including Irishtown, c. 1.2km west of the onshore development area.

Post-medieval period (AD1600–1900)

62. During this period Dublin city changed in plan, function and composition. It moved from a decaying colonial outpost to a cosmopolitan 'city of the Empire' (Boyd 2006). In 1610, Speed's map of Dublin largely depicted the last snapshot of a medieval city, which more or less had occupied the same structural framework for the previous 600 years. In 1756, John Rocque's map captured a transformed city. The reasons for this are multifaceted. In 1538, the Dissolution of the Monasteries changed the ecclesiastical landscape of Dublin and many of the former monasteries were repurposed.

63. The development of lands along the Liffey that had been part of the margins of the river, or low-lying land adjacent, was also undertaken at this time. Land reclamation was carried out initially in the 17th century in the area of the walled town and gradually progressed eastwards. Ringsend is depicted as a small village on Brookings's map of 1728; however, at this time the onshore development area still occupied a location that was within the mudflats of the estuary. In fact, even in 1837, Lewis makes reference to the difficulty of access to and from Irishtown due to the 'frequent inundation of the roads'. This indicates that while Irishtown was reclaimed and somewhat developed by the 19th century, it was subject to frequent flooding. The historic OS maps confirm that the majority of the onshore development area itself was not reclaimed and developed until after 1953 (with the exception of the post medieval development of Pigeon House and Poolbeg, as described below). De Gomme's map of Dublin Bay does note the position of 'Poole Beg', in between 'Salmon Poole' to the west and the larger 'Iron Poole' to the east.

Pigeon House and Poolbeg

64. Pigeon House and the Poolbeg Peninsula was established at the site of 'The Green Patch', marked on early maps of Dublin Bay as a small area of higher ground c. 2km east of Ringsend (Shaffrey Associates 2011, 13). It was situated in the vicinity of one of the deep-water pools located in the bay (where ships could ride at anchor even in low tides). The pool was named 'Pool Beg' (Small Pool), hence the name of the peninsula. The Green Patch was utilised as a landing stage prior to works to improve access to Dublin Port. Between 1717 and 1731 a timber piled structure was constructed from the site of the Green Patch to where the Poolbeg Lighthouse would later be located. This structure is clearly shown on Roque's map of 1760. Despite the construction of the piles, there was still a gap between Ringsend and the Green Patch. As such, in 1748 the Ballast Office commenced the construction of a causeway flanked by stone walls, from Ringsend to the Green Patch, which was completed in 1759. The wall is clearly marked on Rocque's 1760 map, along with the piled structure to the east (**Plate 22-2**). Today the wall (which should more accurately be described as a causeway), contains Pigeon House Road within the Poolbeg Peninsula and is a recorded monument and a protected structure (RMP DU018-066, RPS 6797).

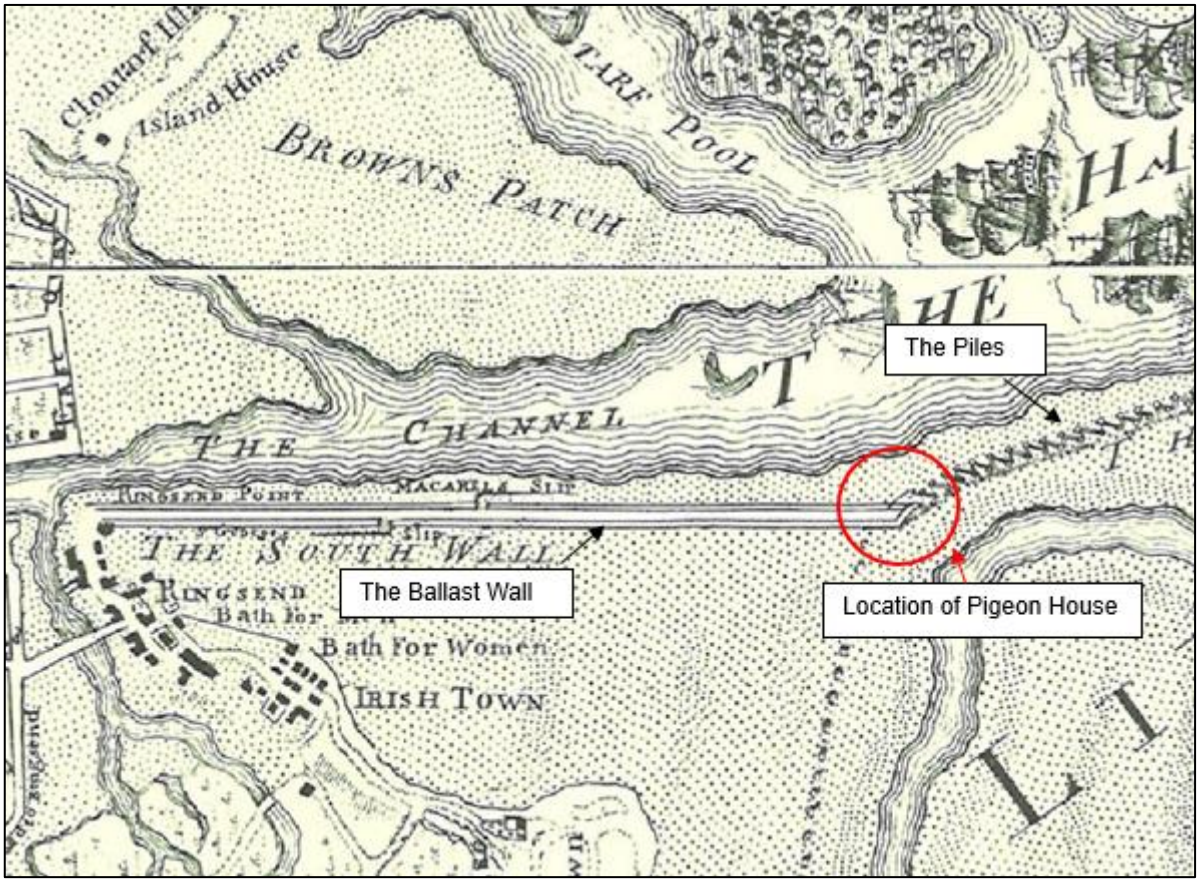


Plate 22-2 Extract from Rocque's 1760 map showing the Ballast Wall and The Piles (developed before Pigeon House)

65. Following the completion of the Ballast Wall, the first structure was constructed at The Green Patch, which comprised a block house (RMP DU019-027). This was used for storage and the appointed care taker in 1761 went by the name of John Pigeon. Mr Pigeon provided refreshments to passengers disembarking the packet boats and as such what was formerly The Green Patch, became known as Pigeon House (Shaffrey Associates 2011, 15, SMR file). By 1775 three structures occupied this area, comprising the block house, a revenue barracks and a store house. In 1787 a new block house was constructed (ibid.).

66. Whilst the development at Pigeon House was ongoing, a new causeway designed to replace 'The Piles' to the east of Pigeon House, was under construction. The South Bull Wall, also known as the Great South Wall, was completed between 1761 and 1792 and is a recorded monument and a protected structure (RMP DU019-029002, RPS 6798). Pigeon House Harbour was also constructed between 1791 and 1793 and by 1793 the block house had been replaced by the Pigeon House Hotel (RPS 6795), which opened to trade in 1795. The harbour is recorded to have regularly dried out even during high tide, but contemporary drawings of the area show the harbour in use (**Plate 22-3**).

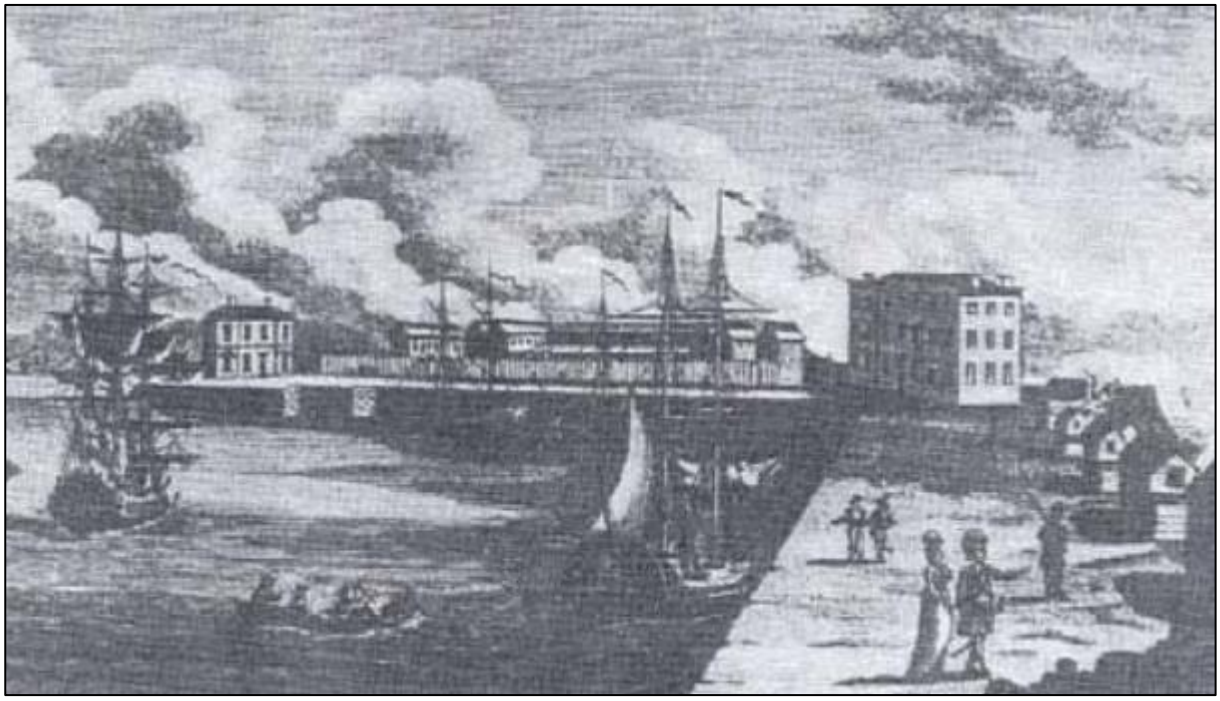


Plate 22-3 A 19th century drawing (facing east) of the Pigeon House Hotel (after the establishment of the fort), showing the harbour and earlier revenue building (to the left)

67. In 1798, during the rebellion, the army requisitioned Pigeon House, in order to establish a fort. Pigeon House Fort (RMP DU019-027, RPS 6794) was established over the next two decades and included the demolition of the block house and the construction of defensive gateways to the east and west and the construction of military buildings (Shaffrey Associates 2011, 17). In 1814 the site was formally purchased from the Ballast Board and by 1843, the hotel was in use as officer quarters. **Plate 22-4** depicts military troops advancing along the causeway (Ballast Wall) to the western gate into the fort, which shows the harbour to the left and a substantial wall surrounding the fort to the west.

68. By the time of the first edition OS map (1843), the layout of the fort was clearly planned, with the harbour present and the eastern and western gate marked. The causeway of the Ballast Wall is marked to the west of the fort, with the Great South Wall shown to the east. The fort itself was rough L-shaped in plan, arranged around the harbour. The former hotel is marked as Officers Quarters, with the main barracks to the west and the hospital and additional buildings to the north. A landing slip is also marked adjacent to the eastern gate (**Plate 22-5**).

69. In 1897 the army vacated the fort and it was sold to the Dublin Corporation. **Plate 22-6** shows a late 19th or early 20th century photograph of the western fortified entrance into the fort, a small portion of which survives today adjacent to the Pigeon House Road. By 1906 the first municipal sewerage works had been constructed with the site of the outfall works located within the partially reclaimed harbour. This site is listed within the DCIHR. In 1902 the Pigeon House Power Station (RPS 6796) was also constructed, which entailed the removal of some of the fort structures to the north of the former hotel, as shown on the 1909 OS map (**Plate 22-7**).

70. In 1911, the station was extended, which resulted in the demolition of the fort hospital located to the north of the original structure. In 1927 the Pigeon House Power Station was handed over to the newly formed ESB (Shaffrey Associates 2011, 20) and continued to expand throughout the 20th century. Today the original Pigeon House Power Station is no longer in use. To the northeast the ESB Poolbeg Generation Station is operational and includes the two iconic red and white chimneys, located c. 170m

northeast of the proposed onshore development area (although these specific structures are no longer in use). As Ireland's earliest major power production facility and the world's first three-phase generating station, this is a site of national industrial heritage interest and is recorded within the DCIHR.

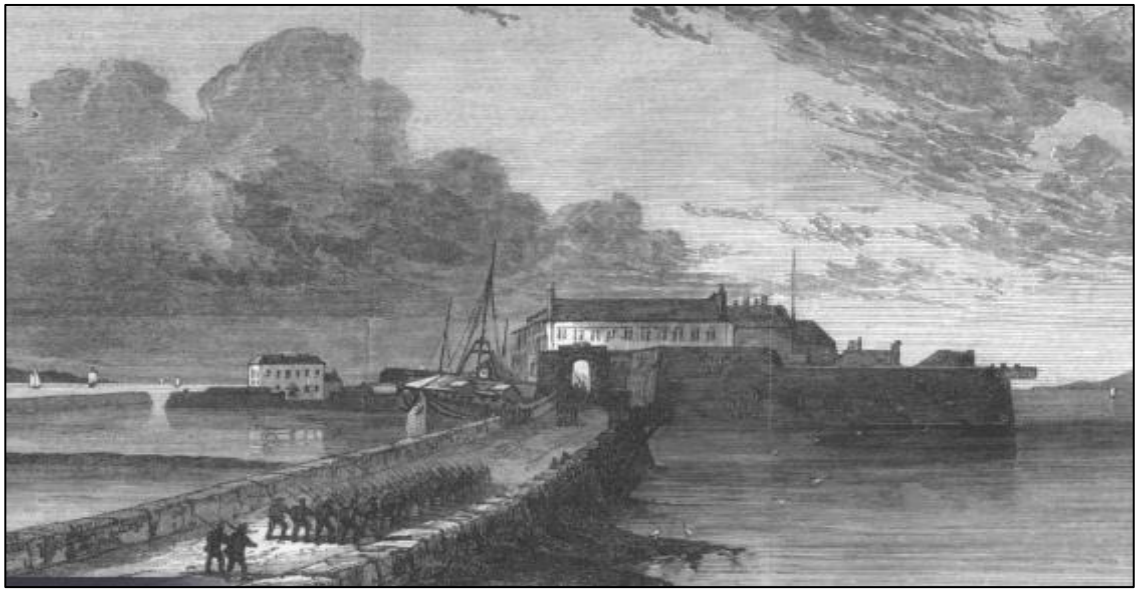


Plate 22-4 Depiction of the easterly approach to Pigeon House Fort, along the Ballast Wall (Source: archiseek.com)

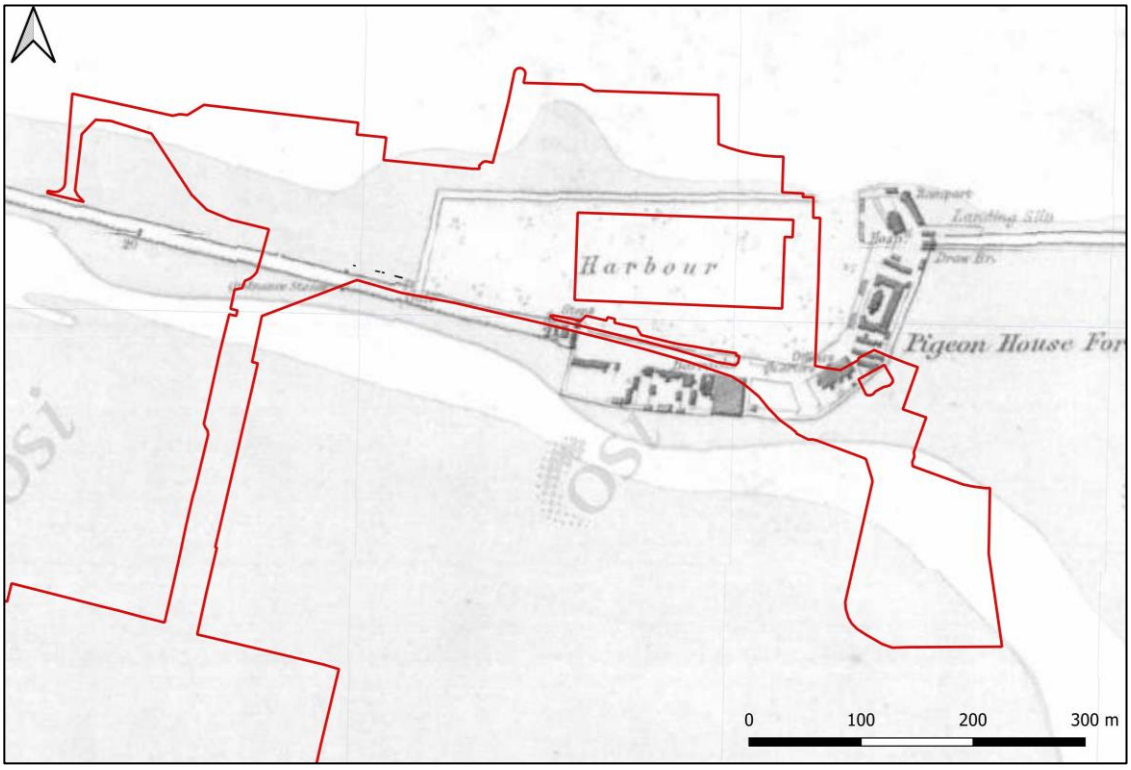


Plate 22-5 Extract from the first edition OS map (1843), showing the layout of Pigeon House Fort and Harbour and the onshore development area

Plate 22-6 An early view of the western entrance into Pigeon House Fort (Source: Shaffrey 2011)

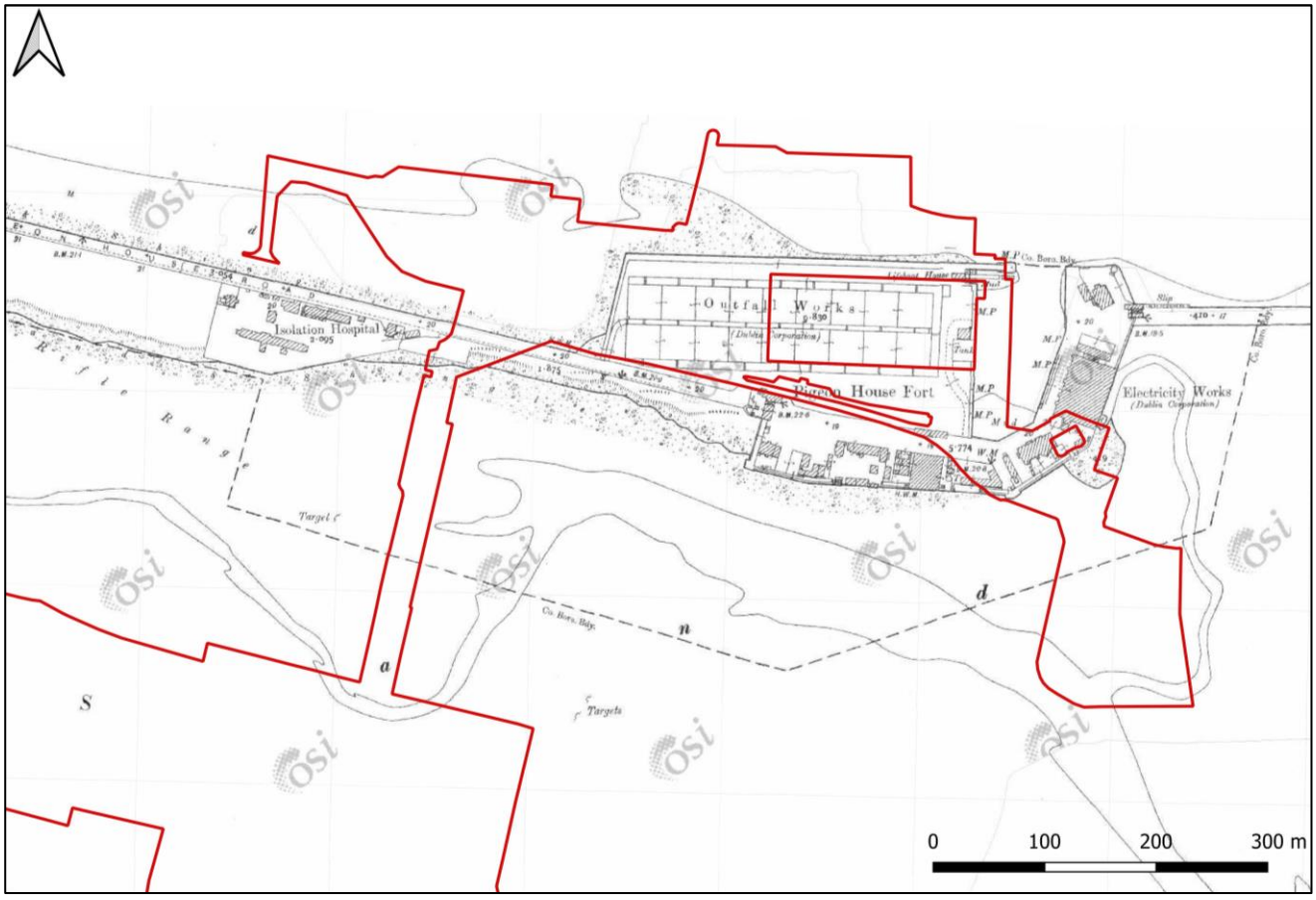


Plate 22-7 Extract from the 1909 OS map, showing the layout of Pigeon House Fort, outfall works and Pigeon House Power Station and the onshore development area

71. During the 20th century, industrial development proceeded across the Poolbeg Peninsula with reclamation works on going, as shown in **Plate 22-8**. This shows the Pigeon House Power Station (RPS 6796) and outfall works, as well as a substantial number of intact buildings within Pigeon House Fort. **Plate 22-9** shows a similar view, with the approximate location of the onshore development area boundary marked in red. The Pigeon House Hotel is clearly visible with multiple fort structures located to the west.

Plate 22-8 Oblique westerly view of the Pigeon House Fort (Source https://www.irishecho.com/2019/10/peninsula-has-rich-history)

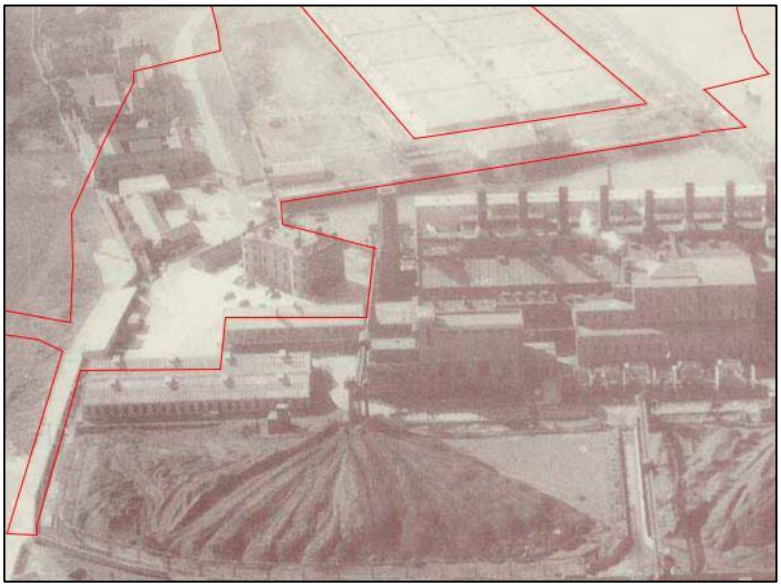


Plate 22-9 Pigeon House Fort and ESB station, facing west and showing the onshore development area (Source: Shaffrey 2011)

Archaeological monitoring of site investigation works

72. A total of five boreholes, and one slit trench were monitored in August 2023 within the onshore development area, as part of site investigations associated with the OTI. These works were carried out on behalf of the Applicant, under licence 23E0148, as issued by the National Monuments Service of the DoHLGH (Piera and Coffey, 2023) and were located within the zone of archaeological potential (as determined in the RMP) associated with two recorded monuments: DU019-027 and DU019-029 (**Plate 22-10**).

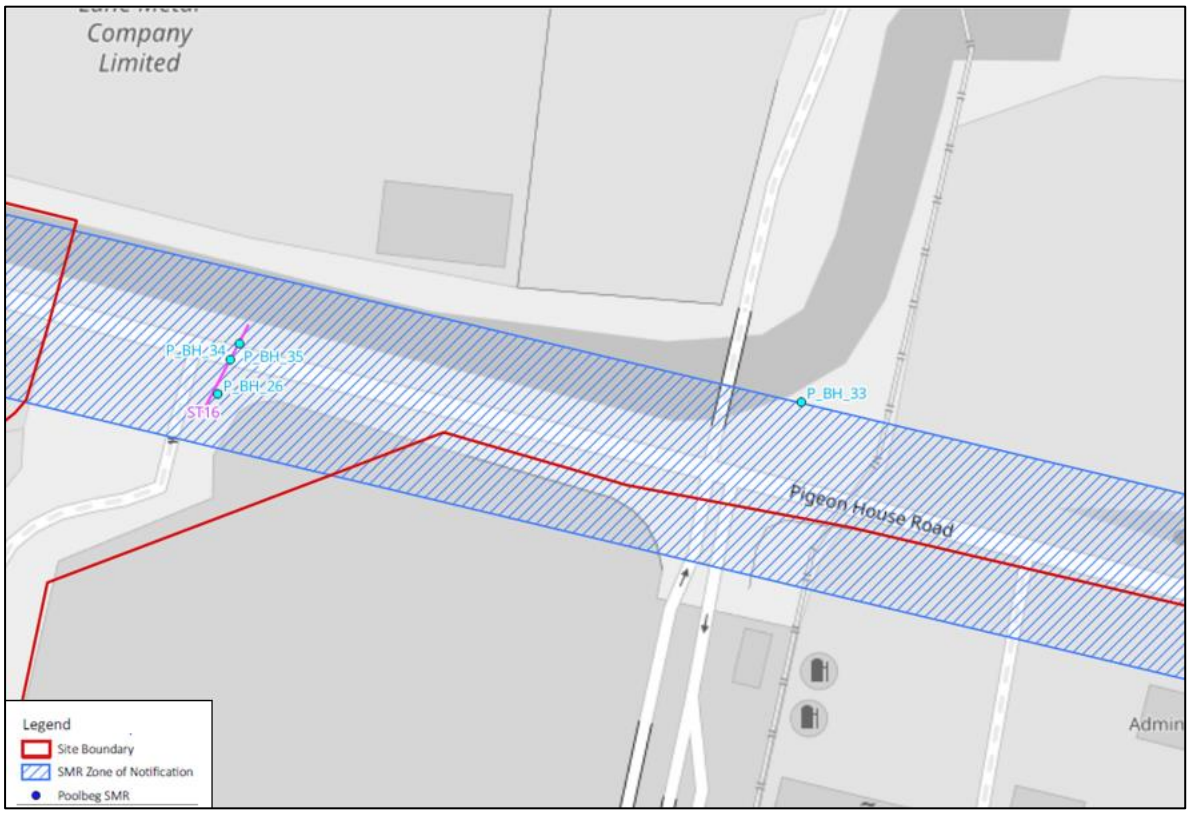


Plate 22-10 Location of site investigations subject to archaeological monitoring

73. The excavation of the slit trench displayed a homogenous stratigraphy and was characterised by later intrusions (services and concrete). The main objective of monitoring works was to identify any remains of the Ballast Wall during the excavation of the Slit Trench 16 (17.4m long x 0.5m wide) across Pigeon House Road. A modern concrete structure was uncovered below the road, which was extremely difficult to remove and therefore was left in situ. It is possible to suppose that the wall was likely in this location and is now either gone or, encased in this concrete block. Archaeological monitoring failed to identify any features of archaeological significance.

74. Boreholes 34 and 35 in this area revealed that made ground ceased at between 5.7m and 6.1m, where natural estuarine silts were identified. This suggests the depth of the Ballast Wall is 5.7m to 6.1m beneath the current ground level.

Remote sensing techniques were also employed in order to ascertain the depth or base of the Ballast Wall beneath Pigeon House Road (RSK, 2024). This investigation indicated a high velocity feature at a depth of 18m below the current ground level.

75. This high velocity feature is at odds with the borehole logs, which suggest the depth of the Ballast Wall is 5.7m to 6.1m beneath the current ground level. The high velocity feature may actually indicate the substantial filling of pools within the estuarine area that may have been required as part of the construction of the wall. Multiple pools and channels are shown within the 18th century mapping of Dublin Bay (**Plates 22-12** and **13**). Regardless, the tunnel invert level is -25.3 m OD, which is below the depth of the Ballast Wall and avoids any direct interaction with the high velocity feature.

Summary of previous archaeological fieldwork

76. A review of the Excavations Bulletin (1970–2024) and the available reports indicates that two previous archaeological investigations have taken place within the onshore development area to date. In addition there are a number of archaeological investigations that have been carried out within the study area that are detailed below.

77. In 2008 archaeological monitoring was carried out along the northern side of Pigeon House Road, (Licence Ref.: 08E0961) prior to the construction of an access bridge (across the cooling water channel) and laying of services. These works took place within the onshore development area and exposed a number of stones interpreted as forming part of the Ballast Wall. These were exposed c. 0.8–1.6m below the current ground level, parallel to the existing upstanding wall that borders the northern side of Pigeon House Road. The stones were recorded as being slightly to the south of the current wall alignment, suggesting the upstanding wall does not represent the full width of the northern side of what was the causeway leading to Pigeon House. The approximate location of the wall fragments is shown in **Plate 22-11** and were left in-situ during the course of the works.

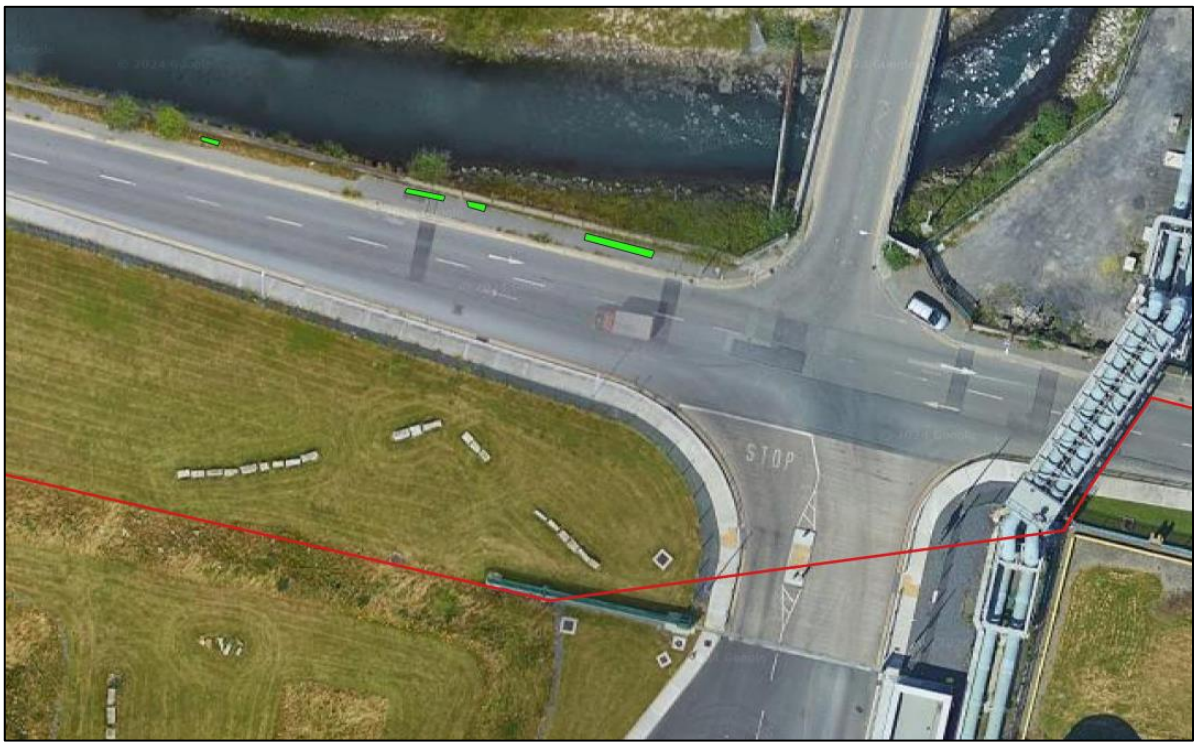


Plate 22-11 Approximate location of Ballast Wall coping stones (in green) recorded during archaeological monitoring (Licence Ref.: 08E0961).

78. Archaeological monitoring of a pipeline trench was carried out in the intertidal zone to the south and southeast of the onshore development area. This included part of the landfall area for the offshore cable route and estuarine deposits to the immediate east. Within the intertidal area, a cluster of six timbers were highlighted as possibly forming part of a single vessel (the location of the discovery is not recorded in the report). A total of 27 artefacts were recovered, including worked timber, ceramics and one cannonball, all of which were discovered as stray finds and were not associated with archaeological contexts (Bennett 2001:469, Licence Ref.: 01E0369). A wreck was encountered and subsequently subject to a programme of archaeological testing c. 900m east of the onshore development area, within the intertidal area (Bennett 2001:460, Licence Ref.: 01E0402 ext.). Archaeological monitoring was also carried out of the subtidal dredging associated with the same project (Bennett 2001:357, Licence Ref.: 01E0358).

79. Archaeological monitoring of trial pits at two sites in the western and eastern areas of the Poolbeg Generating Station, took place in October 2021 (Duffy & Lee 2022, Licence Ref.: 21E0796). Fifteen test pits were excavated and monitored during works at the site. No archaeological features or finds of significance were noted during the monitoring of ground disturbance at this site.

80. Nothing of archaeological significance was found during programmes of archaeological monitoring of dredging adjacent to the water intake to the ESB Poolbeg Generating Station (Bennett 2002:0646, Licence Ref.: 02E1132) or marine dredging in the Liffey channel (Bennett 2001:358, Licence Ref.: 01E1004).

81. The Pigeon House Fort complex (RPS 6794), including the Pigeon House Power Station (RPS 6796) and the Pigeon House Hotel (RPS 6795), was subject to survey, following small-scale vegetation clearance in 2009 (Bennett 2009:357, Licence Ref.: 09E0259). This survey concluded that whilst the Pigeon House Power Station was of great significance in terms of the industrial heritage of Dublin City, it is in very poor condition.

82. Archaeological monitoring was carried out within the intertidal zone along the course of a cable laid immediately south of the onshore development area (Licence Ref.: 01E0426). Nothing of archaeological significance was identified, although it was noted that a significant quantity of landfill/dumped material was discovered adjacent to the Irishtown Nature Reserve (Bennett 2001:470).

83. Archaeological monitoring was carried out as part of the Ringsend Wastewater Treatment Plant Upgrade project, c. 80m south of the onshore development area (Licence Ref.: 21E0391). A redeposited soil containing 20th century bottle and fragments of pottery was identified but nothing of archaeological significance was identified (Bennett 2021:126).

84. Archaeological monitoring under licence 16E0214, c. 83m southeast of the onshore development area, identified reclamation deposits within the upper stratigraphy, below which natural beach was noted. A small cannon ball was recovered, which was likely associated with the nearby Pigeon House Fort (Mullins 2017).

85. Monitoring of site investigations at the Dublin Waste to Energy (DWtE) facility encountered significant modern fill deposits associated with estuarine land reclamation south of the modern Pigeon House Road. Site investigation trenches also uncovered the partially truncated remains of a metalled surface and walling, which were considered to have formed part of the causeway (Ballast Wall), which led to Pigeon House Fort (Bennett 2013:282, Licence Ref.: 13E0066).

86. Archaeological monitoring was carried out c. 364m east of the onshore development area, under licence 19E0654. As part of the works, a section of the original revetment and inner and outer walls of the Great South Wall were removed under archaeological supervision to facilitate the laying of a pipeline. Following the works, the revetment and sea wall were reinstated (Bennett 2020:614).

Cartographic Analysis

87. The onshore development area lies outside of the area depicted in the early mapping of the City of Dublin as it occupied an estuarine location in the 17th century. The exception is De Gomme's map of the bay dating to 1673 (**Plate 22-12**), which shows 'Poole Beg' and a 1683 map of Dublin Bay, which shows the 'Green Patch' and 'Pool Begg' (**Plate 22-13**).

John Rocque, Map of County Dublin, 1760 (Plate 22-2)

88. Pigeon House is not shown within the map, but the Ballast Wall is present (DU018-066) as well as The Piles to the east (the precursor of the Great South Wall (DU019-029002). Although this early map is not completely accurate in relation to the precise geographical positions, it does show that the onshore development area was located in the intertidal zone, over or close to a curving tidal water channel labelled as 'Cock Lake'. At this time the River Dodder to the west is shown as a marshy delta as it meets the River Liffey.

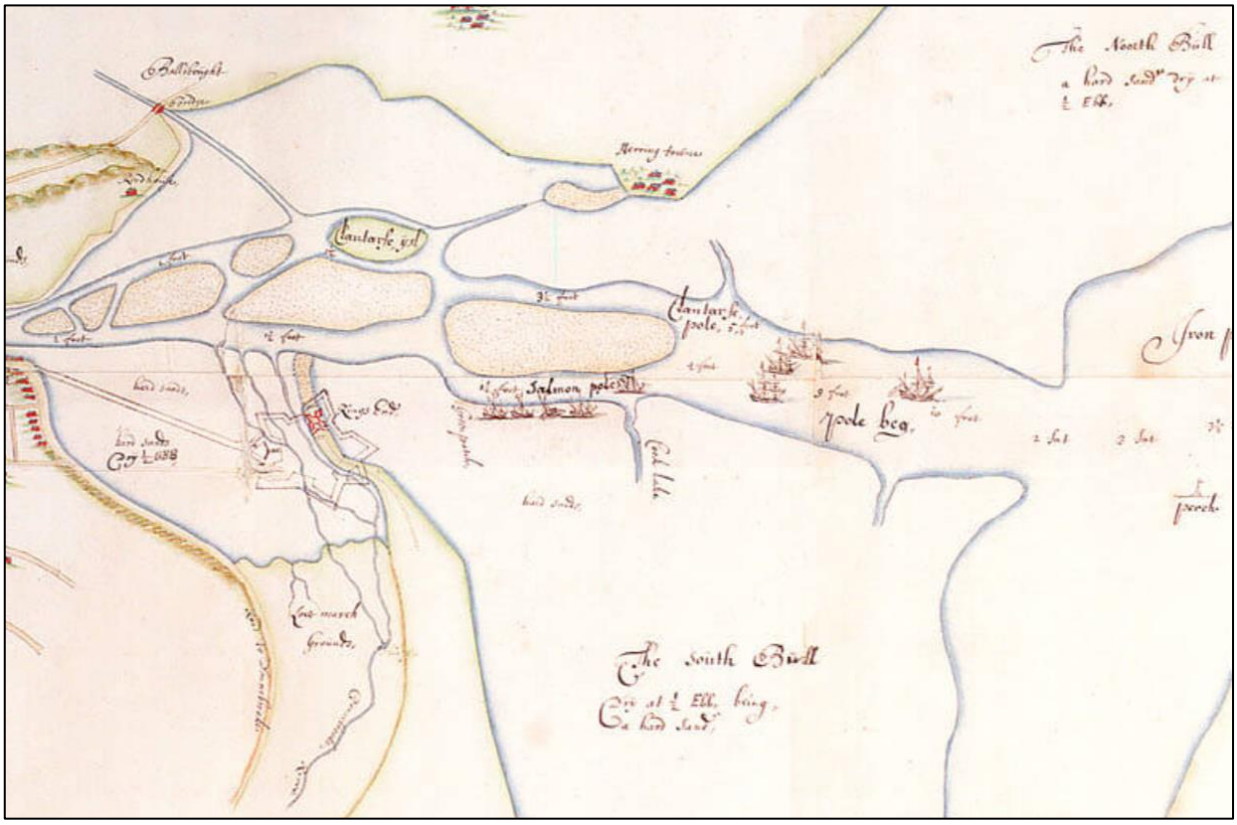


Plate 22-12 Extract from De Gomme's map of 1673, showing Pool Beg and Dublin Bay

John Taylor, Map of Dublin City and its Environs, 1816 (Plate 22-14)

89. By the time of this map the Pigeon House Fort and Harbour are marked having been established in the 1790s. The earlier 'Cock Lake' tidal channel has changed its course and is no longer labelled. A water channel now runs along the southern side of the western portion of the Great South Wall and

curves into what is possibly the north-eastern channel of the former ‘Cock Lake’ channel. The area of the Dodder delta has been altered and is depicted as a straighter channel.

Plate 22-13 Extract a 1783 map of Dublin Bay, showing the ‘Green Patch’ and ‘Pool Begg’

First Edition Ordnance Survey Map, 1843, scale 1:10,560 (Plate 22-5)

90. The onshore development area continues to occupy a largely estuarine area on the strand near the Pigeon House Fort. The fort itself is now depicted in detail, partially within the onshore development area boundaries. The Basin is now labelled as ‘Harbour’, with the associated Harbour Wall traversing the onshore development area. A landing slip on the Great South Wall that is recorded on the DCIHR is also depicted and labelled.

Conveyancing Map (from the Department of Defence to Dublin Corporation), 1879

91. Whilst this map is not highly detailed, the layout of the fort is clearly shown, with the barracks and former hotel present, along with the harbour to the north and the isolation hospital further to the west (RPS 6793).

Ordnance Survey Map, 1909, scale 1:2,500 (Plate 22-7)

The southern extent of the onshore development area remains within an intertidal zone, the large tidal channel shown on earlier maps is now illustrated further to the southwest. The Pigeon House Power Station is now marked to the north of the former Pigeon House Hotel, along with the outfall works and lifeboat house, also recorded on the DCIHR, within the former harbour.

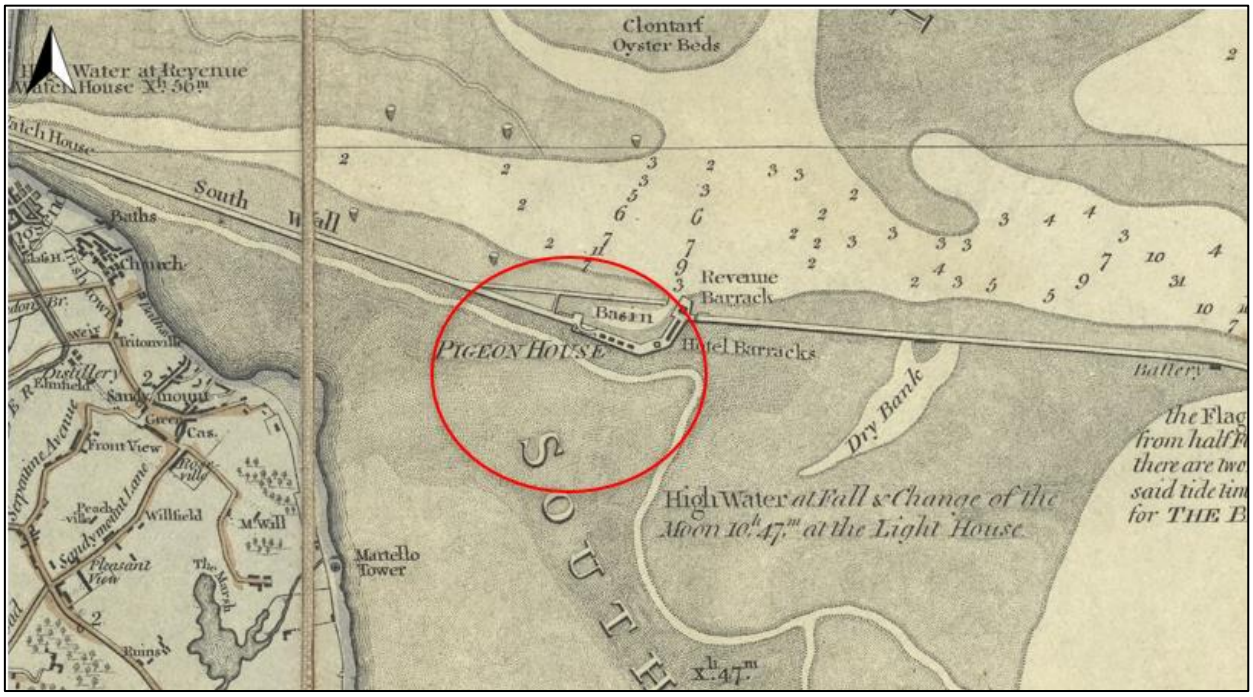


Plate 22-14 Extract from Taylor's map of 1816 showing the approximate location of the onshore development area

Dublin City Development Plan 2022–2028

Record of Monuments and Places

92. The DCC: Dublin City Development Plan 2022–2028 (hereafter referred to as Dublin CDP) recognises the statutory protection afforded to all RMP sites under the National Monuments Legislation (1930–2014). It lists a number of aims and objectives in relation to archaeological heritage (Chapter 2). It is policy to promote the in-situ preservation of archaeology as the preferred option where development would have an impact on buried artefacts. Where preservation in-situ is not feasible, sites of archaeological interest shall be subject to archaeological investigations and recording according to best practice, in advance of redevelopment. Details of recorded monuments within the study area are given in **Appendix 22.3**.

93. There are three recorded monuments located within the onshore development area (**Figure 22-2**). The site of a block house (DU019-027), which predates the Pigeon House Fort, is recorded on the edge of the boundary of the onshore development area. The exact location of the monument is unknown, but is assumed to be beneath the Pigeon House Hotel. Pigeon House Fort itself is located within a zone of archaeological potential, which includes part of the onshore development area

(DU019-027). The Ballast Wall (DU018-066/ 019-029) is partially located within the onshore development area.

94. The later Great South Wall, located to the east of the onshore development area, is listed as DU019-029002 within the study area. Whilst the RMP map cites DU019-029 as the zone of archaeological potential for both walls, the Ballast Wall is an earlier phase of construction and should be considered as a separate monument to the Great South Wall.

95. The site of a signal tower, also within the Pigeon House Fort, is located to the immediate south of the onshore development area (DU019-038001), within the study area.

96. The zones of archaeological potential, as depicted within the RMP mapping, are mapped as areas of archaeological significance within the Dublin CDP.

Record of protected structures

97. The Dublin CDP recognises the value of the built heritage to the city and is committed to the protection and enhancement of this heritage by providing measures for the protection of architectural heritage. These include the establishment of a Record of Protected Structures (RPS) and the designation of Architectural Conservation Areas (ACAs) and Conservation Areas (CA).

98. There are six protected structures located within the 500m study area of the onshore development area (**Figure 22-3**), one of which is partially located within the onshore development area. These are listed below in **Table 22-4**. Protected structures are described in **Appendix 22.3**.

Table 22-4 Record of protected structures

RPS. No.	Location	Classification	Distance from onshore development area
RPS 6795	Poolbeg Peninsula	Former Pigeon House Hotel	Immediately adjacent)
RPS 6797*	Poolbeg Peninsula	Former sea wall and sea wall at various locations along Pigeon House Road	Partially within the onshore development area
RPS 6796	Poolbeg Peninsula	Pigeon House Power Station	To the immediate north
RPS 6793	Poolbeg Peninsula	Former St. Catherine's Hospital	c. 73m west
RPS 6794	Poolbeg Peninsula	Remnants of Pigeon House Fort (upstanding)	Immediately adjacent
RPS 6798	Poolbeg Peninsula	Great South Wall	c. 138m northeast

** Pigeon House Harbour is not included in the RPS within the Dublin CDP. However, it is contemporary with the Ballast Wall (RPS 6797) and directly associated with that structure. It has therefore been assessed as forming part of the Ballast Wall.*

Architectural conservation areas

99. The onshore development area and wider study area are not located within an ACA. The closest such area is located at Sandymount Road, c. 815m to the southwest.

Conservation areas

100. The Pigeon House Harbour Conservation Area is located to east and north of parts of the onshore development This Conservation Area includes the surviving portion of Pigeon House Harbour and the former Pigeon House Power Station (RPS 6796, **Plate 22-15**).

101. The Great South Wall Conservation Area that travels out to Poolbeg Light House, is located c. 870m east-northeast of the onshore development area.

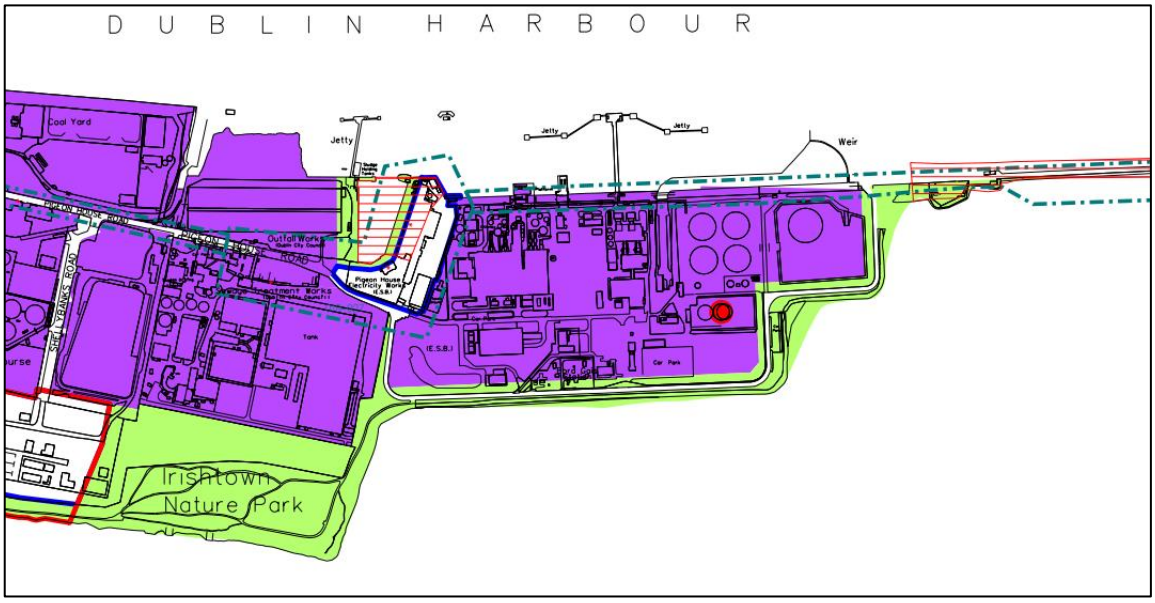


Plate 22-15 Extract from the Dublin CDP (Map F), showing the Pigeon House Harbour and Great South Wall Conservation Area(s) (red hatch)

National inventory of architectural heritage

102. A review of the architectural survey for Dublin City was undertaken as part of this assessment; however, no structures are listed in the NIAH within the study area.

Topographical files of the National Museum of Ireland

103. Information on artefact finds from the study area in County Dublin has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the study area. There are no recorded stray finds from within the onshore development area or its immediate environs.

Dublin City Industrial Heritage Record

104. A review of this record has shown five features are included within the DCHIR within the study area (**Figure 22-4**), one of which is located within the onshore development area (site of Life Boat House) and one of which is partially located within the onshore development area (Outfall Works). These are listed in **Table 22-5** DCIHR sites within the study area below.

Table 22-5 DCIHR sites within the study area

Name	Location	Upstanding remains	Distance to onshore development area
Lifeboat House	Dublin City	Slip remains but no structures remain	Within the onshore development area
Outfall Works (Dublin Corporation)	Dublin City	Substantial remains	Partially within the onshore development area
Electricity Works (Dublin Corporation)	Dublin City	Substantial remains	Immediately north and east
Landing Slip	Dublin City	Substantial remains	c. 128m northeast
Breakwater Lighthouse	Dublin City	No	c. 332m north

Aerial photography

105. Inspection of the aerial photographic coverage of the onshore development area held by the Ordnance Survey (1995–2013), Google Earth (2003–2022) and Bing Maps (2021) was undertaken as part of the assessment. The earliest imagery shows that the onshore substation site had not yet been reclaimed from the estuary (OSI 1995). By the time of the 2000 aerial photograph, reclamation works at the onshore substation site are visible. In the subsequent years, the continued reclamation works are evident at the onshore substation site and the Construction Compound A (Compound A) falls into a derelict state (Google Earth 2003, OSI 2005).

106. Between 2014 and 2024 the Compound A area has been occupied by car-parking and storage areas (Google Earth). The onshore substation site has remained undeveloped since it was reclaimed and has become overgrown with vegetation in areas.

107. Construction Compound B (Compound B) has been in use for storage and parking since at least 1995, but became vacant after 2016. Construction Compound C (Compound C) is located to the southwest of the former Pigeon House Hotel and is under hard standing (RPS 6795), which has remained unchanged since 1995. The proposed landfall area and route of the onshore export cables are located on the Poolbeg Peninsula..

Cultural heritage

108. The term ‘cultural heritage’ can be used as an over-arching term that can be applied to both archaeology and architectural sites; however, it also refers to more ephemeral aspects of the

environment, which are often recorded in folklore or tradition or possibly date to a more recent period. The archaeological and architectural sites discussed above also fall into the overall cultural heritage of the landscape.

109. The northern side of Poolbeg Peninsula, whilst having being developed relatively recently, forms an important part of the Port of Dublin and the industrial and cultural heritage of Dublin City. In its own right it is considered to form a cultural heritage landscape with integral connections with the River Liffey.

110. Whilst the port lands are more substantial to the north of the mouth of the River Liffey, the Poolbeg Peninsula contains two structures, that whilst are not subject to statutory protection, form a landmark within the city centre. These are the twin chimneys associated with the ESB Poolbeg Generating Station, which were built in the 1970s and are located to the northeast of the onshore development area. Today the structures are redundant, but at a height of 207m are today considered a key part of the city skyline. Proposals to demolish the buildings in 2014 were met by public outcry and as such, they were retained by the ESB, albeit that today, they are no longer in active service.

Place name analysis

111. Townland and topographic names are an invaluable source of information on topography, land ownership and land use within the landscape. They also provide information on history; archaeological monuments and folklore of an area. A place name may refer to a long-forgotten site and may indicate the possibility that the remains of certain sites may still survive below the ground surface. The Ordnance Survey surveyors wrote down townland names in the 1830s and 1840s, when the entire country was mapped for the first time. Some of the townland names in the study area are of Irish origin and through time have been anglicised. The main references used for the place name analysis are Irish Local Names Explained by P.W Joyce (1870) and www.logainm.ie.

A description and possible explanation of each place name in the environs of the onshore development area are provided in **Table 22-6** Placename analysis.

Table 22-6 Placename analysis

Name	Derivation	Possible meaning
Irishtown	-	Relates to the banishment of the native Irish population from the city of Dublin in the 15th century.
Ringsend	*An Rinn*	The point/headland
Poolbeg	*Phoill Bhig*	Small tidal stream/pool – formerly located within Dublin Bay and noted in 17th century maps.
Pigeon House	-	Relating directly to the first care taker of the block house – Mr John Pigeon.

Marine archaeological resource (Wessex Archaeology)

112. The onshore development area is located in an area formerly part of the estuary of the River Liffey, although it is now reclaimed. The estuarine silts have archaeological potential relating to the marine archaeological resource. Archaeological specialists in underwater and marine archaeology, Wessex Archaeology assessed the marine archaeological resource (**Chapter 14 Marine Archaeology and Cultural Heritage**), including the location of the partially reclaimed onshore substation site. As part of

the assessment, a total of five marine borehole logs (provided by DPC from the 3FM project site investigations) adjacent to the onshore substation site, were geo-archaeologically assessed and sediment sequences recovered were concluded to possess low archaeological potential – primarily glacial and glacio-fluvial sediments or relatively recent, disturbed Holocene sequences. No further work was recommended on these borehole locations (**Chapter 14 Marine Archaeology and Cultural Heritage** and **Appendix 14.3**). No previously unrecorded sites of archaeological potential (including ship wrecks) have been noted in or within the vicinity of the onshore substation site.

Field inspection

113. The field inspection sought to assess the onshore development area, its previous and current land use, the topography, and any additional information relevant to the report. During the course of the field inspection, which took place in March 2023, the onshore development area and its immediate surrounding environs, were inspected.

114. The landfall area, Compound A and Compound B area form the southern part of the onshore development area and which is on the southern portion of the Poolbeg Peninsula. As shown in **Plate 22-1** EPA Chart showing typical classifications of the Significance of Effect, this area is currently in use as a construction compound/general industrial area and is bound to the south by an earthen berm. There is a footpath running east-west to the south of the berm and north of the estuary. The current ground level is formed by modern reclamation activities, which are illustrated in **Plate 22-8**.

115. From the TJBs, the onshore export cables will travel north in a tunnel, following the direction of the Shellybanks Road, flanked by modern industrial development to the onshore substation site. The invert of the tunnel will be below the Ballast Wall/ site of causeway RMP DU018-066/DU019-029/ RPS 6793) and the adjacent cooling water channel (**Plate 22-16**). The wall that runs along the northern side of the Ballast Wall is a random rubble structure, the top of which has been constructed in a curved form and covered with a concrete render. Archaeological monitoring in 2008 confirmed that this wall is relatively recent in date and does not represent the original width of the northern side of the Ballast Wall. Stones associated with the original wall were identified below the current ground level, beneath what is now the footpath shown in **Plate 22-16**. Further to the west of the cable crossing is a redbrick structure and redbrick boundary wall, which form the remains of a hospital complex (RPS 6793, **Plate 22-17**). Today this is the only structure surviving from the original complex and is located within an industrial yard.

116. The onshore substation site comprises rough reclaimed ground, which commenced in the later 1990's/early 2000's to the north of the original Pigeon House Harbour (**Plate 22-18** and **Plate** 22-19). The line of the harbour wall (capped with concrete) is visible in two places beneath the overgrowth (**Plate 22-20** and **Plate 22-21**). The existing outfall works (included in the DCIHR) are located to the immediate south of the onshore substation site. These were established within the former harbour area (**Plate 22-22**).

117. To the east of the onshore substation site is a marine area that will be reclaimed as part of the CWP Project. This area is assessed in detail in **Chapter 14 Marine Archaeology and Cultural Heritage**. This area is bordered to the south by the northern side of the original Pigeon House Harbour. This structure is faced with concrete but it is assumed that the original masonry structure survives beneath the concrete (**Plate 22-23**).

118. To the east of the outfall works is the western edge of the smaller harbour, established at the time of the outfall works (and now part of the Pigeon House Harbour Conservation Area), when Pigeon House Harbour was reduced in size. Metal mooring posts are located along the western edge of the harbour along with a modern metal barrier and access track (**Plate 22-24**). This access track will be required for access to the onshore substation site during the construction phase and will, during the O&M phase,

provide access to the ESB GIS building (the area to be reclaimed). It will also provide continued access for Uisce Éireann vehicles to the adjacent storm water tanks.

119. The northwest pier of Pigeon House Harbour remains present, and the inner face of this structure shows a construction characterised by coursed blocks of dressed limestone masonry (**Plate 22-25**). The steps either side of the end of the harbour pier remain present, as does the denuded remains of the lifeboat house slip, although no remains of the lifeboat house remain present. These structures are marked within the 1909 OS map and the site of the lifeboat house is included in the DCIHR.

120. To the east of the harbour and immediately northeast of the onshore development area is the derelict remains of the early 20th-century Pigeon House Power Station (RPS 6796, **Plate 22-26**). This is a substantial, albeit derelict, redbrick building with a chimney to the south. The building occupies the site of a number of buildings associated with Pigeon House Fort and was extended to the north later in the 20th century. To the northeast of the structure, not accessible during the field inspection, is the remains of a circular gun emplacement. The structure is of dressed masonry but a modern rectangular building has now been constructed on top of the feature. Further to the west are the twin red and white chimneys visible in **Plate 22-26**. The eastern edge of Pigeon House Harbour has been clad in concrete and is characterised by collapsed concrete wharfs.

121. To the south of the Pigeon House Power Station is the former Pigeon House Hotel (RPS 6794, **Plate 22-27** and **Plate 22-28**). Compound C will be located to the southwest of this structure. The former hotel is surrounded by concrete hard standing and structures associated with the former Pigeon House Power Station. The area was once occupied by structures associated with Pigeon House Fort (RMP DU018-027). Nothing remains with the exception of the stone footings of a rectangular structure located to the southwest of the hotel, which is visible in the 1910 mapping (and the earlier 1867 conveyancing map) and is also apparent within early aerial photographs (**Plate 22-28** and **Plate 22-29**). These footings are located outside of the proposed Compound C.

122. To the north of the former hotel is the south-eastern section of the original Pigeon House Harbour, which predates the founding of the fort in the early 19th century. This is apparent in the architecture of the harbour, where the original coursed block masonry wall is visible, which is topped by the later fort wall. The fort wall is of roughly coursed and dressed limestone, with musket holes formed by redbrick reveals and small granite lintels (**Plate 22-30**). This wall represents the most intact section of the fort walling.

123. To the south of the hotel the Pigeon House Road cuts through the site of the former fort with the overgrown remains of the structures located to the south of the road and the onshore development area (RMP DU018-027, RPS 6794, **Plate 22-31**). The most apparent upstanding remains comprise part of the western entrance on the northern side of Pigeon House Road, which are located to the immediate south of the onshore development area. **Plate 22-6** shows the intact entrance and when compared to the current view (**Plate 22-32**), it shows how much historic fabric has been lost. One gate pier survives, along with a flanking window, all of which are in dressed granite masonry. The window is accessed via a flight of stairs and the remains of a flag-stone floor are present (**Plate 22-33**). Two sections of conjoined walls are located to the east of the gate (**Plate 22-34** and **Plate 22-35**). This includes a section of roughly course and dressed limestone wall and a probable later brick wall that would have formed part of the structure shown in **Plate 22-6**. This section of wall contains blocked opes, including a door that would have provided access to the harbour (**Plate 22-36**).

124. To the south of the western fort entrance and the Pigeon House Road, is a section of the western fort boundary wall, which now separates a car park from the overgrown fort complex to the north. The wall contains blocked granite window opes with the remaining fabric formed by roughly coursed and dressed limestone masonry (**Plate 22-37**).

125. The line of the Ballast Wall continues within what were the precincts of the Pigeon House Fort, although here the upstanding wall (where it survives) is contemporary to the establishment of the fort and possesses the same characteristics of the limestone wall topping the southern edge of the harbour.

The wall is of roughly coursed masonry with musket holes formed by redbrick reveals and small granite lintels (**Plate 22-38**). Sections have been replaced with more recent walling along with gate entrances into the outfall works to the immediate north (within the former harbour).

126. **Plate 22-4** is a drawing done of the fort at the time of its use, and suggests a parapet wall along the northern side of the Ballast Wall, but not to the south. The later Great South Wall (to the east of the onshore development area, accessing the lighthouse) does not possess flanking parapet walls.

127. It is clear from the analysis of the baseline information and the field inspection, that whilst the landscape is dominated by modern, large-scale industrial development, discrete heritage features do survive within and adjacent to the onshore development area. These relate directly to the development of the Poolbeg Peninsula, which enabled the establishment of the fort and then the later industrial activity.

Plate 22-16 Cooling water channel and line of Ballast Wall under existing footpath and road (RMP DU018-066/DU019-029/ RPS 6793), facing east-northeast

Plate 22-17 Former hospital (RPS 6793), facing southwest

Plate 22-18 Site of the onshore substation, facing west

Plate 22-19 Edge of the onshore substation, facing east

Plate 22-20 Concrete capped wall of the original Poolbeg Harbour, facing east

Plate 22-21 Partially buried concrete capped wall of the original Pigeon House Harbour, facing east

Plate 22-22 Outfall works, facing northeast

Plate 22-23 Northern side of the original Pigeon House Harbour, facing east-southeast

Plate 22-24 Western edge of Pigeon House Harbour, facing north

Plate 22-25 Northwest pier of the original Pigeon House Harbour, facing northeast

Plate 22-26 Derelict Pigeon House Power Station (RPS 6796), facing east-northeast

Plate 22-27 Pigeon House Hotel (RPS 6794), facing north-northeast

Plate 22-28 Pigeon House Hotel (RPS 6794), facing east

Plate 22-29 Location of 19th-century building footings, facing northeast

Plate 22-30 Southern edge of Pigeon House Harbour (and later fort wall), facing southeast

Plate 22-31 Ruins of a portion of Pigeon House Fort (RMP DU018-027, RPS 6794), facing south

Plate 22-32 Remains of western entrance into fort (RMP DU018-027, RPS 6794), facing east

Plate 22-33 Internal access stairs at western entrance to fort (RMP DU018-027, RPS 6794), facing west

Plate 22-34 Internal limestone wall of Pigeon House Fort entrance (RMP DU018-027, RPS 6794), facing northwest

Plate 22-35 Later brick wall at the Pigeon House Fort entrance (RMP DU018-027, RPS 6794), facing north-northeast

Plate 22-36 Blocked door to harbour at Pigeon House Fort entrance (RMP DU018-027, RPS 6794), facing north-northwest

Plate 22-37 A section of the western fort boundary wall (RMP DU018-027, RPS 6794), facing east

Plate 22-38 Northern boundary wall within Pigeon House Fort (RMP DU018-027, RPS 6794), facing west-northwest

Conclusions

128. The onshore development area is located on the Poolbeg Peninsula, to the east of Ringsend. There are three recorded monuments within the onshore development area. These are

- The site of a blockhouse (RMP DU019-027), which predates the Pigeon House Fort and is recorded within the boundary of the onshore development area (and potentially beneath the existing Pigeon House Hotel).
- The Pigeon House Fort, which is located within the zone of archaeological potential (RMP DU019-027), which incorporates part of the onshore development area;
- The Ballast Wall (RMP DU018-066/ 019-029) which is partially located within the onshore development area;
- The later Great South Wall, located to the east of the onshore development area (RMP DU019-029002). Whilst the RMP map cites DU019-029 as the zone of archaeological potential for both walls, the Ballast Wall is an earlier phase of construction and should be considered as a separate monument to the Great South Wall.

129. The Ballast Wall, upstanding remnants of the fort and Great South Wall are also listed as Protected Structures.

130. There are six protected structures located within the study area, none of which are listed in the NIAH Survey. These are the:

- Ballast Wall (RPS 6797) (partially located within the onshore development area);
- Upstanding remains of the Pigeon House Fort (RPS 6794) (immediately adjacent to the onshore development area);
- Great South Wall (RPS 6798) (east of the onshore development area);
- Pigeon House Power Station (RPS 6796) (immediate northeast of the onshore development area);
- The former Pigeon House Hotel (RPS 6795) (immediately adjacent to the onshore development area);
- The former hospital (RPS 6793) (approximately 73m to the west of the onshore development area).

131. The Pigeon House Harbour is not included in the RPS within the Dublin CDP. However, it is contemporary with the Ballast Wall (RPS 6797) and directly associated with that structure. It has therefore been assessed as forming part of the Ballast Wall.

132. The onshore development area is not located within an ACA. The surviving section of the Pigeon House Harbour and former Pigeon House Power Station are located within a Conservation Area, as designated in the Dublin CDP. Further to the east, the Great South Wall is also defined as a Conservation Area.

133. A review of the DCIHR has shown five features are included within the record within the study area, including the site of a lifeboat house within the onshore development area and part of the early 20th-century outfall works.

134. A review of Excavations Bulletin (1970–2024) has revealed a number of investigations have been carried out in the vicinity of the onshore development area. These investigations have identified post-medieval reclamation deposits and fragmentary remains of buried portions of the Ballast Wall (and associated causeway). Stones forming part of the northern side of the Ballast Wall have been identified beneath the existing footpath (within the onshore development area) and these were preserved in-situ at the time of discovery in 2008.

135. A full review of the historic sources, cartographic coverage, historic imagery and a field inspection, has been carried out as part of this assessment. This resulted in the identification of heritage sites, directly associated with the historic development of the Poolbeg Peninsula. These comprise the remains of the Pigeon House Harbour dating 1791 to 1793, which although modified by the construction of the

outfall works, retains some of its original 18th-century fabric. The north side of the harbour has been clad in concrete, although it is likely that the original masonry fabric survives beneath this. A circular masonry gun emplacement (associated with the fort) is located to the north of the Pigeon House Power Station. The masonry footings of an 19th-century fort building are located to the southwest of the former Pigeon House Hotel.

136. The chimneys, associated with the 1960s and 1970s ESB Poolbeg Generating Station, remain present in the landscape, as landmark structures. The overall cultural heritage significance of Dublin Port, as a heritage landscape including the mouth of the River Liffey, the northern side of Poolbeg Peninsula and the North Docklands, is also noted.

22.1.7 Scope of the assessment

137. 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.

138. Based on responses to the Scoping Report, further consultation and refinement of the CWP Project design, potential impacts to Onshore Archaeology, Architectural and Cultural Heritage scoped into Part A of the assessment are listed below in **Table 22-7** Potential impacts scoped into the assessment.

Table 22-7 Potential impacts scoped into the assessment

Impact No.	Description of impact	Notes
Construction		
Impact 1	Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for block house and fort (RMP DU019-027, RPS 6794).	Potential impacts arising from ground disturbance associated with, installation of the ESBN network cables, onshore substation and temporary compounds.
Impact 2	Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for the Ballast Wall, including the Pigeon House harbour wall (RMP DU018-066/DU019-029, RPS 6797).	Potential impacts arising from ground disturbance associated with, installation of the onshore export and ESBN networks cables, onshore substation and temporary compounds.
Impact 3	Permanent loss or disturbance of archaeological features or deposits that may survive beneath the current ground level within the onshore development area and outside of the designated zones of archaeological potential.	Potential impacts arising from ground disturbance associated with, installation of the landfall works (landward of the HWM), TJBs, onshore export and ESBN network cables, onshore substation and temporary compounds (outside of the designated zones of archaeological potential).

Impact 4	Temporary disturbance to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and the DCIHR outfall works, during the construction phase.	Potential impacts arising from construction activities (visibility of construction plant and equipment)
Impact 5	Temporary disturbance to the setting of the Dublin Port cultural heritage landscape during the construction phase.	Potential impacts arising from construction activities (visibility of construction plant and equipment) This impact considers the North and South Docklands, along the mouth of the River Liffey.
Operation and maintenance		
Impact 1	Long-term change to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and the DCIHR outfall works, due to the presence of the onshore substation.	Potential impacts arising from the presence of large-scale structures within the setting of archaeological and architectural heritage sites.
Impact 2	Long-term change to the setting of the Dublin Port cultural heritage landscape due to the presence of the onshore substation.	Potential impacts arising from the presence of large-scale structures within the setting of archaeological and architectural heritage sites. This impact considers the North and South Docklands, along the mouth of the River Liffey.
Decommissioning		
Impact 1	Impacts on the receiving environment due to the removal of the OTI	No final decision has yet been made regarding the final decommissioning policy for the OTI including TJBs, onshore export cables and onshore substation. It is also 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 infrastructure will be completely removed.

22.1.8 Assessment parameters

Background

139. 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.

140. 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.

141. 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.

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

- Up to two options for certain permanent infrastructure details and layouts such as the wind turbine generator (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.

143. 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 25 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.

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

145. 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.

Options and dimensional flexibility

146. 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.

147. For archaeological, architectural and cultural heritage the infrastructure design and installation techniques with potential to give rise to archaeological, architectural and cultural heritage 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.

Limit of deviation

148. Locational flexibility of permanent infrastructure is described as LoD from a specific point or alignment. The LoD is the furthest distance that a specified element of the CWP Project can be constructed.

149. LoD within the onshore development area (landward of the high-water mark) are noted below in **Table 22-9** Limit of deviation relevant to assessment of archaeology, architecture and cultural heritage. 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 22.1.10** of this chapter has been considered.

150. For archaeological, architectural and cultural heritage a conclusion is provided in **Table 22-9** Limit of deviation relevant to assessment of archaeology, architecture and cultural heritage which confirms that the LoDs for permanent infrastructure relevant to archaeological, architectural and cultural heritage will not give rise to any new or materially different effects. The LoDs are therefore not considered further within this assessment.

Table 22-8 Design parameters relevant to assessment of archaeology, architectural and cultural heritage

Impact	Detail	Value	Notes / Assumptions
Construction			
Impact 1: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for block house and fort (RMP DU019-027, RPS 6794)	**Landfall and onshore export cables**		This impact relates to permanent loss or disturbance of archaeological features or deposits located within the onshore development area and the zone of archaeological potential for block house and fort (RMP DU019-027, RPS 6794). during the construction phase. The ESBN network cables, access roads for the onshore substation, Compound C and temporary HDD compound 1 are the only components of the OTI that are located within this zone of archaeological potential.
	No associated components located within the zone of archaeological potential for block house and fort (RMP DU019-027, RPS 6794).		
	Onshore substation		
	Temporary infrastructure		
	Length of temporary access road installed for the construction phase (m)	40	
	Area of the temporary access road installed for the construction phase (m^2)	390	
	Installation methods and effects		
	Overall length of eastern access road that will be upgraded during construction phase (m^2)	170	
	Area of the eastern access road that will be upgraded during construction phase (m^2)	1,100	
	ESBN network cables		
	Temporary infrastructure		
	Total area of temporary HDD compound 1 (m^2)[1] (*which is the compound located within the zone of archaeological potential*)	1,536	
	Installation methods and effects		
	Number of HDD sections	1	
	Number of open cut sections	1	

[1] Noted that the area of temporary HDD compound 1 falls within the area of temporary Compound C.

	Total length of open cut section (m)	265	
	Total length of HDD section (m)	135	
	Total length of open cut & HDD trenching (m)	400	
	Total volume of excavated material (m^3)	3,648	
	Construction compounds		
	Temporary Compound C area (m^2)	3,350	
Impact 2: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area within the zone of archaeological potential for the Ballast Wall, including the Pigeon House Harbour wall (RMP DU018-066/DU019-029, RPS 6797)	**Landfall**		This impact relates to permanent loss or disturbance of archaeological features or deposits located within the onshore development area and the zone of archaeological potential for the Ballast Wall, including the Pigeon House Harbour wall (RMP DU018-066/DU019-029, RPS 6797) during the construction phase.
	No associated components located within the zone of archaeological potential for the Ballast Wall, including the Pigeon House Harbour wall (RMP DU018-066/DU019-029, RPS 6797)		
	Onshore export cables		
	Temporary infrastructure		
	Total area of temporary tunnel compounds 2+3 (Shellybanks Road (reception) and onshore substation (launch)[2]	11,354	
	Installation methods and effects		
	Overall duration to complete tunnel construction and cable duct installation (months)	21	
	First tunnel drive length (m)	330	
	Second tunnel drive length (m)	410	
	Total tunnel length (m)	740	
	Tunnel Inner Diameter (ID) (m)	3.0	
	Tunnel outer diameter (OD) (m)	3.6	
	Invert level of the tunnel (OD) (m)	-25.3	

[2] Noted that the area of temporary tunnel compound 3 falls within the area of onshore substation.

Total volume of excavated material for the tunnel option – inc. excavation of tunnel shafts & the tunnel bore material (m^3)	22,085
Onshore substation	
Temporary infrastructure	
Site perimeter hoarding height during construction (m)	2.6
Installation methods and effects	
Total footprint of temporary site clearance inc. access roads (m^2)	20,090
Total volume of excavated material for the substation site(m^3)	44,129
Platform level of the site (+mOD)	5.00
Height of the revetments and perimeter capping beam (+mOD)	5.24
Area of the reclaimed land for the ESB Buildings (m^2)	1,800
Total length of combi-wall (m)	230
Total length of new revetments (m)	150
No. of buildings	4
Length and width of the new access bridge (m)	25 x 9.5
Insertion of drainage outfall through Pigeon House Harbour wall	2 No. (*east: proximate to the cooling water discharge channel & west: proximate to the existing pier/jetty*)
ESBN network cables	
Temporary infrastructure	

	Total area of temporary HDD compound 1 (m^2)[3] (*which is the compound located within the zone of archaeological potential*)	1,536	
	Installation methods and effects		
	As per details for Impact 1		
	Construction compounds		
	Temporary Compound C area (m^2)	3,350	
Impact 3: Permanent loss or disturbance of archaeological features or deposits that may survive beneath the current ground level within the onshore development area and outside of the designated zones of archaeological potential	**Landfall**		This impact relates to permanent loss or disturbance of archaeological features or deposits that may survive beneath the current ground level (within the onshore development area) and outside of the designated zones of archaeological potential.
	Temporary Infrastructure		
	Installation of the temporary access ramp to the intertidal area for plant & equipment (m)	60 x 10	
	Area of site clearance for temporary access ramp (m^2)	600	
	Volume of excavation for the temporary access ramp (m^3)	220	
	Installation methods and effects		
	Number of TJBs	3	
	Volume of excavation between TJBs and the HWM (front berm through to HWM) (m^3)	4,004	
	Volume of excavation for the TJB's (back berm) (m^3)	5,286	
	Volume of excavation for the landfall Site (TJB excavation, deep trench from TJBs to the tunnel shaft and road around TJBs) (m^3)	11,987	
	Area of site clearance at the TJBs (m^2)	2,200	

[3] Noted that the area of temporary HDD compound 1 falls within the area of temporary Compound C.

	Area of site clearance between TJBs and the high water mark (HWM) (m^2)	2,200	
	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		
	As per Impact 2 details		
	Onshore substation		
	As per Impact 2 details		
	ESBN Network Cables		
	Temporary Infrastructure		
	Number of temporary HDD compounds	2	
	Area of temporary HDD compound 1+2 (m^2)	3,434	
	Installation methods and effects		
	As per Impact 1 details		
	Construction compounds		
	Temporary Compound A area (m^2)	19,800	
	Temporary Compound B area (m^2)	32,300	
	Temporary Compound C area (m^2)	3,350	
	Temporary Compound D area (m^2)	360	
Impact 4: Temporary disturbance to the setting of recorded	**Onshore substation**		This impact relates to temporary disturbance to the setting of recorded archaeological and built heritage sites
	Temporary infrastructure		
	As per Impact 2 details		

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

archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and the DCIHR outfall works, during the construction phase	Installation methods and effects		(including the Pigeon House Harbour Conservation Area and the DCIHR outfall works) located within the proposed onshore development area during the construction phase.
	As per Impact 2 details		
	ESBN Network Cables		
	Temporary infrastructure		
	As per Impact 1 details		
	Installation methods and effects		
	As per Impact 1 details		
	Construction compounds		
	Temporary Compound C area (m^2)	3,350	
Impact 5: Temporary disturbance to the setting of the Dublin Port cultural heritage landscape during the construction phase	Installation methods and effects		This impact relates to temporary disturbance to the setting of the Dublin Port cultural heritage landscape within the proposed onshore development area during the construction phase.
	Refer to project details for **Impact 4**		
Operations and maintenance			
Impact 1: Long-term change to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and the DCIHR outfall works, due to the presence of the onshore substation	**Landfall**		This impact relates to the long-term change to the setting of recorded archaeological and built heritage sites located within the onshore development area during the operation and maintenance phase.
	Permanent infrastructure		
	No above ground structures – not applicable, no potential to impact on setting		
	Onshore export cables		
	No above ground structures – not applicable, no potential to impact on setting		
	Onshore substation		
	Permanent infrastructure		
	Area of operational site boundary (m^2)	16,050	
	Number of buildings	4	
	Material finish	Brick and metal mesh facade	
	Main GIS building dimensions (L x W x H) (m)	62.75 x 20.67 x 35.20 (+mOD)	

	ESB GIS building dimensions (L x W x H) (m)	35.97 x 15.95 x 23.10 (+mOD)	
	ESB MV building dimensions (L x W x H) (m)	10.14 x 5.64 x 8.07 (+mOD)	
	Statcom building dimensions (L x W x H) (m)	94.02 x 27.87 x 29.50 (+mOD)	
	Height of lightening protection masts above buildings (m)	3	
	Length and width of the new access bridge (m)	25 x 9.5	
	Total length of new revetment structure (m)	150	
	Height of perimeter site fencing (m)	2.6	
	ESBN network cables		
	No above ground structures – not applicable, no potential to impact on setting		
Impact 2: Long-term change to the setting of the Dublin Port cultural heritage landscape due to the presence of the onshore substation	Permanent Infrastructure		This impact relates to long-term change to the setting of the cultural heritage landscape of Dublin Port during the operation and maintenance phase.
	Refer to project details for **Impact 1**		
Decommissioning			
Impact 1: Impacts on the receiving environment due to the removal of the OTI	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. • 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.

Table 22-9 Limit of deviation relevant to assessment of archaeology, architecture and cultural heritage

Project component	Limit of deviation	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 (and associated offshore export cables within the ducts)	Defined LoD boundary	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.

22.1.9 Primary mitigation measures

151. 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.

152. Primary mitigation measures relevant to the assessment of archaeological, architectural and cultural heritage are set out in **Table 22-10**. Where additional mitigation measures are proposed, these are detailed in the impact assessment (**Section 22.2.10**). 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 22-10 Primary mitigation measures

Project element	Description
Compound C at the former Pigeon House Hotel	Compound C will be established away and to the southwest of the upstanding hotel structure and adjacent stone footings identified during the field inspection (likely to represent the remains of a barrack building). The compound will be hoarded during construction works.
Tunnelling of the onshore export cable beneath the Ballast Wall and Pigeon House harbour wall	The tunnel invert level for the onshore export cable (-25.3 m OD) has been designed to avoid direct impacts to the Ballast Wall (under the Pigeon House Road) and Pigeon House harbour wall.
Onshore substation	The design of the onshore substation has been developed to reduce the visual impact of the buildings where possible. It takes into account the need for the onshore substation buildings to achieve necessary engineering standards, whilst also recognising the importance of the surrounding buildings in the Poolbeg Peninsula. Key considerations included: • Material selection: The building facades have been designed to incorporate the architectural narrative of the past, present and future of the Poolbeg Peninsula, giving regard to the materials that currently surround the site; those being brick, stone and industrial metal. • Visual massing: The massing of the buildings has been broken up by utilising two materials across the facade, creating an upper and lower layer. These layers are made up of a grey masonry base and metal clad top layer. The layers allow the onshore substation buildings to sit between and stitch together existing buildings in the Peninsula, from a historical and contemporary context. • Colour selection: The selection of the grey colour was found to be less impactful to other colours and sits well with the blue-grey tones of the water frontage and Dublin sky. .
Onshore substation: Pigeon House harbour wall	• Prior to reclamation, the exposed portions of the harbour wall will be covered in a geotextile membrane to create a visual barrier between the reclamation works and the harbour wall.

Project element	Description
	This is in addition to the concrete render that already seals the masonry of the harbour wall. • There will be no direct foundations or structures placed on the harbour wall during works as the sheet piling required will be set back from the harbour wall by approximately 200mm and buffered with approved fabric seal.
General	In general, the CWP Project has sought to specify the location, scale and extents of permanent and temporary infrastructure, however in some cases a degree of locational flexibility is required. Locational flexibility of permanent infrastructure is described as a Limit of Deviation (LoD) from a specific point or alignment. LoDs, described in Chapter 4 Project Description, are required to take account of additional ground conditions data acquired during pre-construction site investigation surveys and results from pre-construction surveys.

22.1.10 Impact assessment

Construction phase

153. The potential environmental impacts arising from the construction of the CWP Project are listed in **Table 22-8** along with the parameters against which each construction phase impact has been assessed. A description of the potential effect on archaeology, architectural and cultural heritage receptors caused by each identified impact is given below.

Impact 1: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for block house and fort (RMP DU019-027, RPS 6794).

154. The exact location of the block house is unknown, but may be located within the footprint of the former Pigeon House Hotel.

155. Works that are within the zone of archaeological potential comprise the laying of ESBN Network Cables (open cut and HDD), the establishment of Compound C and temporary HDD Compound 1 (launch compound), installation of the temporary access road and upgrade of eastern access road for the onshore substation.

Receptor sensitivity

156. High (Recorded Monument and Protected Structure).

Magnitude of impact

157. Medium: Ground disturbances associated with works in this zone have the potential to result in direct, negative, permanent impacts on archaeological remains associated with the block house and fort.

Significance of the effect

158. The sensitivity of the zone of archaeological potential for the block house and fort is considered to be High and the magnitude the of impact is assessed as Medium. Therefore (as per **Plate 22-1** EPA Chart showing typical classifications of the Significance of Effect), a **Significant** adverse effect is predicted on the zone, which is significant in EIA terms.

Additional mitigation

159. All ground works within the zone of archaeological potential associated with the block house and fort (RMP DU019-027) will be subject to archaeological monitoring under licence from the National Monuments Service of the DoHLGH. This involves an archaeologist being present for the entirety of ground excavations.

160. A licence for the works will take 3–4 weeks to process and the methodology will also require approval from the Dublin City Archaeologist. If archaeological remains are identified during the course of works, further mitigation will be required, such as preservation in-situ or by record.

161. Preservation in-situ means that the identified remains will be avoided by any further works and retained within their original contexts. Preservation by record will require the archaeological excavation of the identified remains. Further mitigation will require additional methodologies to be agreed by the DoHLGH and Dublin City Archaeologist.

Residual effect

162. With the adoption of mitigation measures the magnitude of effect will be low. The significance of the residual effect is therefore predicted to be **Slight** negative, which is not significant in EIA terms.

Impact 2: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for the Ballast Wall, including the Pigeon House harbour wall (RMP DU018-066/DU019-029, RPS 6797).

163. Works within the zone include the provision of temporary tunnel compound 2 (reception). As noted within **Section 22.1.9, Primary mitigation measures**, the invert of the tunnel for the onshore export cable (-25.3 m OD) has been designed to avoid impacts on the Ballast Wall itself (beneath the Pigeon House Road).

164. The Pigeon House harbour wall is preserved in situ by the previous reclamation activities, or is sealed with a cement render, where it is exposed (i.e. at the area proposed for reclamation for the ESB GIS building). The construction of the onshore substation will generally not directly interfere with the wall. As noted in **Section 22.1.9**, prior to reclamation works, the exposed portions of the harbour wall will be covered in a geotextile membrane to create a barrier between the reclamation works and the harbour wall and there will be no direct foundations or structures placed on the harbour wall during the combi wall installation

165. Works associated with the Pigeon House harbour wall include the provision of two drainage outfalls through the wall, the installation of part of the eastern access road over the wall, open cut works for the ESBN network cables and installation of the access bridge on the western boundary.

166. During the construction of the perimeter combi wall for the onshore substation, the potential for vibration impacts from piling activities on the Pigeon House Harbour wall, have been addressed (see **Chapter 24 Noise and Vibration**).

Receptor sensitivity

167. High (Recorded Monument and Protected Structure).

Magnitude of impact

168. Medium: Ground disturbances associated with works in the zone and the Pigeon House harbour wall have the potential to result in direct, negative, permanent impacts on archaeological remains associated with the Ballast Wall and the Pigeon House harbour wall.

Significance of the effect

169. The sensitivity of the Ballast Wall and Pigeon House harbour wall is considered to be High and the magnitude the of impact is assessed as Medium. Therefore (as per **Plate 22-1** EPA Chart showing typical classifications of the Significance of Effect), a **Significant** adverse effect is predicted on these sites, which is significant in EIA terms.

Additional mitigation

170. All ground works within the zone of archaeological potential associated with the Ballast Wall and at Pigeon House Harbour (RMP DU018-066/DU019-029, RPS 6797) will be subject to archaeological monitoring under licence from the National Monuments Service of the DoHLGH.

171. As detailed in **Chapter 24 Noise and Vibration**, potential vibration impacts on the Pigeon House harbour wall will be mitigated with an initial pre-construction survey, followed by monitoring during piling works.

172. Monitoring involves an archaeologist being present for the entirety of ground excavations. A licence for the works will take 3–4 weeks to process and the methodology will also require approval from the Dublin City Archaeologist. If archaeological remains are identified during the course of works, further mitigation will be required, such as preservation in-situ or by record. Preservation in-situ means that the identified remains will be avoided by any further works and retained within their original contexts, Preservation by record will require the archaeological excavation of the identified remains. Further mitigation will require additional methodologies to be agreed by the DoHLGH and Dublin City Archaeologist.

Residual effect

173. With the adoption of mitigation measures the magnitude of effect will be low. The significance of the residual effect is therefore predicted to be **Slight** negative, which is not significant in EIA terms.

Impact 3: Permanent loss or disturbance of archaeological features or deposits that may survive beneath the current ground level within the onshore development area and outside of the designated zones of archaeological potential.

174. Impacts have the potential to arise from ground disturbances associated with installation of the landfall cable ducts, excavation of the TJBs, installation of the open cut trench to the temporary tunnel compound 1, excavation of the tunnel shafts, provision of temporary construction compounds, excavation of open cut trenches for the ESBN Network Cables (along the eastern access road).

Receptor sensitivity

175. Medium or High (dependant on the nature, significance and extent of any previously unrecorded archaeological remains).

Magnitude of impact

176. Medium-High: Ground disturbances within the onshore development area, have the potential to result in direct, negative, permanent impacts on previously unrecorded archaeological remains that may survive beneath the current ground level, outside of the designated zones of archaeological potential.

Significance of the effect

177. The significance of effect arising from the above will be dependent on the sensitivity of any previously unrecorded archaeological remains, which may be medium or high. The magnitude of impact may be low, medium or high. Therefore (as per **Plate 22-1** EPA Chart showing typical classifications of the Significance of Effect), an effect of **Slight** to **Profound** adverse significance may occur, which may be significant in EIA terms.

Additional mitigation

178. All ground excavation works will be subject to archaeological monitoring under licence from the National Monuments Service of the DoHLGH. Monitoring involves an archaeologist being present for the entirety of ground excavations. A licence for the works will take 3–4 weeks to process and the methodology will also require approval from the Dublin City Archaeologist. If archaeological remains are identified during the course of works, further mitigation will be required, such as preservation in-situ or by record. Preservation in-situ means that the identified remains will be avoided by any further works and retained within their original contexts, Preservation by record will require the archaeological excavation of the identified remains. Further mitigation will require additional methodologies to be agreed by the DoHLGH and Dublin City Archaeologist.

Residual effect

179. With the adoption of mitigation measures the magnitude of effect will be low. The significance of the residual effect is therefore predicted to be **Slight** negative, which is not significant in EIA terms.

Impact 4: Temporary disturbance to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and the DCIHR outfall works, during the construction phase

180. Works associated with this setting impact include the construction of the onshore substation, provision of Compound C, installation of the temporary access road, and installation of the ESBN network cables.

Receptor sensitivity

181. High (Recorded Monuments/ Protected Structures / Conservation Area / DCIHR).

Magnitude of impact

182. Low: Construction activities associated with these works have the potential to result in indirect, negative, short-term impacts on the surrounding recorded archaeological and built heritage sites, Pigeon House Conservation Area and DCIHR outfall works.

Significance of the effect

183. The sensitivity of the recorded archaeological and built heritage sites, Pigeon House Conservation Area and DCIHR outfall works is considered to be High and the magnitude the of impact is assessed as Low. Therefore (as per **Plate 22-1** EPA Chart showing typical classifications of the Significance of Effect), an effect of **Moderate** adverse significance is predicted on these sites, which is not significant in EIA terms.

Additional mitigation

184. Due to the nature of the construction process, which is a visually intrusive operation, it is not possible to mitigate indirect impacts on the setting of sensitive receptors, although the duration of the impact will be short-term.

Residual effect

185. The significance of the residual effect is predicted to be **Moderate**, but is short-term in nature, and is not significant in EIA terms.

Impact 5: Temporary disturbance to the setting of the Dublin Port cultural heritage landscape during the construction phase

186. Works associated with this impact on setting include the construction of the onshore substation, provision of Compound C, installation of the temporary access road, and installation of the ESBN network cables.

187. No impacts are predicted from the landfall works and tunnel drive to temporary tunnel compound 2 as these works are located on the southern side of the Poolbeg Peninsula and would not be visible at the mouth of the river and or from the docks.

Receptor sensitivity

188. Medium (tangible cultural heritage)

Magnitude of impact

189. Low: Construction activities associated with these works have the potential to result in indirect, negative, short-term impacts on the surrounding Dublin Port cultural heritage landscape.

Significance of the effect

190. The sensitivity of the Dublin Port Cultural Heritage landscape is considered to be Medium and the magnitude the of impact is assessed as Low. Therefore (as per **Plate 22-1** EPA Chart showing typical classifications of the Significance of Effect), an effect of **Slight** adverse significance is predicted on this landscape, which is not significant in EIA terms.

Additional mitigation

191. Due to the nature of the construction process, which is a visually intrusive operation, it is not possible to mitigate indirect impacts on the setting of sensitive receptors, although the duration of the impact will be short-term.

Residual effect

192. The significance of the residual effect is predicted to be **Slight**, but is short-term in nature, which is not significant in EIA terms.

Operation and maintenance

Impact 1: Long-term change to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and DCIHR outfall works, due to the presence of the onshore substation

193. This relates to the presence of the onshore substation during the O&M phase. There are minimal other above ground structures associated with the landfall and onshore export and ESBN network cables.

194. During the O&M phase, works at the onshore substation will be associated with maintenance, repair and inspection activities. Apart from these activities, the onshore substation will be unmanned and monitored remotely. The visits will be c. an average of one visit per week. The activities associated with the presence of personnel are not predicted to contribute to the impact on setting.

195. **Chapter 23**, **Appendix 23.3 Figures and Visualisations**, Viewpoint 3, Pigeon House Road shows the onshore substation facing east-northeast from Pigeon House Road.

Receptor sensitivity

196. High (Recorded Monuments, Protected Structures, Conservation Area, DCIHR)

Magnitude of impact

197. Low: The onshore substation has the potential to result in indirect, negative, long term, reversible impacts on the settings of the surrounding recorded archaeological and built heritage sites, the Pigeon House Conservation Area and DCIHR outfall works.

198. As noted within **Section 22.1.9, Primary mitigation measures**, the design of the onshore substation has been developed to reduce the visual impact of the buildings where possible and develop a façade design that is appropriate for receiving environment.

199. The Codling Wind Park Onshore Substation Architectural Design Statement, details how the design of the facades for the onshore substation have sought to reduce the visual impact of the buildings, whilst

also reflecting the context of the surrounding buildings in the Poolbeg Peninsula. Key considerations included:

- Material selection: The building facades have been designed to incorporate the architectural narrative of the past, present and future of the Poolbeg Peninsula, giving regard to the materials that currently surround the site; those being brick, stone and industrial metal.
- Visual massing: The massing of the buildings has been broken up by utilising two materials across the facade, creating an upper and lower layer. These layers are made up of a grey masonry base and metal clad top layer. The layers allow the onshore substation buildings to sit between and stitch together existing buildings in the Peninsula, from a historical and contemporary context.
- Colour selection: The selection of the grey colour was found to be less impactful to other colours and sits well with the blue-grey tones of the water frontage and Dublin sky.

200. As illustrated in **Section 22.1.6**, the substation site occupies a highly developed industrial landscape and due consideration is given to the presence of large-scale, modern structures within the study area of the development. These include the ESB Poolbeg Generating Station to the east; the Dublin Waste to Energy Plant to the south-southwest and the recycling facility to the immediate west.

Significance of effect

201. The sensitivity of the recorded archaeological and built heritage sites, including Pigeon House Harbour Conservation Area and outfall works is considered to be High and the magnitude of the impact is assessed as Low. Therefore (as per **Plate 22-1** EPA Chart showing typical classifications of the Significance of Effect), an effect of **Moderate** significance is predicted, which is not significant in EIA terms.

Additional mitigation

202. Based on the predicted level of effect, additional mitigation is not required beyond the embedded mitigation described in **Section 22.1.9, Primary mitigation measures**.

Residual effect

203. The significance of the residual effect is predicted to be **Moderate** negative**,** which is not significant in EIA terms.

Impact 2: Long-term change to the setting of the Dublin Port cultural heritage landscape due to the presence of the onshore substation

204. This relates to the presence of the onshore substation during the O&M phase. There are minimal other above ground structures associated with the landfall and onshore export and ESBN network cables.

205. During the O&M phase, works at the onshore substation will be associated with maintenance, repair and inspection activities. Apart from these activities, the onshore substation will be unmanned and monitored remotely. The visits will be c. an average of one visit per week. The activities associated with the presence of personnel are not predicted to contribute to the impact on setting. **Chapter 23, Appendix 23.3 Figures and Visualisations** contains photomontages of the onshore substation, within the port cultural heritage landscape.

Receptor sensitivity

206. Medium (Tangible cultural heritage).

Magnitude of impact

207. Low: The presence of buildings at the onshore substation site has the potential to result in indirect, negative, long term, reversible impacts on the wider cultural heritage landscape of the port. **Chapter 23, Appendix 23.3 Figures and Visualisations** contains a photomontage of the onshore substation, within the port landscape.

208. As noted within **Section 22.1.9, Primary mitigation measures**, the design of the onshore substation has been developed to reduce the visual impact of the buildings where possible and develop a façade design that is appropriate for receiving environment.

209. The Codling Wind Park Onshore Substation Architectural Design Statement, details how the design of the facades for the onshore substation have sought to reduce the visual impact of the buildings, whilst also reflecting the context of the surrounding buildings in the Poolbeg Peninsula. Key considerations included:

- Material selection: The building facades have been designed to incorporate the architectural narrative of the past, present and future of the Poolbeg Peninsula, giving regard to the materials that currently surround the site; those being brick, stone and industrial metal.
- Visual massing: The massing of the buildings has been broken up by utilising two materials across the facade, creating an upper and lower layer. These layers are made up of a grey masonry base and metal clad top layer. The layers allow the onshore substation buildings to sit between and stitch together existing buildings in the Peninsula, from a historical and contemporary context.
- Colour selection: The selection of the grey colour was found to be less impactful to other colours and sits well with the blue-grey tones of the water frontage and Dublin sky.

210. As illustrated in **Section 22.1.6**, the substation site occupies a highly developed industrial landscape and due consideration is given to the presence of large-scale, modern structures within the study area of the development. These include the extensive ESB Poolbeg Generating Station to the east; the Dublin Waste to Energy Plant to the south-southwest and the recycling facility to the immediate west.

Significance of effect

211. The sensitivity of the Dublin Port Cultural Heritage landscape is considered to be Medium and the magnitude the of impact is assessed as Low. Therefore (as **Plate 22-1** EPA Chart showing typical classifications of the Significance of Effect), an effect of **Slight** negative significance is predicted on this landscape, which is not significant in EIA terms.

Additional mitigation

212. Based on the predicted level of effect, additional mitigation is not required beyond the embedded mitigation described in **Section 22.1.9**.

Residual effect

213. The significance of the residual effect is predicted to be **Slight** negative, which is not significant in EIA terms.

Decommissioning phase

214. 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.

215. 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.

216. 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.

217. Activities associated with decommissioning would result in the restoration of the receiving environment to current form (assuming no other developments have taken place). This would remove potential negative impacts on the settings of onshore archaeological, built heritage and cultural heritage sites.

218. Any other potential impacts are expected to be of a similar type and will be no greater in magnitude and duration than those assessed at construction stage.

22.1.11 Cumulative Impacts

219. 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’).

220. **Appendix 22.1** presents the findings of the Cumulative Effects Assessment (CEA) for the archaeological, architectural and cultural heritage resource, which considers the residual effects presented in **Section 22.1.10** alongside the potential effects of other proposed and reasonably foreseeable other development.

22.1.12 Transboundary impacts

221. There are no transboundary impacts with regard to the archaeological, architectural and cultural heritage resource as the onshore development area would not be sited in proximity to any international boundaries. Transboundary impacts are therefore scoped out of this assessment and are not considered further.

22.1.13 Inter-relationships

222. 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.

223. 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.

224. 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

225. The potential inter-related effects that could arise in relation to onshore archaeological, architectural and cultural heritage are presented in **Table 22-11** Inter-related effects (phase) assessment for archaeological, architectural and cultural heritage

Table 22-11 Inter-related effects (phase) assessment for archaeological, architectural and cultural heritage

Impact / receptor	Related chapter	Phase assessment
Impact 2: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for the Ballast Wall, including the Pigeon House harbour wall (RMP DU018-066/DU019-029, RPS 6797).	**Chapter 24 Noise and Vibration**	The perimeter wall for the reclaimed section at the onshore substation abuts the Pigeon House harbour wall. This requires piling works to take place adjacent to the wall. The wall will be subject to a condition survey in advance of construction works. The results of condition survey will determine the classification of the wall and the associated guideline vibration criteria. Regardless of the guideline vibration criteria, vibration monitoring will be undertaken during the piling works directly adjacent to the wall to ensure the recommended guideline vibration criteria is not exceeded. **Chapter 24 Noise and Vibration** concluded that with the adoption of the above mitigation, the effects on the harbour wall would be not significant and temporary, which is not significant in EIA terms. On this basis, it is not anticipated that there any inter-related effects produced that are of greater significance than those already assessed.

22.1.14 Potential monitoring requirements

226. No monitoring is required in relation to archaeology, architectural and cultural heritage.

22.1.15 Impact assessment summary

227. Part A of this chapter, of the EIAR has assessed the potential environmental impacts on the onshore archaeological, architectural and cultural heritage resource from the construction, O&M and decommissioning phases of the OTI. Where significant impacts have been identified, additional mitigation has been considered and incorporated into the assessment. **Table 22-12** summarises the impact assessment undertaken and confirms the significance of any residual effects, following the application of additional mitigation.

228. The purpose of this assessment is to identify and assess the significance, of and impacts to, any recorded or previously unrecorded archaeological, architectural and cultural heritage sites, associated with the OTI. This comprises the the transition joint bays (TJBs), onshore export cables, the onshore substation and the ESBN network cables to connect the onshore substation to the Poolbeg 220kV substation. Part A also describes the potential impacts of the works at the landfall (landward of the HWM), where the offshore export cables are brought onshore and connected to the onshore export cables at the TJBs. The development will be located on the Poolbeg Peninsula.

229. There are three recorded monuments within the onshore development area (site of Block House, Pigeon House Fort and the site of the Ballast Wall). The later Great South Wall, located to the east of the onshore development area is also listed in the RMP, whereas the site of a signal tower, is located to the immediate south of the onshore development area. None of these sites are listed as National Monuments or are monuments that are subject to a Preservation Order.

There are six protected structures located within the 500m study area of the onshore development area, although there are no NIAH structures situated in the study area. The RPS includes the Ballast Wall (partially within the onshore development area, including Pigeon House harbour wall) and the upstanding remains of Pigeon House Fort and the Great South Wall, which are also listed in the RMP. Additional structures include the Former St Catherines Hospital, Pigeon House Hotel and the Pigeon House Power Station.

230. Ground disturbances associated with the excavation of open cut trenches, or for the provision of compounds, temporary access and existing access upgrades, have the potential to result in direct, negative, permanent impacts on buried archaeological remains associated with the fort (RMP DU019-027, RPS 6794). No upstanding remains will be affected by construction.

231. Ground disturbances associated with the excavation of open cut trenches, enabling works associated with the tunnelling operation, works through/on the Pigeon House harbour wall and construction of the access bridge into onshore substation site, have the potential to result in direct, negative, permanent impacts on archaeological remains associated with the Ballast Wall and Pigeon House harbour wall. The onshore export cable will be tunnelled beneath the Ballast Wall.

232. Ground disturbances associated with the excavation of open cut trenches, or for the provision of compounds, have the potential to result in direct, negative, permanent impacts on previously unrecorded archaeological remains that may survive beneath the current ground level, outside of the designated zones of archaeological potential. The significance of effect arising from the above will be dependent on the nature, extent and significance (importance: medium, high) of any such archaeological remains identified.

233. Construction activities have the potential to result in indirect, negative, short-term impacts on the setting of the surrounding recorded archaeological and built heritage sites, the Pigeon House Conservation Area, the DCIHR outfall works and the wider cultural heritage landscape of the port. This is due to the presence of plant, equipment and hoarding required during construction. However, it is noted that these works are being undertaken in an already highly developed industrial landscape.

234. Operation activities associated with presence of the onshore substation have the potential to result in indirect, negative, permanent impacts on the settings of the surrounding recorded archaeological and built heritage sites, including the Pigeon House Conservation Area and DCIHR outfall works.

235. Operation of the onshore substation has the potential to result in indirect, negative, long-term and reversible impacts on the wider cultural heritage landscape of the port. As illustrated throughout this assessment, the onshore substation site occupies a highly developed industrial landscape and due consideration is given to the presence of large-scale, modern structures within the study area of the development. These include the extensive ESB Poolbeg Generating Station to the east; the Dublin Waste to Energy facility to the south-southwest and the recycling facility to the immediate west. The character of the study area has been included within the assessment, where operational impacts are predicted.

Table 22-12 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: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for block house and fort (RMP DU019-027, RPS 6794).	Block house and fort ZAP (RMP DU019-027, RPS 6794).	High (Recorded Monument and Protected Structure)	Medium	Significant adverse (Significant)	All ground works within the zone of archaeological potential associated with the fort (RMP DU019-027) will be subject to archaeological monitoring under licence from the National Monuments Service of the DoHLGH.	Slight negative (Not significant)

Potential impact	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect	Additional mitigation	Residual effect
Impact 2: Permanent loss or disturbance of archaeological features or deposits located within the onshore development area and within the zone of archaeological potential for the Ballast Wall, including the Pigeon House harbour wall (RMP DU018-066/DU019-029, RPS 6797).	Ballast Wall ZAP and Pigeon House Harbour, RMP DU018-066/DU019-029, RPS 6797).	High (Recorded Monument and Protected Structure)	Medium	Significant adverse (Significant)	All ground works within the zone of archaeological potential associated with the fort (DU018-066/DU019-029, RPS 6797) will be subject to archaeological monitoring under licence from the National Monuments Service of the DoHLGH.	Slight negative (Not significant)

Potential impact	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect	Additional mitigation	Residual effect
Impact 3: Permanent loss or disturbance of archaeological features or deposits that may survive beneath the current ground level within the onshore development area and outside of the designated zones of archaeological potential.	Onshore development lands outside of designated zones of archaeological potential	Medium or High (dependant on the nature, significance and extent of any previously unrecorded archaeological remains).	Medium or High (dependant on the nature, significance and extent of any previously unrecorded archaeological remains).	Slight – Profound adverse (Not significant to significant)	All ground works will be subject to archaeological monitoring under licence from the National Monuments Service of the DoHLGH.	Slight negative (Not significant)

Potential impact	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect	Additional mitigation	Residual effect
Impact 4: Temporary disturbance to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and the DCIHR outfall works, during the construction phase	Recorded archaeological and built heritage sites (including Pigeon House Harbour Conservation Area and outfall works	High (Recorded Monuments/ Protected Structures/ Conservation Area/ DCIHR)	Low	Moderate adverse (Not significant)	Due to the nature of the construction process, which is a visually intrusive operation, it is not possible to mitigate indirect impacts on the setting of sensitive receptors, although the duration of the impact will be short-term.	Moderate short-term (Not significant)
Impact 5: Temporary disturbance to the setting of the Dublin Port cultural heritage landscape during the construction phase.	Dublin Port Landscape	Medium (Tangible cultural heritage)	Low	Slight adverse (Not significant)	Due to the nature of the construction process, which is a visually intrusive operation, it is not possible to mitigate indirect impacts on the setting of sensitive receptors, although the duration of the impact will be short-term.	Slight short-term (Not significant)
Operation and Maintenance						

Potential impact	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect	Additional mitigation	Residual effect
Impact 1: Long-term change to the setting of recorded archaeological and built heritage sites, the Pigeon House Harbour Conservation Area and DCIHR outfall works, due to the presence of the onshore substation	Recorded archaeological and built heritage sites (including Pigeon House Harbour Conservation Area and outfall works	High (Recorded Monuments/ Protected Structures/ Conservation Area/ DCIHR)	Low	Moderate (Not significant)	Based on the predicted level of effect, additional mitigation is not required beyond the embedded mitigation described in **Section 22.1.9**.	Moderate negative (Not significant)
Impact 2: Long-term change to the setting of the Dublin Port cultural heritage landscape, due to the presence of the onshore substation	Dublin Port Landscape	Medium (Tangible cultural heritage)	Low	Slight negative (Not significant)	Based on the predicted level of effect, additional mitigation is not required beyond the embedded mitigation described in **Section 22.1.9**.	Slight negative (Not significant)
Decommissioning						

Potential impact	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect	Additional mitigation	Residual effect
Impacts on the receiving environment due to the removal of the OTI	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. 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, impacts will be no greater than those identified for the construction phase.					It is anticipated that the impacts will be no greater than those identified for the construction phase (Not significant)

22.2 Part B Offshore

22.2.1 Introduction

236. Part B of this chapter assesses the potential impact of offshore infrastructure during the operational and maintenance (O&M) phase, on the setting of receptors located within the onshore study area. For the purposes of this assessment, the offshore infrastructure specifically considered includes the wind turbine generators (WTGs) and the offshore substation structures (OSSs).

22.2.2 Consultation

237. Refer to Part A.

22.2.3 Legislation and guidance

238. Refer to Part A.

22.2.4 Impact assessment methodology

239. Refer to Part A, including the designation of sensitivity and magnitude.

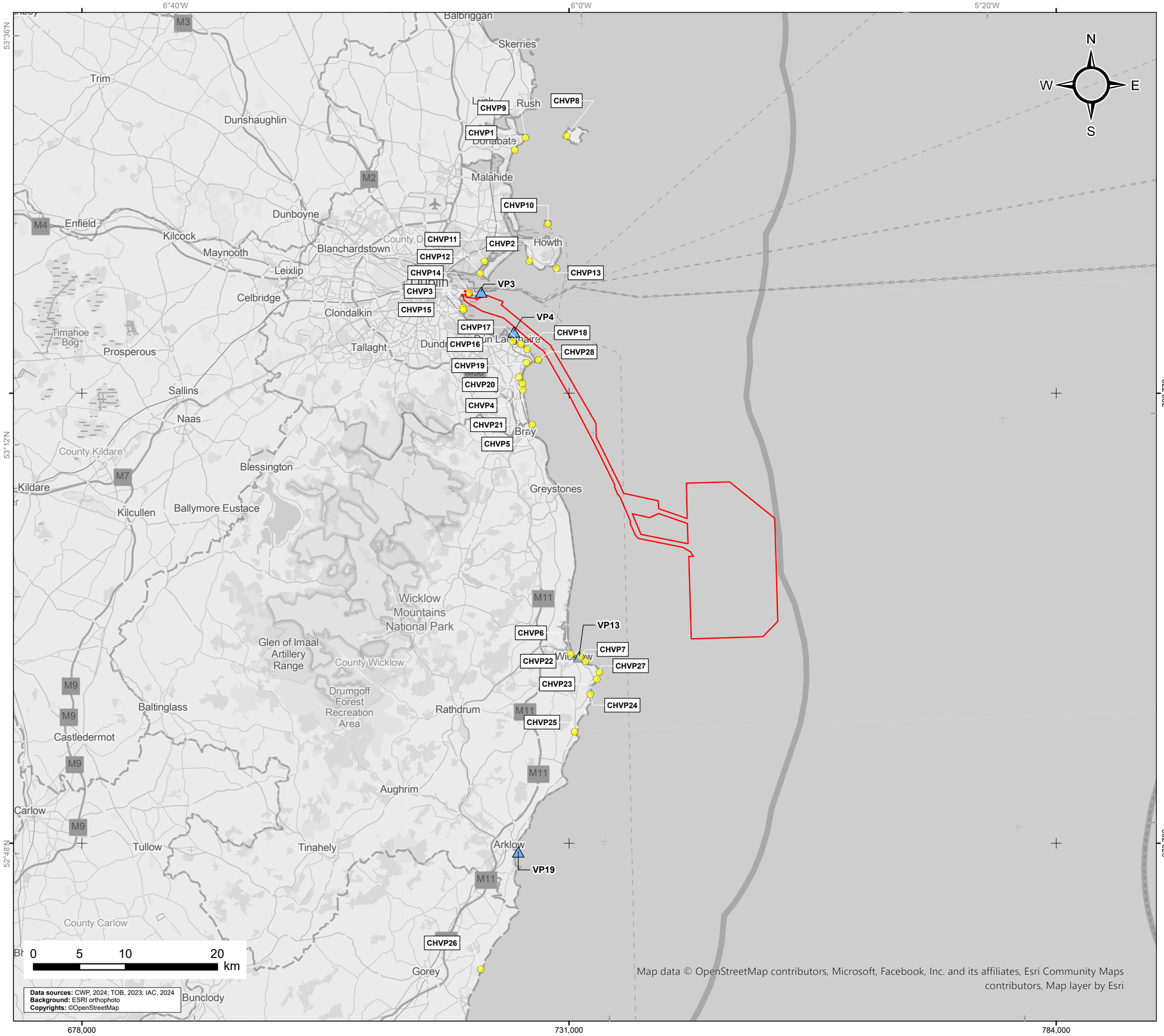
240. The study area for this exercise is as defined by the Zone of Theoretical Visibility (ZTV) mapping. Refer to **Chapter 15 Seascape, Landscape and Visual Impact Assessment** for ZTV details.

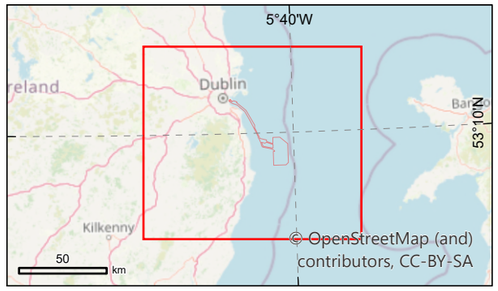
241. In addition to the resources detailed in **Section 22.2.4**, the following resources were reviewed in order to assess for the presence of coastal heritage assets within the study area.

- United Nations Educational, Scientific and Cultural Organization (UNESCO): properties inscribed on the World Heritage List and tentative list:
- Record of Monuments and Places for Counties Dublin, Wicklow and Wexford;
- Sites and Monuments Record for Counties Dublin, Wicklow and Wexford;
- National Monuments in State Care Database;
- Preservation Orders List;
- Fingal County Development Plan 2023–2029;
- Dublin City Development Plan 2022–2028;
- Dun Laoghaire Rathdown Development Plan 2022–2028;
- Wicklow County Development Plan 2022–2028;
- Wexford County Development Plan 2022–2028; and
- National Inventory of Architectural Heritage, Counties Dublin, Wicklow and Wexford.

242. A review of all the resources detailed in **Section 22.2.4**, which includes all recorded archaeological, architectural and cultural heritage sites, has been carried out, along with the analysis of historic mapping coverage.

243. This has resulted in the identification of 32 heritage sites that have a direct association with the coast, as detailed in **Table 22-14** Potential impacts scoped into the assessment. The location of the sites is shown on **Figure 22-5** (and the relevant photomontages, where referenced) and they are designated with a Cultural Heritage View Point (CHVP) number or a View Point (VP) number from **Chapter 23 Landscape and Visual Impact Assessment (LVIA)**. Wireframe modelling for the viewpoints is included in **Appendix 22.4**. and **Chapter 23 LVIA** shows relevant photomontages.





Legend

- Planning application boundary
- Seascape, landscape and visual impact assessment viewpoints
- Cultural heritage viewpoints (CHVPs)

codling wind park

Project: Codling Wind Park

Contractor: TOBIN

Website: www.tobin.ie

Figure 22.5
Location of Cultural Heritage View Point and View Point sites

CWP doc. number: CWP-TOB-ENG-08-01-MAP-1656

Internal descriptive code: ALL - PAB..WTG.LO.60.L214 - CLOSEST.NOISE.SL.TO. CWP.DA.WFs, ARK2.WF.WTGs, DA.WF.WTGs - (EIAR.Vol.04.Ch.24.Ap.01.FIG.01)

Size: A3

Scale: 1:400,000

CRS: EPSG 2157

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

244. The sites are located in areas where the Zone of Theoretical Visibility (ZTV) mapping, indicates that there may be visibility between the CHVP and the proposed offshore development. The archaeological, architectural and cultural heritage sites or structures within any portions of the landscape, where the ZTV mapping indicates that there will be no visibility, have been screened out.

245. "Setting" with regards to archaeological, architectural and cultural heritage site/structures, can be defined as follows (Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas (ICOMOS 2005, 2):

- *The setting of a heritage structure, site or area is defined as the immediate and extended environment that is part of, or contributes to, its significance and distinctive character*.

246. Given the proposed offshore development occupies the marine environment, those coastal sites and structures that have a direct relationship with the coast, have been assessed in order to understand how the proposed development will affect this relationship and thus the setting of the sites or structures.

22.2.5 Assumptions and limitations

247. Refer to Part A.

22.2.6 Existing environment

248. Refer to Part A and the below **Table 22-13**, describes the various coastal heritage assets that have been assessed. The sites and structures identified occupy the coastal margins of Counties Dublin, Wicklow and Wexford. They represent sites and structures that exist due to the location of the adjacent marine environment, such as light houses, Martello Towers or promontory forts.

249. The location of heritage assets detailed in **Table 22-13** Coastal cultural heritage assets are presented in **Figure 22-5**.

Table 22-13 Coastal cultural heritage assets

CHVP/VP No.	Reference	Location	Classification	Distance from array area	Status	Sensitivity of receptor
CHVP1	RMP DU012-008----RPS 453 NIAH 11337001	Balcarrick, Co. Dublin	Martello Tower	40.7km	RMP/ RPS/ NIAH	High
CHVP2	RMP DU019-005---- RPS 579 NIAH 11366017	Sutton South, Co. Dublin	Martello Tower	29.6km	RMP/ RPS/ NIAH	High
CHVP3	RMP DU019-018--- RPS 7860	Sandymount, Co. Dublin	Martello Tower	30.9km	RMP/ RPS	High
CHVP4	RMP DU026-014001	Killiney, Co. Dublin	Martello Tower	20.8km	RMP/ RPS	High

	RPS 1761					
CHVP5	N/a	Bray, Co. Wicklow	Bray Harbour	18km	N/a	Medium
CHVP6	PO No. 114/1940 RMP WI025-012001	Wicklow, Co. Wicklow	Wicklow Castle	13km	PO, RMP	High
CHVP7	PO No. 113/1940 RMP WI025-013----	Wicklow, Co. Wicklow	Black Castle	12.2km	PO, RMP	High
CHVP8	RMP DU009-001007	Lambay Island, Co. Dublin	Lambay Church	39.9km	RMP	High
CHVP9	RMP DU012-010, RPS 542	Quay, Co. Dublin	Martello Tower	18.7km	RMP, RPS	High
CHVP10	RMP DU016-001001	Ireland's Eye, Co. Dublin	Island's Eye Church	32km	RMP	High
CHVP11	Conservation Area	At Ann's Park, Dublin City	Eastern section of St Ann's demesne landscape	32.6km	CA	Medium
CHVP12	NIAH 50030344	Bull Wall, Dublin City	Coastguard Station	32km	NIAH	Medium
CHVP13	RPS 587 NIAH 11367007	Howth, Co. Dublin	Baily Lighthouse	30.2km	RPS, NIAH	High
CHVP14	RMP DU019-038001 RPS 6794	Pigeon House Road, Co. Dublin	Pigeon House Fort	31.4km	RMP, RPS	High
CHVP15	N/a	Strand Road, Sandymount	Sea Baths	30.7km	N/a	Medium
CHVP16	N/a	Dun Laoghaire, Co. Dublin	Dun Laoghaire Sea Baths	24.3km	N/a	Medium
CHVP17	RMP DU023-019---- RPS 1027	Sandycove, Co. Dublin	Martello Tower	23.5km	RMP, RPS	High
CHVP18	RMP DU023-022, RPS 1402	Bullock, Co. Dublin	Martello Tower	22.6km	RMP, RPS	High

CHVP19	RMP DU023-072, RPS 1619	Dalkey Hill, Co. Dublin	Signal Tower	21.7km	RMP, RPS	High
CHVP20	RMP DU026-011 RPS 1703	Killiney, Co. Dublin	Martello Tower	21.5km	RMP, RPS	High
CHVP21	RMP DU026-089----	Shanganagh, Co. Dublin	Battery	20.5km	RMP	High
CHVP22	RMP WI025-110----	Co. Wicklow	Promontory Fort	11.7km	RMP	High
CHVP23	RMP WI031-110----	Dunbur Head, Co. WIcklow	Promontory Fort	11.1km	RMP	High
CHVP24	RMP WI031-047----	Kilpoole Upper Co. WIcklow	Promontory Fort	12.5km	RMP	High
CHVP25	n/a	Ballynacarraig, Co. Wicklow	Coastguard Station	16.2km	n/a	Medium
CHVP26	n/a	Ballymoney, Co. Wexford	Coastguard Station	42.6km	n/a	Medium
VP3	RMP DU019-029002 RPS 6798 CA	Ringsend, Co. Dublin	Great South Wall	31.3km	RMP, RPS, CA	High
VP4	RPS 127, 307 Proposed ACA	Dun Laoghaire, Co. Dublin	Dun Laoghaire Harbour	25km	RPS, Proposed ACA	High
VP13	N/a	Co. Wicklow	Wicklow Town Harbour	12.3km	N/a	Medium
CHVP27	RPS 25-09 RMP WI031-111---- WI031-112001 NIAH 16403102 16403101	Wicklow Head, Co. Wicklow	Wicklow Lighthouse/ promontory fort/ signal tower	10.8km	RPS, RMP, NIAH	High
VP19	N/a	Arklow, Co. Wicklow	Arklow Harbour	29.9km	N/a	Medium
CHVP28	NM 33 RMP DU023-029003- RPS 1611	Dalkey Island, Co. Dublin	Dalkey Island Church	20.6km	NM, RMP, RPS	High

22.2.7 Scope of the Assessment

250. An EIA Scoping Report for the offshore infrastructure was published on 6 January 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.

251. Based on responses to the Scoping Report, further consultation and refinement of the CWP Project design, potential impacts to onshore archaeology, architectural and cultural heritage scoped into the assessment are listed below in **Table 22-14**.

Table 22-14 Potential impacts scoped into the assessment

Impact No.	Description of impact	Notes
Operation and maintenance		
Impact 1	Long-term change to the setting of archaeological, architectural and cultural heritage sites directly linked to the coast, within the ZTV from offshore infrastructure (Options A and B).	Potential impacts arising from the presence of the WTGs and Offshore substation structures (OSSs) upon the setting of onshore archaeological, architectural and cultural heritage sites directly associated with the coastline/ marine environment.

252. Potential impacts scoped out of the assessment are listed below in **Table 22-15**.

Table 22-15 Potential impacts scoped out of the assessment

Description of impact	Justification for scoping out
Short-term disturbance to the setting of archaeological, architectural and cultural heritage sites directly linked to the coast, within the ZTV from offshore infrastructure (Options A and B) (Construction and decommissioning phases)	It was considered that potential impacts arising from the construction/decommissioning phases of the WTGs and Offshore substation structures (OSSs) on the setting of onshore archaeological and architectural heritage sites would result in indirect and also short-term. Overall, the potential for impacts on setting were not predicted to have significant effects and therefore have been scoped out of the assessment.

22.2.8 Assessment parameters

Background

253. 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.

254. 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.

255. **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.

256. 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.

257. 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.

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

259. 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.

Options and dimensional flexibility

260. 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.

261. For onshore archaeology, architectural and cultural heritage this analysis is presented in **Appendix 22.2** which identifies one or more representative scenario for each impact with supporting text to demonstrate that no other scenarios would give rise to new or materially different effects; taking into consideration the potential impact of other scenarios on the magnitude of the impact or the sensitivity of the receptor(s) that is being considered.

262. **Table 22-16** below, presents a summarised version of **Appendix 22.2** and describe the representative scenarios on which the O&M phase assessment has been based. Where options exist, for each receptor and potential impact, the table identifies the representative scenario and provides a justification for this.

Limit of deviation

263. 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.

264. This chapter assesses the specific preferred location for permanent infrastructure. However, **Appendix 22.2** provides further analysis to determine if the proposed LoD for permanent infrastructure may give rise to any new or materially different effects; taking into consideration the potential impact of the proposed LoD on the magnitude of the impact.

265. For onshore archaeology, architectural and cultural heritage this analysis is summarised in **Table 22-17** Limit of deviation relevant to assessment of archaeology, architecture and cultural heritage.

266. Where the potential for LoD to cause a new or materially different effect is identified, then this is noted in **Table 22-17** Limit of deviation relevant to assessment of archaeology, architecture and cultural heritage and is considered in more detail within **Section 22.2.10** of this chapter.

Table 22-16 Design parameters relevant to assessment of archaeology, architectural and cultural heritage (offshore)

Impact 1: Long-term change to the setting of archaeological, architectural and cultural heritage sites directly linked to the coast, within the ZTV from offshore infrastructure (Options A and B).	Generating station (WTG Option A and Options B) Note – includes WTGs, IACs and interconnectors		This impact relates to long-term change to the setting of archaeological and architectural heritage sites directly linked to the coast, within the ZTV from offshore turbines (Options A and B) during the operation and maintenance phase. The potential for both WTG Option A and WTG Option B to impact on individual sites/structures that are intrinsically linked to the coast (as identified in the ZTV mapping) has been assessed.
	Permanent infrastructure for Option A		
	Number of offshore turbines	75	
	WTGs rotor diameter (m)	250	
	Hub height (m)	163	
	Tip height (m)	288	
	Permanent infrastructure for Option B		
	Number of offshore turbines	60	
	WTGs rotor diameter (m)	276	
	Hub height (m)	176	
	Tip height (m)	314	
	Area of array site (km^2) *(applies to both options)*	125	
	Offshore substation structures (OSSs)		
	Permanent infrastructure		
	Number of OSSs	3	
	Height of Topside above LAT (m)	55	
	Length of Topside (m)	45	
	Width of Topside (m)	35	

Table 22-17 Limit of deviation relevant to assessment of archaeology, architecture and cultural heritage

Project component	Limit of deviation	LoD impact summary
WTGs / OSSs	100m from the centre point of each WTG and OSS location is proposed to allow for small adjustments to be made to the structure locations.	No potential for new or materially different effects
IACs / interconnector cables	100m either side of the preferred alignment of each IAC and interconnector cable is proposed to allow for small adjustments to be made to the cable alignments.	N/A for this assessment
Offshore export cables	The offshore export cable corridor (OECC)	N/A for this assessment

22.2.9 Primary mitigation measures

267. Refer to Part A.

22.2.10 Impact assessment

Operation and maintenance

Impact 1: Long-term change to the setting of archaeological, architectural and cultural heritage sites directly linked to the coast, within the ZTV from offshore infrastructure (Options A and B)

268. A description of the potential effect on heritage receptors caused by the offshore infrastructure is given in **Table 22-18** below.

Table 22-18 Offshore infrastructure assessment

Site Ref.:	Description	Sensitivity	Magnitude	Significance of effect / residual effect
CHVP1	Martello Tower (RMP/ RPS/ NIAH)	High	A - Negligible	Not significant negative
			B - Negligible	Not significant negative
CHVP2	Martello Tower (RMP/ RPS/ NIAH)	High	A - Negligible	Not significant negative
			B - Negligible	Not significant negative
CHVP3	Martello Tower (RMP/ RPS/ NIAH)	High	A – No impact predicted	N/a
			B – No impact predicted	
CHVP4	Martello Tower (RMP/ RPS/ NIAH)	High	A – Low	Slight negative
			B – Low	Slight negative
CHVP5	Bray Harbour	Medium	A – Low	Slight negative
			B – Low	Slight negative

Site Ref.:	Description	Sensitivity	Magnitude	Significance of effect / residual effect
CHVP6	Wicklow Castle (PO, RMP)	High	A – Negligible	Slight negative
			B – Negligible	Slight negative
CHVP7	Black Castle (PO, RMP)	High	A – Low	Moderate negative
			B – Low	Moderate negative
CHVP8	Lambay Church (RMP)	High	B – Negligible	Not significant negative
			B – Negligible	Not significant negative
CHVP9	Martello Tower (RMP/ RPS/ NIAH)	High	A – Negligible	Not significant negative
			B – Negligible	Not significant negative
CHVP10	Island's Eye Church (RMP)	High	A – Negligible	Not significant negative
			B – Negligible	Not significant negative
CHVP11	Edge of St Ann's demesne	Medium	A – Negligible	Imperceptible negative
			B – Negligible	Imperceptible negative
CHVP12	Coastguard Station	Medium	A – Negligible	Imperceptible negative
			B – Negligible	Imperceptible negative
CHVP13	Baily Lighthouse (RPS/NIAH)	High	A – Negligible	Not significant negative
			B – Negligible	Not significant negative
CHVP14	Pigeon House Fort (RPS/RMP)	High	A – Negligible	Not significant negative
			B – Negligible	Not significant negative
CHVP15	Sea Baths	Medium	A – No impact predicted	N/a
			B – No impact predicted	
CHVP16	Dun Laoghaire Sea Baths	Medium	A – No impact predicted	N/a
			B – No impact predicted	
CHVP17	Martello Tower (RMP/ RPS)	High	A – No impact predicted	N/a
			B – No impact predicted	
CHVP18	Martello Tower (RMP/ RPS)	High	A – Negligible	Not significant negative
			B – Negligible	Not significant negative
CHVP19	Signal Tower (RMP)	High	A – Negligible	Slight negative
			B – Negligible	Slight negative
CHVP20	Martello Tower (RMP/ RPS)	High	A – Negligible	Not significant negative
			B – Negligible	Not significant negative

Site Ref.:	Description	Sensitivity	Magnitude	Significance of effect / residual effect
CHVP21	Battery (RMP)	High	A – Negligible	Slight negative
			B – Negligible	Slight negative
CHVP22	Promontory Fort (RMP)	High	A – Low	Moderate negative
			B – Low	Moderate negative
CHVP23	Promontory Fort (RMP)	High	A – Low	Slight negative
			B – Low	Slight negative
CHVP24	Promontory Fort (RMP)	High	A – Low	Moderate negative
			B – Low	Moderate negative
CHVP25	Coastguard Station	Medium	A – Low	Slight negative
			B – Low	Slight negative
CHVP26	Coastguard Station	Medium	A – Negligible	Imperceptible negative
			B – Negligible	Imperceptible negative
VP3	Great South Wall (RMP, RPS, CA)	High	A – Negligible	Not significant negative
			B – Negligible	Not significant negative
VP4	Dun Laoghaire Harbour – east pier (RPS)	High	A – Negligible	Not significant negative
			B – Negligible	Not significant negative
VP13	Wicklow Town Harbour	Medium	A – Low	Slight negative
			B – Low	Slight negative
CHVP27	Wicklow Lighthouse/ promontory fort/ signal tower (RPS, RMP, NIAH)	High	A – Low	Moderate negative
			B – Low	Moderate negative
VP19	Arklow Harbour	Medium	A – Negligible	Imperceptible negative
			B – Negligible	Imperceptible negative
CHVP28	Dalkey Island Church (NM, RMP, RPS)	High	A – Negligible	Slight negative
			B – Negligible	Slight negative

269. It is not possible to mitigate impacts upon sensitive receptors due to the fact that the offshore infrastructure are at a minimum distance of approximately 13 km offshore.

270. Therefore the predicted significance of effect is replicated within the residual impacts. None of the predicted impacts are considered to be significant negative due to the distance of the offshore infrastructure from the existing shore, but four moderate negative effects have been identified (CHVP7, CHVP22, CHVP24, CHVP27). CHVP7 relates to a site of national significance and whilst the magnitude of impact is defined as low, the significance of effect is moderate negative as these sites have high sensitivity.

271. Whilst the proposed turbines are more visible from these locations (Options A and B), their presence will not affect the manner in which the cultural heritage sites relate to the marine environment.

22.2.11 Cumulative impacts

272. 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. Refer to Part A and **Appendix 22.1**

273. **Appendix 22.1** presents the findings of the CEA for onshore archaeology, architectural and cultural heritage, which considers the residual effects presented in **Section 22.2.10** alongside the potential effects of other proposed and reasonably foreseeable development.

22.2.12 Transboundary impacts

Refer to Part A

22.2.13 Inter-relationships

274. 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.

275. 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.

276. 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

277. No inter-related effects have been identified upon the archaeological, architectural and cultural heritage resource, as part of the development of the offshore infrastructure.

22.2.14 Potential monitoring requirements

278. No monitoring is required in relation to archaeology, architectural and cultural heritage.

22.2.15 Impact assessment summary

279. None of the predicted impacts upon the onshore archaeological, architectural and cultural heritage resource (from off shore infrastructure) are considered to be significant negative due to the distance of the offshore infrastructure from the existing shore. A total of four moderate negative effects have been identified (CHVP7, CHVP22, CHVP24, CHVP27). CHVP7 relates to a site of national significance. Whilst the predicted magnitude of impact is defined as low, the significance of effect is moderate negative as these sites have high sensitivity.

280. Nine slight negative effects have been identified, along with 11 not significant effects. Imperceptible effects have been identified at four sites and no impacts are predicted in relation to four sites.

Table 22-19 Summary of potential impacts and residual effects (offshore)

Potential impact	Receptor	Receptor sensitivity	Magnitude of impact	Significance of effect	Additional mitigation	Residual effect
Long-term change to the setting of archaeological, architectural and cultural heritage sites directly linked to the coast, within the ZTV from offshore turbines (Options A and B).	Multiple – see **Table 22-18**	Medium to High	Negligible to low	Imperceptible to moderate negative (not significant)	It is not possible to mitigate impacts upon sensitive receptors due to the fact that the offshore turbines are a minimum distance of approximately 13 km offshore.	Imperceptible to moderate negative (not significant)

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