



Offshore Wind Power Limited

West of Orkney Windfarm Offshore EIA Report Addendum

Marine Archaeology and Cultural Heritage Additional Information

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Executive Summary

Offshore Wind Power Limited (OWPL) ('the Applicant') submitted an application for consent of the offshore elements of the West of Orkney Windfarm ('the offshore Project') in September 2023, supported by an Offshore Environmental Impact Assessment (EIA) Report ('the Offshore Application').

Following the review of the Offshore Application and upon receipt of representations from consultees, Marine Directorate – Licensing Operations Team (MD-LOT) issued Additional Information Requests to the Applicant on 8th February 2024 and 8th April 2024. The following key topics were relevant to marine archaeology and cultural heritage:

- An assessment of the setting of Sule Skerry lighthouse;
- Further consideration of Earls Palace Birsay and Brough of Birsay; and
- Further clarification of the baseline environment for Skara Brae and SS Navarra.

This document is an addendum to chapter 16: Marine archaeology and cultural heritage and provides the additional information in response to the Additional Information Requests and other relevant specific clarifications points from consultees. Stakeholder consultation has been undertaken to inform the additional information provided within this document.

As requested by Historic Environment Scotland (HES) an assessment is provided on the potential impacts of the offshore Project on the setting of Sule Skerry lighthouse, supported by appropriate wirelines, in accordance with the methodology outlined in chapter 16: Marine archaeology and cultural heritage. Overall, it is concluded that the offshore Project will not significantly affect the setting of the Sule Skerry lighthouse and consultation on the draft assessment with HES has indicated they will have no objection to the offshore consent application.

As requested by Orkney Islands Council (OIC) further information is provided on the potential effect of the offshore Project on the setting of Earls Palace Birsay and the Brough of Birsay from the additional views requested. Overall, the consideration of these additional views does not alter the original conclusions of the long-term changes to the settings of these receptors. The omission of SS Navarra has been rectified within this addendum and details on this wreck site are now included.

Overall, none of the additional information presented within this document has changed the overall conclusions of chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report, that there will be no significant effects on Marine archaeology and cultural heritage from the offshore Project.



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1 INTRODUCTION

Offshore Wind Power Limited (OWPL) ('the Applicant') is proposing the development of the West of Orkney Windfarm ('the Project'), an Offshore Wind Farm (OWF), located at least 23 kilometres (km) from the north coast of Scotland and 28 km from the west coast of Hoy, Orkney.

The Applicant submitted an application for consent under Section 36 of the Electricity Act 1989 and Marine Licences under Part 4 of the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 to Scottish Ministers in September 2023 ('the Offshore Application') for the offshore components of the Project seaward of Mean High Water Springs (MHWS) ('the offshore Project'). The offshore Project will consist of Wind Turbine Generators (WTGs) and all infrastructure required to transmit the power generated by the WTGs to shore.

In accordance with relevant EIA Regulations¹, an Offshore Environmental Impact Assessment (EIA) Report was submitted to Marine Directorate – Licensing Operations Team (MD-LOT) as part of the Applicant's Offshore Application. Chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report provides the assessment of likely significant effects from the offshore Project on marine archaeology and cultural heritage receptors, both from the offshore Project alone and also cumulatively with other projects, plans and activities, and whole Project perspective.

Following the review of the Offshore Application, and upon receipt of representations from consultees, MD-LOT issued Additional Information Requests to the Applicant on 8th February 2024 and 8th April 2024, covering the following key topics:

- An assessment of the setting of Sule Skerry lighthouse;
- Further consideration of Earls Palace Birsay and Brough of Birsay; and
- Further clarification of the baseline environment for Skara Brae and SS Navarra.

This document is an addendum to chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report and provides the additional information in response to the Additional Information Request and other relevant specific clarifications points from consultees. This document has been produced by Orkney Research Centre for Archaeology (ORCA) and the wirelines produced by WSP.

The relevant documents previously submitted as part of the Offshore EIA Report that should be read alongside this document are:

- [Offshore EIA Report Volume 2 - Chapter 16: Marine archaeology and cultural heritage;](#)
- [Offshore EIA Report Volume 2 - Supporting Study 15: Marine archaeology and cultural heritage gazetteer of sites;](#)
- [Offshore EIA Report Volume 2 - Supporting Study 20: Visualisations;](#) and
- [Offshore EIA Report Volume 2 - Supporting Study 22: Marine archaeology onshore setting supporting figures.](#)

¹ The relevant EIA Regulations include the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, and the Marine Works (Environmental Impact Assessment) Regulations 2007.



Stakeholder consultation was undertaken throughout the Offshore EIA in relation to marine archaeology and cultural heritage as outlined within section 16.3 of chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report. Consultation with Historic Environment Scotland (HES) and Orkney Islands Council (OIC) has continued following the submission of the Offshore Application and in the process of developing this addendum to chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report and has been referenced within this document as relevant.



2 STRUCTURE OF THIS DOCUMENT

This document has been structured as follows:

- Section 3 – summary of the Additional Information Request and other relevant specific clarification points from consultees;
- Section 4 – additional information in response to the requests outlined in section 2;
- Section 5 – summary and conclusions;
- Section 6 – references;
- Section 7 – acronyms; and
- Appendix A – Sule Skerry wirelines



3 REQUEST FOR ADDITIONAL ENVIRONMENTAL INFORMATION

On the basis of HES and OIC responses to the Offshore Application MD-LOT have requested (8th February 2024 and 8th April 2024) that additional information is provided with regards to the marine archaeology and cultural heritage assessment.

A summary of the key points raised by HES, OIC and MD-LOT in relation to marine archaeology and cultural heritage are presented in Table 3-1, along with a response where suitable or cross references where further information has been provided within this addendum to chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report.

Table 3-1 HES, OIC and MD-LOT request for additional information relevant to marine archaeology and cultural heritage

REQUEST	RESPONSE
<p>MD-LOT and HES have requested:</p> <ul style="list-style-type: none"> • An assessment of the setting of Sule Skerry Lighthouse and how it contributes to the cultural significance of the lighthouse; • An assessment of how the proposed turbines would affect the contribution that important views make to an understanding, appreciation and experience of the lighthouse' cultural significance; and • A wireline that illustrates potential impacts of the development on views from the lighthouse. 	<p>Section 4.1 presents the assessment of the setting of the Sule Skerry Lighthouse as requested. The wirelines are provided in Appendix A (including cumulative projects).</p>
<p>MD-LOT and OIC have requested:</p> <ul style="list-style-type: none"> • An assessment of effects on views from the east, down to and over Earls Palace Birsay. • An assessment of effects on views on the approach to Brough of Birsay in respect of Wireline E Birsay Carpark and Point of Buckquoy 	<p>The further consideration of the setting of onshore historic environment assets (to that provided in the Offshore EIA Report) is presented in section 4.2 for the Earl's Palace Birsay and section 4.3 for the Brough of Birsay.</p>
<p>OIC noted in their response that in general, the setting assessments underestimate the contribution of the open seascape to the setting of the assets and of the relationships of assets to the sea, not just to other sites and the landscape. This has led to sometimes underestimating the magnitude of impact. Related to this is a discrepancy in the use of the phrase 'adequately retains integrity', which is used in Table 16-11 criteria for assessing magnitude on setting in relation to medium magnitude of impact, yet is applied in some cases (VP21 Rackwick, Wireline E Point of Buckquoy, Wireline I Hall</p>	<p>Within chapter 16: Marine archaeology and cultural heritage section 16.6.2.4 of the Offshore EIA Report, the assessment of <i>long term changes to the setting of onshore historic environment assets that reduces their value</i>, it is acknowledged that the 'adequately retains integrity' phrase was used incorrectly in VP21 Rackwick, Wireline E Point of Buckquoy and Wireline I Hall of Clestrain. However, the opinion on the magnitude of impact for these assets remains unchanged and it is considered that the effects remain not significant.</p>



REQUEST	RESPONSE
<p>of Clestrain) where it is stated that the impact is of low magnitude.</p> <p>It should be noted that impact on the integrity of setting is not always assessed (HONO WHS Bay of Skaill, Wireline F Knowes of Trotty / HONO WHS West Mainland, VP 27 Kitchener Memorial, VP 28 Earl's Palace Birsay) resulting in inconsistent information on which to draw conclusions.</p>	<p>Noted the response with regards to the integrity of setting not being assessed for Heart of Neolithic Orkney (HONO) WHS Bay of Skaill, Knowes of Trotty/HONO World Heritage Site (WHS) West Mainland, VP27 Kitchener Memorial, VP28 Earl's Palace Birsay. The assessment of long-term changes to the setting of each of the assets named above is included in section 16.6.4.2 of chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report. The integrity of the setting of each of the assets named above would not be affected by the proposals. This omission of this statement does not change the findings of the Offshore EIA Report.</p>
<p>OIC also noted an error in the baseline description assessment for Skara Brae, which states that when it was built, the village was situated over 1 km from the sea's edge, while the scientific evidence so far indicates that the village was built only up to 500 m from the sea's edge, and so with the sea and its resources playing an important part in the setting of the village. It is similarly mistaken in stating that views to and from Skara Brae are restricted to its immediate environs, when there are views out from Skara Brae to the open sea. However, this view from Skara Brae itself would not have the offshore Project in it, although it would be visible from the centre and north of the Bay of Skaill. It is agreed that this would not have a significant effect on the integrity of the setting of the WHS or its Outstanding Universal Value.</p>	<p>The error in the baseline description assessment for Skara Brae is acknowledged, which should have noted the 500 m distance. The clarification on the views from Skara Brae is also acknowledged and the Applicant agrees with OIC. It is agreed that neither of these points affect the conclusions of the assessment, which remains not significant as presented in chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report.</p>
<p>MD-LOT and OIC requested clarification on the omission of SS Navarra (1940) PA, from the Supporting Study 15 Table 1.</p>	<p>Section 4.4 clarifies the omission of the SS Navarra from the Supporting Study 15: Marine archaeology and cultural heritage gazetteer of sites of the Offshore EIA Report and outlines how it fits into the baseline characterisation presented within chapter 16: Marine Archaeology and cultural heritage of the Offshore EIA Report.</p>



4 ADDITIONAL INFORMATION

4.1 Assessment of setting on Sule Skerry Lighthouse

The following setting impact assessment for Sule Skerry Lighthouse has been prepared to address the responses from MD-LOT and HES as outlined within section 3, and to provide the information required to allow Scottish Ministers to make an informed decision on the Offshore Application.

A letter was sent to HES (25th March 2024) providing the assessment of setting on Sule Skerry Lighthouse as presented below. HES confirmed (8th April 2024) that they are content with the information provided and that while the wireline illustrations demonstrate that the proposed development would be a readily visible change to the setting of the lighthouse, it would not significantly affect our understanding, appreciation or experience of the lighthouse's cultural significance.

4.1.1 Method of assessment

This assessment has drawn on the guidance provided in Historic Environment Scotland's *Managing Change in the Historic Environment: Setting* (Historic Environment Scotland, 2020).

This assessment has considered whether the presence of Wind Turbine Generators (WTGs) offshore could have long-term effects on the setting of the Sule Skerry Lighthouse, impacting the way in which it is understood, appreciated and experienced, and thus its significance / importance.

The assessment has considered the associated wirelines accompanying this assessment², and the setting of the lighthouse has been defined by establishing how its surroundings contribute to the way in which it is understood, appreciated and experienced.

Appendix A provides:

1. A figure illustrating the direction of view for the two wirelines;
2. Wireline from Sule Skerry – facing east; and
3. Wireline from Sule Skerry – facing south.

Extended views were taken to the east and south to allow for an understanding of whether views over to west Orkney Mainland, and mainland Scotland would be obscured by the WTGs.

The assessment was undertaken using desk-based sources and a site visit was not undertaken. The EIA methodology is the same as that utilised and described within chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report.

² The figure is based on an indicative turbine layout (the Additional Information Layout), which is subject to refinement, as the Development Specification and Layout Plan (DSLPL) is developed post-consent. The indicative turbine layout has been updated since the Offshore Application, informed by consultation with NatureScot, the Highland Council and Orkney Islands Council (see [Seascape, Landscape and Visual Impact Additional Information](#)).



4.1.2 Data sources

The existing data sets and literature that have been used to inform the assessment of Sule Skerry Lighthouse (LB18598) are provided in Table 4-1.

Table 4-1 Summary of existing data sets

TITLE	SOURCE	YEAR	AUTHOR
Historic Environment Scotland consultation response: The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, West of Orkney Offshore Windfarm - Section 36/Marine Licence/EIA Report	HES Case ID: 300057245	13 th December 2023	Historic Environment Scotland
The National Record of the Historic Environment (NRHE) of Scotland	Canmore (https://canmore.org.uk) and PastMap (http://pastmap.org.uk)	Accessed January and February 2024	Historic Environment Scotland
Historic Environment Portal (HEP)	https://portal.historicenvironment.scot	Accessed January and February 2024	Historic Environment Scotland
Northern Lighthouse Board (NLB) website	https://www.nlb.org.uk/lighthouses/sule-skerry	Accessed January 2024	Northern Lighthouse Board

4.1.3 Existing baseline

An assessment of the setting of Sule Skerry Lighthouse and how it contributes to the cultural significance of the lighthouse has been provided below.

4.1.3.1 Overview

HES in their consultation response stated that the cultural significance of the lighthouse primarily relates to its historic role as a navigational aid, its form and design by Stevenson, and its remoteness. Views to and from the lighthouse are important to the understanding, appreciation and experience of this cultural significance.

Sule Skerry Lighthouse was built by David Alan and Charles Stevenson in 1895. It is a Category A Listed Building (LB18598) and is located approximately 6 km northwest of the Option Agreement Area (OAA), 64 km west of Mainland, Orkney and 60 km northeast of Cape Wrath on the Scottish mainland. The lighthouse’s isolated position



made it unsuitable for the accommodation of keeper's families; hence provision was made in Stromness for this in Category C Listed Lighthouse Buildings on Ness Road (LB45408) (HEP entry for LB45408, 2024).

The lighthouse is a key part of a network of lighthouses along the coast of mainland Scotland and its islands, ranging in construction date from the Stevenson lighthouses of the 19th and early 20th centuries through to the latter half of the 20th century. Lighthouse construction here was initially instigated to answer the need for increased protection of the 'north-about' route around Britain, owing to additional congestion and resultant collisions in the English Channel. Although Sumburgh (Shetland) and North Ronaldsay (Orkney) were already lit, and the eastern side of Orkney was fairly-well protected, the 160 miles of seaboard between the Pentland Firth and Muckle Flugga in Shetland were dangerously unlit. Consequently, a series of important lights was built around the northern fringes of Britain, two on Fair Isle (first illuminated in 1892), Sule Skerry (completed in 1893 and first illuminated in 1895), Rattray Head (first illuminated in 1895) and the Flannan Islands (established in 1899) (NLB, 2024).

4.1.3.2 Setting

The location of any lighthouse is critical to its function, and Sule Skerry occupies the high ground of the island 14 m above sea level, and with a range of 21 nautical miles (39 km) (NLB, 2024) and it can be seen from large distances out to sea. Views to the lighthouse from vessels at sea over quite large distances from it are of critical importance and are fundamental to its significance, and its visual prominence is a crucial part of its design.

The lighthouse and its surroundings have not significantly changed since its construction, with limited additions of a solar panel array, small helipad and small dispersed structures associated with weather research, radar beacons and utility infrastructure that are located close to the lighthouse. The lighthouse retains an isolated and prominent position within the North Atlantic and is located towards the centre of the island at an elevation of 14 m above high-water level, within an area of peaty soil, that is surrounded by rocky outcrops. During the construction of the lighthouse, associated works included the construction of a landing place and a tramway to the south of the lighthouse in order to transport materials and supplies and these are still in use today.

Visual links to the east towards Stromness (Orkney) are important, as this is the direction in which vessels would approach the lighthouse, and the landing point on the east side of the island attests to this.

Visual links between Stevenson-built lighthouses are less crucial to the design of the lighthouse, as these are restricted to glimpses of other lighthouse lights during times of darkness, and these would not be affected by the proposed development. The Sule Skerry lighthouse does perform specific functions to warn of localised danger, and forms part of a group of lighthouses that are critical navigational markers. This functional relationship is therefore a crucial part of its setting.

The key elements of the setting of the lighthouse are therefore considered to be the open views of the sea around it, the island on which it is built (including the contemporary landing place and tramway) and its intervisibility with Sule Stack that is one of the navigational hazards along with Sule Skerry itself that the lighthouse was built to mark, the remoteness of the lighthouse, its visibility from passing vessels, and the distant potential night-time glimpses of the lights of the Stevenson lighthouses dotted along the north coast of mainland Scotland and Orkney.

When these elements are considered together, it is apparent that the lighthouse retains a clearly defined setting that can easily be appreciated on the ground and that the setting forms a central part of its significance.



4.1.3.3 Historical and technological excellence or innovation, material or design quality

In addition, there are historical and technological contributions to the cultural significance of the lighthouse, and these are outlined below.

Sule Skerry is Britain's most remote lighthouse, and was designed and built by David Alan Stevenson, a member of Britain's foremost lighthouse engineering family (HEP entry for LB18598, 2024). It has played an historic role as a navigational aid, and as part of the group of Stevenson lighthouses from the 19th through to the early 20th century.

The combination of the flat nature of Sule Skerry and its distance from land necessitated the need for an extra-powerful light source on top of the 88-foot tower. To this end, lighting was delayed for a year after completion of the structure, while the Board of Trade and Trinity House argued with the Commissioners about the cost and character of the apparatus. As larger burners were used to increase the intensity of the light, they produced too much heat for the compact optical apparatus. As a result, the Stevenson's increased the focal distance between the centre of the light source and the 'cage' of glass to 52 inches in what they called a 'hyper-radiant' apparatus. They also employed an arrangement of equi-angular prisms which caused less light loss and divergence than other types of lens. The lantern therefore required was larger than any previously designed for lighthouse service, being 16 feet in diameter instead of the normal 12 feet. This lens arrangement has since been replaced, with the original lens now being in the care of the National Museum of Scotland (HEP entry for LB18598, 2024).

Neither of these contributions towards the cultural significance of the lighthouse will be affected by the proposed development.

4.1.4 Impact assessment - long term changes to the setting of onshore historic environment assets (Sule Skerry Lighthouse) that reduces their value

This section provides an assessment of how the proposed turbines would affect the contribution that important views make to an understanding, appreciation and experience of the lighthouse's cultural significance.

The wirelines (Appendix A) illustrate that the OAA will be visible in views to the south and east of the lighthouse at the closest distance of around 9 km. It will appear as a line of WTGs on the near horizon, albeit with some gaps between them, and will appear as a modern element in views from and to the lighthouse. The OAA will occupy a small percentage of the sea view around the lighthouse and will not detract from its open and panoramic quality. Despite the proximity of the OAA, the lighthouse will not appear to be surrounded by, or be competing in scale with, the OAA and the key intervisibility with Sule Stack will not be affected.

Views south, southeast and east towards Orkney (in particular in the direction of Stromness) and the north coast of mainland Scotland, as well as sightlines between other lighthouses (particularly at night) may be interrupted in places, but they will not be obscured.

Views to the west and north in comparison to the south, southeast and east, will be unchanged.



4.1.4.1 Evaluation of significance

The high heritage value and high contribution of setting results in a high sensitivity to change, according to definition (see Table 16-9 of chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report). However, lighthouses should be considered as assets that are tolerant to change over a distance because of their function.

Although the lighthouse is considered to have a high sensitivity to change on its defined setting, it is considered that none of the key elements of its setting (as set out in section 4.1.3.2) will be significantly altered. The impact on the setting of the Sule Skerry Lighthouse will be of Low magnitude and will therefore have a Minor effect and is therefore not significant for the purposes of this assessment.

Sensitivity	Magnitude of impact	Consequence
High	Low	Minor

Impact significance - NOT SIGNIFICANT

4.2 Assessment of effects on Earl’s Palace, Birsay

An assessment of long term changes to the setting of onshore historic environment assets that reduces their value is provided in section 16.6.2.4 of chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report. The assessment of Earl’s Palace Birsay was presented in section 16.6.2.4.2 in relation to Viewpoint (VP) 28 (the supporting visualisation is provided in Figure 18.VP28a-e, Supporting Study 20: SLVIA visualisations of the Offshore EIA Report³).

OIC noted in their response to the chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report that, VP 28 Earl’s Palace, Birsay created some confusion between the visualisation showing the offshore Project and the statement that it is not visible from the Palace. OIC noted that the offshore Project would be visible in the background of the approach views from the east, down to and over the Palace and that the effect of this had not been assessed. The following assessment of effects on Earl’s Palace, Birsay has been prepared to address the responses from MD-LOT and OIC as outlined within section 3.

The WTGs would not be visible in views to the west when stood immediately next to the Palace due to the presence of intervening buildings and a rise in ground level between the Palace and sea (this is noted in the assessment within chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report).

It is acknowledged that the WTGs would be visible in the background of the approach views from the east, down to and over the Palace – and this is shown in Photograph 1 that was taken looking west from Northside Rd from NGR HY 25437 28047. The closest WTG is located at a distance of 40 km from the Palace, and due to the curvature of the Earth and the long intervening distance, the lower parts of the WTGs would be obscured by the horizon, resulting in hubs and blades visible on the horizon; however, they would only be perceptible in very clear conditions. While the WTGs would be seen on the horizon above the Palace as viewed from the eastern approach, it is not considered that

³ Photomontages and wirelines of VP 28 were produced as part of the Seascape Landscape and Visual Impact Assessment Viewpoint Assessment (Supporting Study 16: Viewpoint Assessment of the Offshore EIA Report).



they would have a significant effect on the setting of the Palace to such a degree that it would affect its appreciation, understanding, experience and integrity of setting due to the intervening distance and small area of the view that would be affected, along with the fact that they would not be visible at all times. For a visualisation showing the WTGs please refer to Figure 18 VP28a-e (Supporting Study 20: SLVIA Visualisations of the Offshore EIA Report).

As such, the original conclusions of the assessment of long-term changes to the setting of onshore historic environment assets that reduces their value on Earl's Palace Birsay are considered to stand, that being no significant effect, with the inclusion of the approach views. The original conclusions are outlined in section 16.6.2.4.2 of chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report as medium sensitivity, negligible magnitude of impact and negligible consequence.



Photograph 1: Looking east towards the Earl's Palace from Northside Road (also see Figure 18 Viewpoint 28a-e Supporting Study 20: SLVIA visualisations of the Offshore EIA Report)



4.3 Assessment of effects on Brough of Birsay

An assessment of long term changes to the setting of onshore historic environment assets that reduces their value is provided in section 16.6.2.4 of chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report. The assessment of Brough of Birsay was presented in section 16.6.2.4.2 in relation to Figure 5 Viewpoint E of Supporting Study 22: Marine archaeology onshore supporting setting figures of the Offshore EIA Report.

OIC noted in their response to the chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report, that Wireline E Birsay carpark and Point of Buckquoy (see Supporting Study 22: Marine archaeology onshore setting supporting figures of the Offshore EIA Report) omitted an assessment on the approach to the Brough of Birsay, which is the main reason for parking there, and whether that significantly affected the views to the Brough, its appreciation, understanding, experience and integrity of setting.

The *'approach to the Brough of Birsay which is the main reason for parking there'* refers to the minor road, which is the only vehicular access to the carpark, that runs north from the Earl's Palace, and changes orientation to the west then north-west at Red Craig, adjacent to the Knowe of Buckquoy before entering the carpark.

Where the road heads north, the WTGs would not be seen in the background of the Brough of Birsay, within the gap between Marwick Head and the Brough (see Photograph 2). Where the road heads briefly west at the Point of Buckquoy, glimpses of the WTGs would be seen to the left of the Brough of Birsay, albeit on very clear days only, and as noted previously, only the hubs and blades would be seen on the distant horizon in such conditions.

Photograph 3 shows the Brough of Birsay on the approach to the car park just north of the Knowe of Buckquoy when the road returns to a northern orientation. Glimpses of the WTGs hubs and blades may be gained on very clear days only to the left of the Brough.

It is not considered that the presence of the WTGs at a distance of over 40 km, when visible on very clear days, would significantly affect the views to the Brough of Birsay from the approach road, or its understanding, experience and integrity of setting given the long intervening distance from this location.

As such, the original conclusions of the assessment of long term changes to the setting of onshore historic environment assets that reduces their value on Brough of Birsay are considered to stand, that being no significant effect, with the inclusion of the approach views.



Photograph 2: Looking north-west towards the Brough of Birsay and Marwick Head on the approach road to the carpark (also see Figure 5 Viewpoint E of Supporting Study 22: Marine archaeology onshore setting supporting figures of the Offshore EIA Report)



Photograph 3: Looking north towards the Brough of Birsay at the southern end of the carpark, just north of the Point of Buckquoy (also see Figure 5 Viewpoint E of Supporting Study 22: Marine archaeology onshore setting supporting figures of the Offshore EIA Report)



4.4 Omission of SS Navarra (1940) PA

It is acknowledged that there was an omission of the SS Navarra (1940) PA from Table 1 of Supporting Study 15: Marine archaeology and cultural heritage gazetteer of sites of the Offshore EIA Report. It is agreed that the position of this wreck is Position Approximate, and while the site-specific geophysical survey results did not indicate the presence of any wrecks within the OAA boundary (see section 16.4.4.1.5 of chapter 16: Marine archaeology and cultural heritage, of the Offshore EIA Report), it is acknowledged that this does not absolutely prove that none are present. The latitude and longitude provided for the SS Navarra only provides an approximate area where it was sunk.

Section 16.5.4 of chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report presents the embedded mitigation measures adopted as part of the offshore Project development process. These measures include the further analysis of the marine geophysical survey data and production of a Protocol for Accidental Discoveries (PAD) as set out in the Outline Environmental Management Plan (OMP1), which are applicable to this asset, and the following table entry (Table 4-2) should be read in conjunction with Table 1 of Supporting Study 15: Marine archaeology and cultural heritage gazetteer of sites of the Offshore EIA Report.

Table 4-2 Details on the SS Navarra a potential marine site identified by desk-based research

NAME	UKHO	CANMORE	DESCRIPTION	CIRCUMSTANCE OF LOSS	DATE LOST	LAT	LONG	IMPORTANCE	REASON
Option Agreement Area									
SS Navarra	413	-	2,118 t steam merchant	Norwegian steam merchant, en-route to Oslo from Swansea. Torpedoed. 12 dead, 14 survivors	06/04 /1940	59° 00' N	04° 00'W	High	War grave

4.5 Cumulative effects, transboundary and whole Project

Section 4.4 of chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report considers the potential for cumulative effects on marine archaeology and cultural heritage receptors. For the majority of impacts, the assessment conclusions and overall EIA significance conclusions have not changed, and therefore it is not considered that there would be any changes to the cumulative assessment in the Offshore EIA Report.

This addendum to chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report presents additional information for the assessment of long-term changes to the setting of the Sule Skerry Lighthouse, Earl's Palace, Birsay and Brough of Birsay. Earl's Palace, Birsay and Brough of Birsay were already considered within chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report and the cumulative effects assessment



remains unchanged. As outlined in the [Seascape, Landscape and Visual Impact Additional Information](#) (addendum to chapter 18: Seascape, landscape and visual impact assessment of the Offshore EIA Report), Melvich Wind Farm has been requested by NatureScot to be considered for the assessment of potential cumulative seascape, landscape and visual effects. However, as outlined in the [Seascape, Landscape and Visual Impact Additional Information](#) impact assessment the magnitude of change attributable to the offshore Project remains unchanged with the addition of this cumulative project.

Appendix A displays the cumulative projects relevant to the viewpoint from the Sule Skerry lighthouse, including Pentland Floating Offshore Wind Farm, Melvich Wind Farm, Strathy Wood Windfarm, Strathy North Wind Farm, Bettyhill Wind Farm, Bettyhill Phase 2 Wind Farm and Strathy South Wind Farm⁴. These cumulative projects are over 50 km from the viewpoint. Therefore, the addition of these cumulative projects does not alter the conclusions of the assessment of effects for the offshore Project alone.

There is also considered to be no changes to the whole project assessment (section 16.9), ecosystem effects or transboundary effects (section 16.11) outlined in chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report.

⁴ *Projects considered for cumulative assessment are consistent with those considered in chapter 18: Seascape, landscape and visual impact assessment of the Offshore EIA Report and Seascape Landscape and Visual Impact Assessment Additional Information.*



5 SUMMARY AND CONCLUSIONS

This addendum to chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report has been prepared in response to the MD-LOT Additional Information Requests and other relevant specific clarifications points from consultees. Additional information has been provided on queries raised by MD-LOT, HES and OIC. Additional information has been provided in order to assess the likely significant effects on Sule Skerry Lighthouse, to ensure Earl's Palace Birsay and Brough of Birsay have been suitably assessed, and to clarify any minor omissions around the baseline. None of the additional information presented within this document has changed the overall conclusions of chapter 16: Marine archaeology and cultural heritage of the Offshore EIA Report, that there will be no significant effects on Marine archaeology and cultural heritage from the offshore Project. Consultation on the draft additional information assessment with HES has indicated they will have no objection to the Offshore Application.



6 REFERENCES

Historic Environment Scotland (2020) Managing Change in the Historic Environment: Setting. Edinburgh: Historic Environment Scotland. Available online at: <https://app-hes-pubs-prod-neu-01.azurewebsites.net/api/file/3c15b3e9-b447-4b4e-801f-a67800be22c5> [Accessed: 29 August 2024].

Historic Environment Portal (HEP). 2024. Historic Environment Portal. Available online at: <https://portal.historicenvironment.scot> [Accessed 29/08/2024].

Northern Lighthouse Board (NLB). 2024. Northern Lighthouse Board Sule Skerry. Available online at: <https://www.nlb.org.uk/lighthouses/sule-skerry> [Accessed 29/08/2024].



7 ACRONYMS

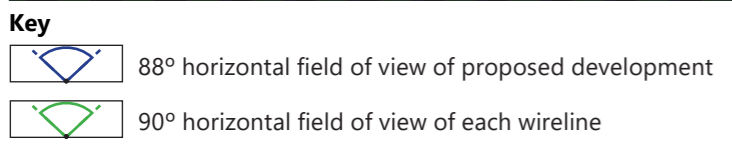
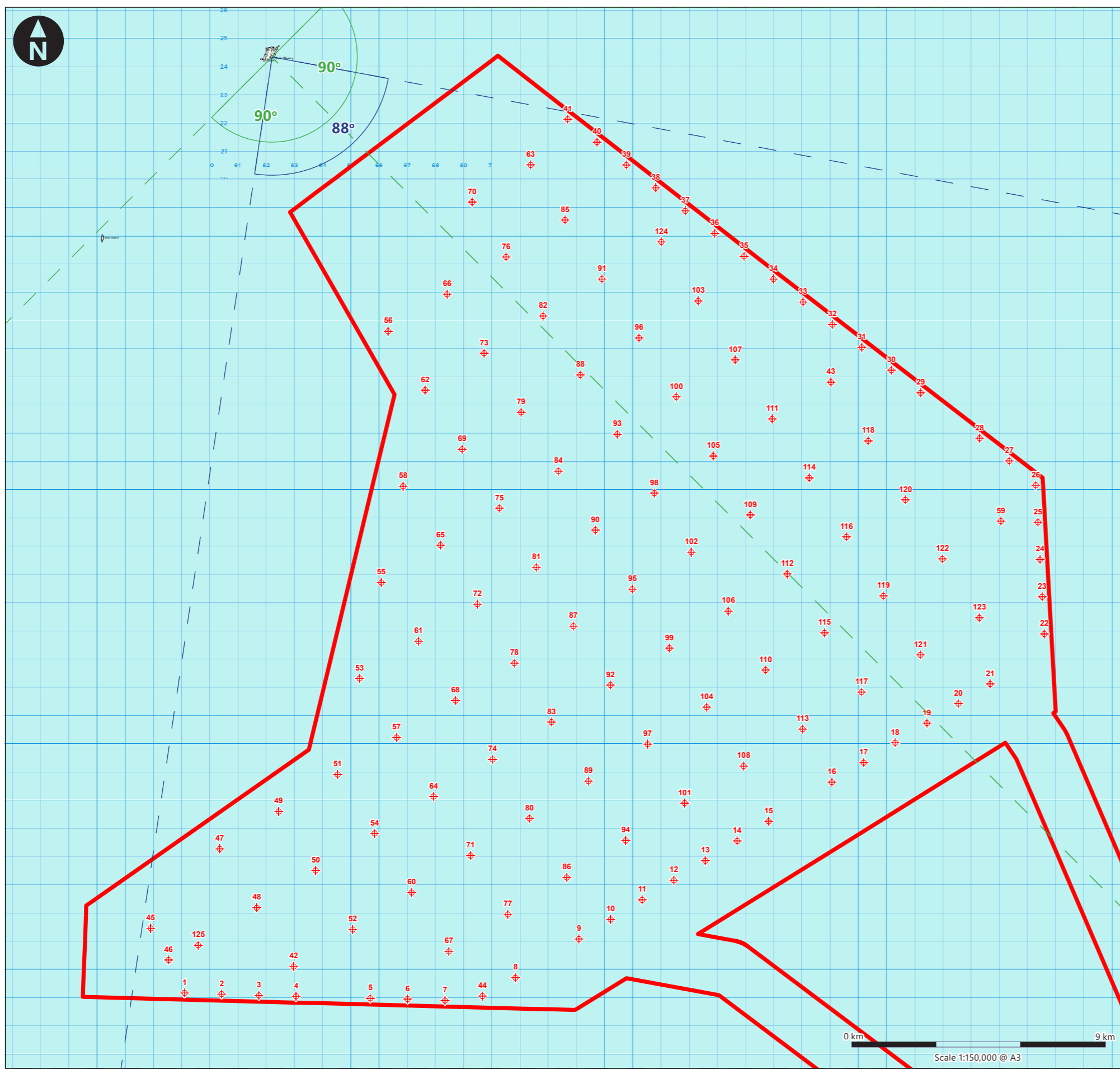
ACRONYMS	DEFINITION
EIA	Environmental Impact Assessment
HEP	Historic Environment Portal
HES	Historic Environment Scotland
HONO	Heart of Neolithic Orkney
HONO WHS	Heart of Neolithic Orkney World Heritage Site
km	Kilometre
LAT	Lowest Astronomical Tide
LB	Listed Building
m	Metre
MD-LOT	Marine Directorate – Licensing Operations Team
MHWS	Mean High Water Springs
NLB	Northern Lighthouse Board
NRHE	National Record of the Historic Environment of Scotland
OAA	Option Agreement Area
OIC	Orkney Islands Council
ORCA	Orkney Research Centre for Archaeology
OWF	Offshore Wind Farm
OWPL	Offshore Wind Power Limited



ACRONYMS	DEFINITION
PAD	Protocol for Accidental Discoveries
SLVIA	Seascape, Landscape and Visual Impact
UKHO	United Kingdom Hydrographic Office
VP	Viewpoint
WTG	Wind Turbine Generator



APPENDIX A ASSESSMENT OF SETTING ON SULE SKERRY LIGHTHOUSE SUPPORTING WIRELINES



Viewpoint Parameters

OS reference:	E262 226, N1024 326
Ground Level Elevation:	14m AOD
Camera Height:	1.5m AGL
Direction of view to site centre ³ :	148°
Distance to nearest turbine:	8,750m
Number of blade tips theoretically visible ⁴ :	125
Number of hubs theoretically visible ⁴ :	125

Information on the limitations of visualisations:

Visualisations of wind farms have a number of limitations which you should be aware of when using them to form a judgement on a wind farm proposal. These include:

- A visualisation can never show exactly what the wind farm will look like in reality due to factors such as: different lighting, weather and seasonal conditions which vary through time and the resolution of the image;
- The images provided give a reasonable impression of the scale of the turbines and the distance to the turbines, but can never be 100% accurate;
- A static image cannot convey turbine movement, or flicker or reflection from the sun on the turbine blades as they move;
- The viewpoints illustrated are representative of views in the area, but cannot represent visibility at all locations;
- To form the best impression of the impacts of the wind farm proposal these images are best viewed at the viewpoint location shown;
- The images must be printed at the right size to be viewed properly (260mm by 820mm);
- You should hold the images flat at a comfortable arm's length. If viewing these images on a wall or board at an exhibition, you should stand at arm's length from the image presented.

Additional notes:

1. This figure has been based on the following parameters:
 Turbine layout file: LORKNEY028.WFL
 • Hub height: 194.52m
 • Rotor diameter: 330m
 • Height to blade tip: 359.52m
2. The figure is based on an indicative turbine layout, which is subject to refinement, as the Development Specification and Layout Plan (DSLPL) is developed post-consent. The indicative turbine layout has been updated since the Offshore Application, informed by consultation with NatureScot and the Highland Council (see the addendum to Chapter 18: Seascape, landscape and visual assessment of the Offshore EIA Report).
3. Direction given as bearing relative to Grid North (BNG).
4. The number of turbine blades and hubs theoretically visible is counted from the wireframe in sets of 3 and ignores the screening effects of any intervening objects.
5. This figure is produced in accordance with SNH Visual Representation of Wind Farms 2017 guidance and also broadly accords with the Landscape Institute's Technical Guidance Note 6/19 (Type 4 Visualisation).

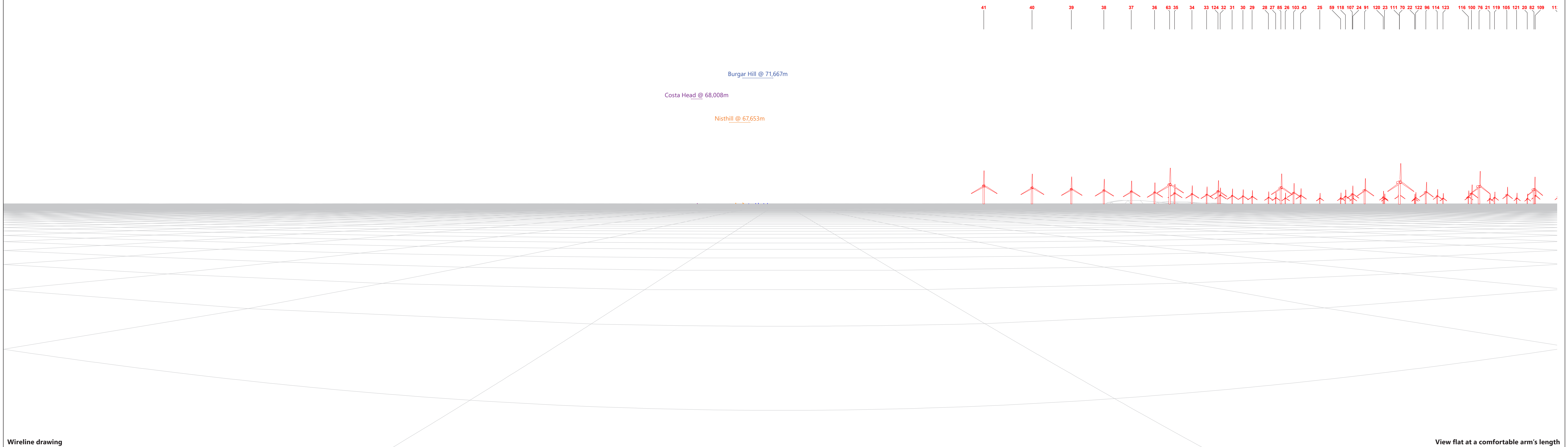
Client

West of Orkney Windfarm
Additional Information

**Extra Viewpoint:
Sule Skerry**

July 2024

East view



Wireline drawing

Wind Farm Key: West of Orkney Wind Farm Existing Consented Application

OS reference: E262 226, N1024 326
 Eye level: 15.5m AOD
 Direction of view: 90°
 Nearest turbine: 8,750m

Horizontal field of view: 90° (cylindrical projection)
 Principal distance: 522mm
 Paper size: 841mm x 297mm (half A1)
 Correct printed image size: 820 x 260mm

Client

West of Orkney Windfarm
 Additional Information

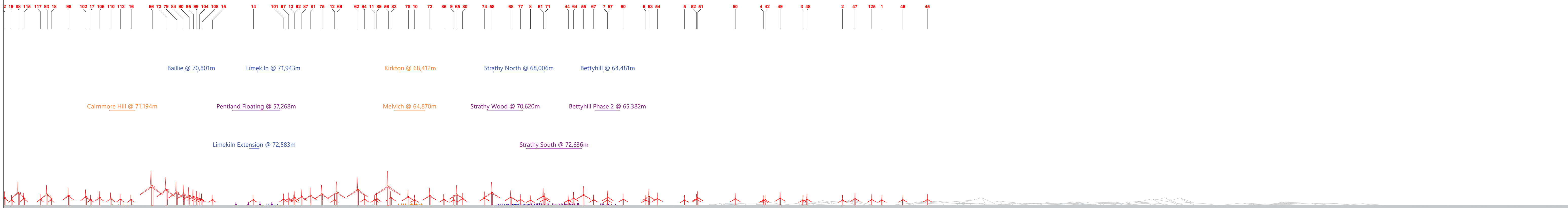
Extra Viewpoint:
 Sule Skerry

View flat at a comfortable arm's length

July 2024

Sule Skerry 853781 - WSP-EG-SA-00105_R3 Originator: UKCGW775

South view



Wireline drawing

Wind Farm Key: West of Orkney Wind Farm Existing Consented Application

OS reference: E262 226, N1024 326
 Eye level: 15.5m AOD
 Direction of view: 180°
 Nearest turbine: 8,750m

Horizontal field of view: 90° (cylindrical projection)
 Principal distance: 522mm
 Paper size: 841mm x 297mm (half A1)
 Correct printed image size: 820 x 260mm



West of Orkney Windfarm
 Additional Information

Extra Viewpoint:
 Sule Skerry

View flat at a comfortable arm's length

Originator: UKCGW775
 Sule Skerry 853781 WSP-EG-SA-00105_R3