Appendix 21-1 Addendum: Coastal Erosion Assessment Report

ORIEL WINDFARM
OFFSHORE RENEWABLE ENERGY

A TETRA TECH COMPANY

JERA NEX BP

Energy for generations

ORIEL WIND FARM PROJECT

Environmental Impact Assessment Report - Addendum
Appendix 21-1 Addendum: Coastal Erosion Assessment Report

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EIAR Addendum – Appendix 21-1
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1 INTRODUCTION

This Addendum provides information to supplement the coastal erosion assessment presented in appendix 21-1: Coastal Erosion Assessment Report of the Environmental Impact Assessment Report (EIAR) (2024) (volume 2C). It has been prepared in response to a Request for Further Information (RFI) from An Coimisiún Pleanála (ACP) (formerly An Bord Pleanála) regarding the planning application (case reference ABP-319799-24) for the Oriel Wind Farm Project (hereafter referred to as "the Project").

The 'Schedule-Further Information Request' provided by ACP listed 19 items of further information requests. This included RFI 6.K on coastal erosion, which is listed in Table 1A-1. The Applicant has adjusted the route of the export cable and Transition Joint Bay options at Dunany in in response to the RFI. Table 1A-1 indicates where the updated assessment can be found within this Addendum and provides a concluding statement on any resulting updates or changes to the assessment presented in the EIAR (2024).

The section and subsection headings in this Addendum correspond to those used in appendix 21-1: Coastal Erosion Assessment Report (EIAR volume 2C Addendum). The reader is directed to review the information presented in this Addendum alongside appendix 21-1 in the EIAR (volume 2C) and also chapter 21 Addendum: Soil, Geology and Hydrogeology (EIAR volume 2C Addendum).

Table 1A-1: Response to RFI

Reference	Request for Further Information	Response / Reference where information is presented	Concluding statement
Marine Processes			
Coastal Erosion			
6.K	It is noted that the landfall site lies within an actively eroding coastline, and that the installation of the Transition Joint Bay (TJB) at either of the 2 option locations, will require works within the footprint of the southern area of the Dunany Point County Geological Site (CGS LH017). The Board notes that the Project Description (and Appendix 5-12: Construction Methodology – Onshore Cable) indicates that a geotechnical investigation of the landfall above the high-water mark was conducted in 2021, including the drilling of boreholes and a geophysical survey of seismic refraction and electrical tomography. It is further noted that the installation of the TJB will require a permanent access track to remain insitu. In the context of coastal processes and having regard to the location of the planned landfall of cables, the desktop study presented in the Coastal Erosion Assessment Report appears to be inadequate. In addition, and while the Board notes Section 4.11.3 of Chapter 4: Consideration of Alternatives of the EIAR, the Board is concerned with the proposal for landing the offshore cable via open trench rather than HDD at this sensitive location. The applicant is requested to submit both coastal processes modelling assessment and shoreline regression/cliff stability modelling to justify the finding of negligible magnitude of impact with the implementation of mitigation measures in the EIAR.	The export cable and transition joint bay locations at the proposed landfall have been adjusted to avoid the cliff and minimise the potential for coastal erosion resulting from the proposed works. The design changes are presented in chapter 5 Addendum: Project Description (EIAR volume 2A Addendum). An updated review of shoreline regression/cliff stability is provided in section 6 of this Addendum. Further justification for landing the offshore cable via open trench is provided in chapter 5 Addendum: Project Description (EIAR volume 2A Addendum). See chapter 7 Addendum: Marine Processes for response regarding modelling. An updated review of shoreline regression/cliff stability is provided in section 6 of this Addendum.	This adjusted cable route and locations for the TJB options avoid the cliff and minimises the impact on the County Geological Site (CGS Site Code: LH017) thereby reducing the potential to result in cliff instability.

2 SITE DESCRIPTION

There are no changes to EIAR appendix 21-1: Coastal Erosion Assessment Report.

3 DESK STUDY

There are no changes to EIAR appendix 21-1: Coastal Erosion Assessment Report.

4 SITE INSPECTION

An updated description of the proposed adjusted export cable route and adjusted locations of the TJB options is provided below.

A site inspection of the landfall location was carried out in September 2023 by RPS. The inspection comprised visual examination of the exposed ground conditions, particularly at the location of the landfall. The inspection recorded ground conditions and salient geomorphological conditions within the area.

Findings of the site inspection are as follows (see Figure 4A-1 to Figure 4A-3):

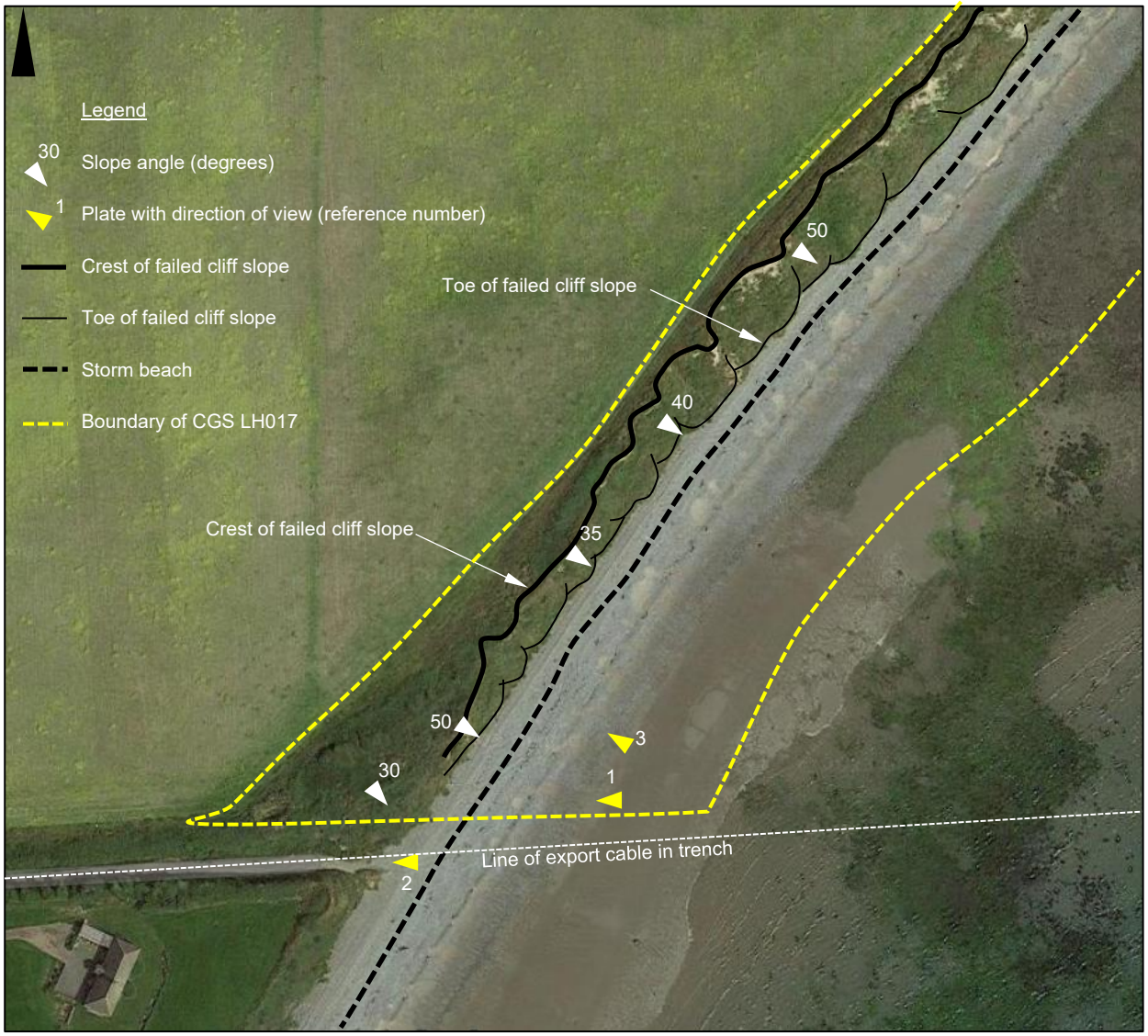
1. At the landfall the export cable will be buried and come onshore within a trench. The buried cable will pass along a minor public road which is at the level of the back of the beach (Plate 1 and Plate 2).
2. A transition joint bay (TJB) is required to connect the offshore cable with the onshore cable. The TJB will be either located within a field to the north about 150 m from the beach (Option 1), or within the road verge approximately 300 m from the beach (Option 2).
3. The export cable route above the HWM, TJB options and associated works are outside the footprint of the Dunany Point CGS, which comprises the exposed coastal cliff and part of the foreshore.
4. The route avoids the coastal cliffs to the north which are about 6 to 7 m high with an overall slope inclination of about 30º to 50º. These glacial till cliffs are in the CGS and are affected by landslipping (Plate 3: General view of cliff slope to north of landfall location. The glacial till within the cliff is the same material as identified in the boreholes.
5. The cliffs to the south of the landfall are composed of dominantly sand and are 3 to 4 m high with a shallow and irregular vegetated morphology.
6. Inspection of the beach morphology shows a storm beach (berm) about 3 to 8 m from the cliff toe at the landfall location (Plate 1). The storm beach comprises beach material piled up by wave action during high water (storms). The berm divides the beach into backshore (upslope of berm) and a foreshore (downslope of the berm). The backshore and foreshore beach sections are inclined at about 5º with the separating berm inclined at about 25º.
7. At the landfall location there is a natural break in the cliffs and there is little evidence of coastal retreat (Plate 2). To the north of the landfall, the glacial till cliffs have been affected by wave and scour erosion with associated landslipping which has resulted in coastal erosion with retreat of the cliffs. The cliffs to the south are not affected by landslipping and the rate of retreat appears less than the northern cliffs.

A schematic showing the details of landslipping along the cliffs to the north of the landfall is given in Figure 4A-2.

Plate 1: General view of landfall location (opening in cliff on LHS) and cliff slopes to north of landfall.

Plate 2: View of minor public road that accesses beach (image from Google Maps).

Plate 3: General view of cliff slope to north of landfall location.



Notes

(1) For explanation refer to main text.

(2) Boundary of CGS LH017 is shown approximately.

Figure 4A-1: Details of landfall location (image from Google Maps).

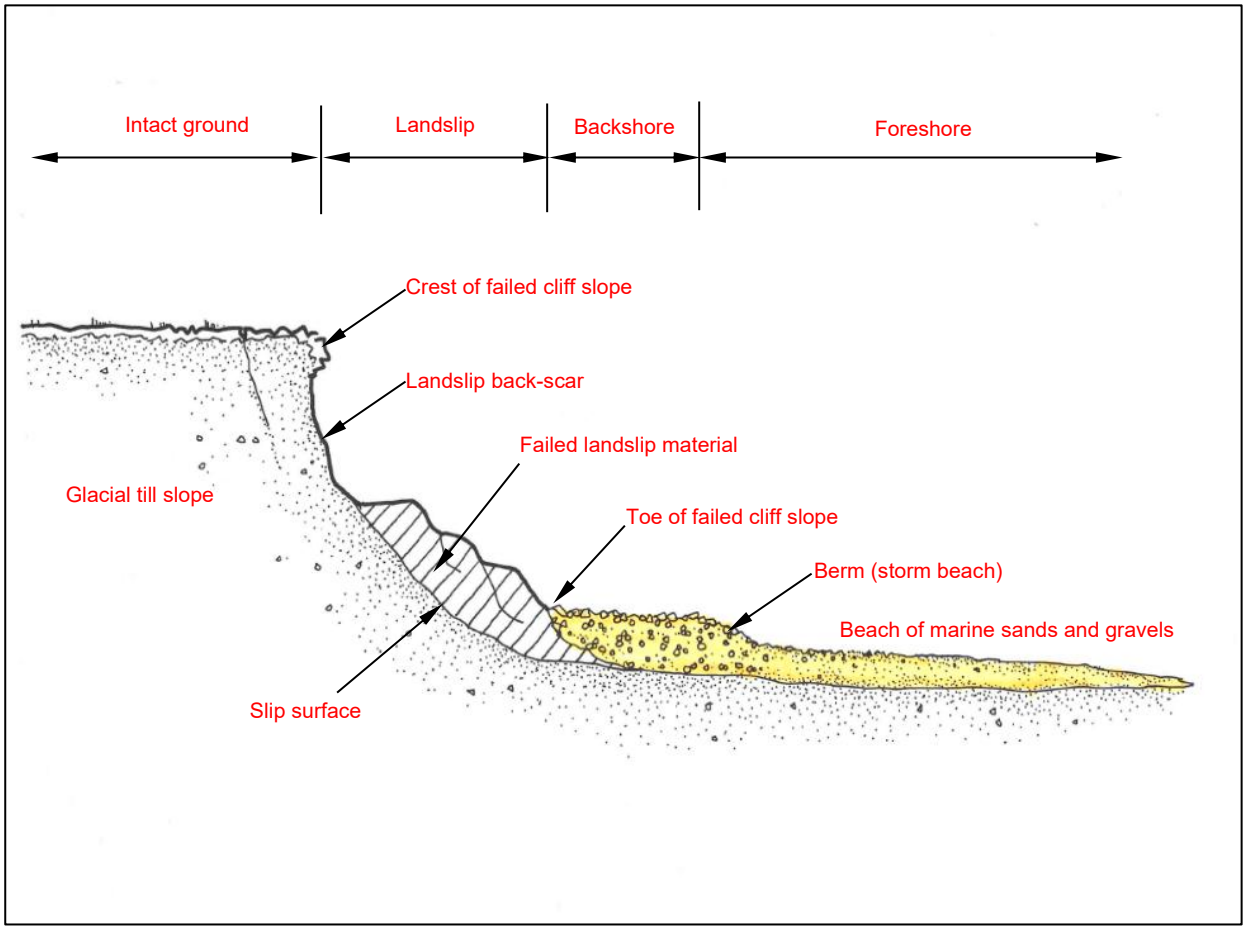
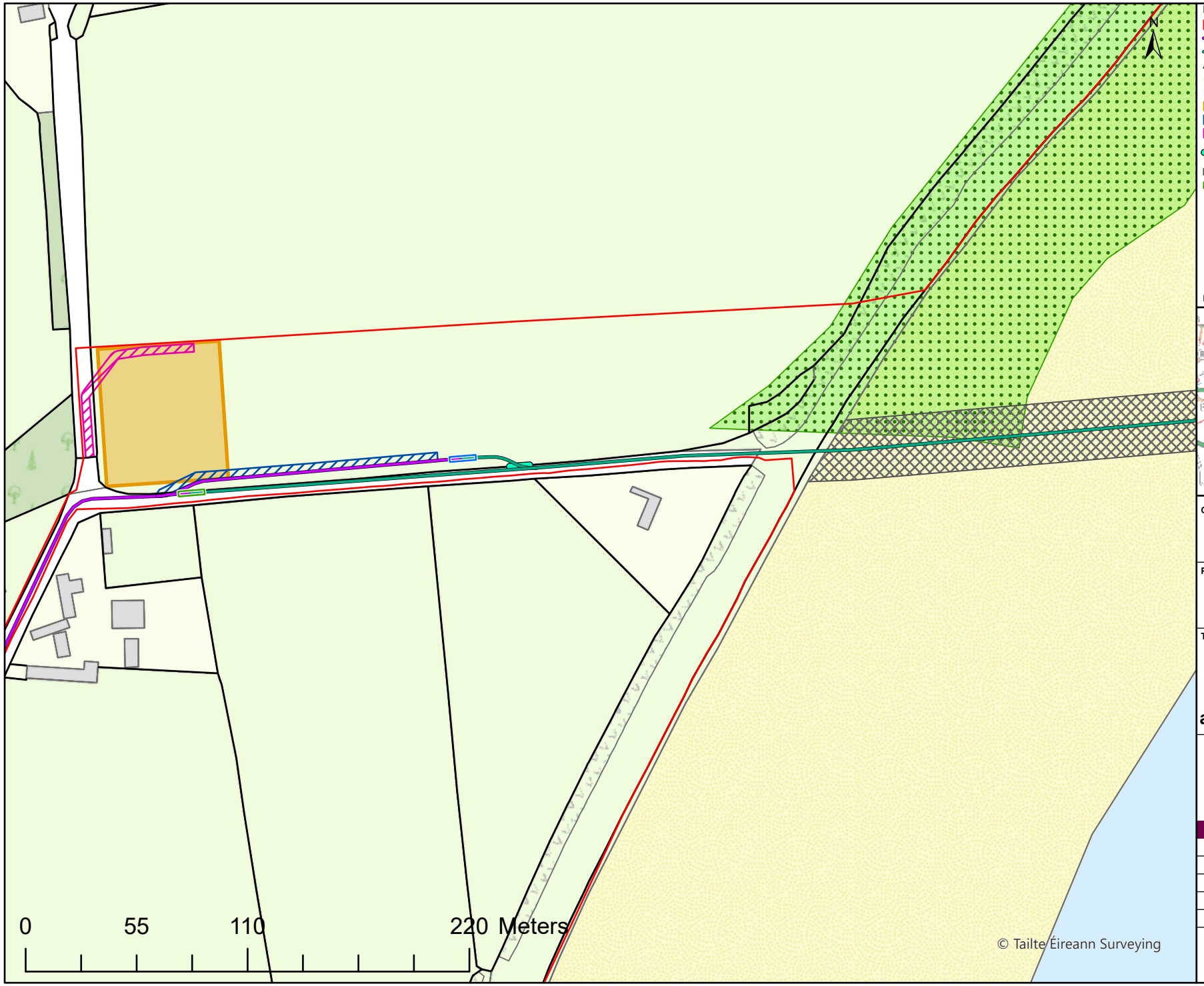


Figure 4A-2: Schematic section through cliffs north of landfall with details of landslipping.



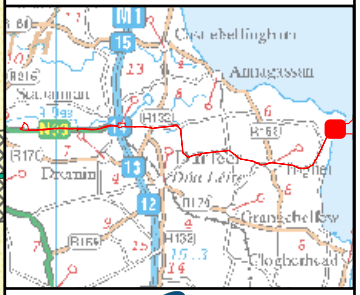
Legend

- Planning Application Boundary
- Proposed Onshore Cable Route
- Amended Export Cable Route

Adjusted Transition Joint Bay

- TJB Option 1
- TJB Option 2
- Temporary Construction Compounds
- Proposed Permanent Access Track
- Proposed Temporary Access Track
- Approximate 10 m Section of Boundary Wall to be Removed
- 30 m Working Area (Intertidal Area)
- Dunany Point Geological Heritage Site

Data Sources: OWL; OSi.



Client

ORIEL WINDFARM
OFFSHORE RENEWABLE ENERGY

Project

Oriel Wind Farm Project

Title

Figure 4A-3:

Export cable and TJB arrangement at the landfall

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Issue Details

Drawn By: NR	**Project No.** MDR1520c
Checked By: CC	**File Ref:**
Approved By: CC	MDR1520c-RPS-AP-XX-D-Z-0041.A1.C01
Scale: 1:2,500 @ A4	**Projection:**
Date: 16/12/2025	ITM (IRENET95)

5 IDENTIFICATION OF KEY CONTRIBUTORY CAUSES

There are no changes to EIAR appendix 21-1: Coastal Erosion Assessment Report.

6 STABILITY AND IMPACT OF PROPOSED WORKS

6.1 Review of impact

Table 6A-1 below has been updated to reflect the adjusted export cable route and TJB options.

Table 6A-1: Review of stability and impact of adjusted TJB options.

Option	Option description	Advantages	Disadvantages
1	TJB constructed approximately 300 m from beach in verge of minor public road.	• Passes along minor public road that provides a natural break in the cliff line; • Negligible disturbance or resulting instability to cliffs; • Buried cable in beach/foreshore avoids potential erosion from wave/tidal action; • TJB is located at significant distance from beach beyond any coastal retreat; • Cable and TJB avoid use of private lands; • TJB in road will allow more ready access for maintenance in the unlikely event this is required.	• Trenching works in minor public road will restrict use of minor public road for a short period; • TJB will require construction in minor public road which will require temporary measures to restrict use of road.
2	TJB constructed approximately 150 m from beach in field to north of minor public road.	• Passes along minor public road that provides a natural break in the cliff line; • Negligible disturbance or resulting instability to cliffs; • Buried cable in beach/foreshore avoids potential erosion from wave/tidal action; • TJB is located at significant distance from beach beyond any coastal retreat; • Part of the cable route and TJB in private lands which will reduce the time minor public road is restricted; • TJB in private land will allow access for maintenance in the unlikely event this is required without restricting use of public road.	• Trenching works in minor public road will restrict use of minor public road for a short period; • Any future access to TJB will need to consider agricultural use of field at time of access.

6.2 Discussion of impact

6.2.1 Option 1

The slope stability assessment has been reviewed as the route of the export cable and the location of the TJB (Option 1) has been adjusted to avoid the cliff and minimise the potential to impact on the CGS.

Cliff stability modelling is not required as the adjusted cable route will not pass through the cliff and instead will follow the minor public road (that forms a natural break in the cliff line). Therefore, there will be negligible impact on slope stability as works will avoid the cliff.

6.2.2 Option 2

The slope stability assessment has been reviewed as the route of the export cable and the location of the TJB (Option 2) has been adjusted to avoid the cliff and minimise the potential to impact on the CGS.

Cliff stability modelling is not required as the adjusted cable route will not pass through the cliff and instead will follow the minor public road (that forms a natural break in the cliff line). Therefore, there will be negligible impact on slope stability as works will avoid the cliff.

7 CONCLUSIONS

7.1 Findings

The findings of the report have been updated to reflect the change in project design.

1. As part of the Project, it is proposed to locate the landfall about 0.7 km to the southwest of Dunany Point, in County Louth.
2. At the landfall site the export (offshore) cable will be buried and come onshore within a trench. The buried cable within a trench will pass along a minor public road which is at the level of the back of the beach and represents a natural break in the cliffs (Plate 1 and Plate 2).
3. The export cable connects with the onshore cable within a TJB either located within a field to the north about 150 m from the beach (Option 1), or within the road verge 300 m from the beach (Option 2), see
4. The landfall cable route avoids the coastal cliffs to the north which are about 6 to 7 m high. These glacial till cliffs are in the CGS and are affected by landslipping (Plate 3: General view of cliff slope to north of landfall location.). The previously proposed cable route was to pass through the coastal cliffs, however the route has been adjusted.
5. The proposed revised export cable route and TJB options and associated works are outside the exposed coastal cliff (Figure 4A-3).
6. A review of TJB Option 1 and Option 2 shows with respect to stability and impact of the works:
    a. Cable route passes along a minor public road that provides a natural break in the cliff line;
    b. Negligible impact on instability of cliffs;
    c. Buried cable in beach/foreshore avoids potential erosion from wave/tidal action; and
    d. TJB location for both Option 1 and Option 2 is at a significant distance from the beach and beyond any coastal retreat.

    From the above, both Option 1 and Option 2 are feasible and will have negligible impact on cliff stability, will not adversely induce coastal erosion, or be affected by coastal retreat.

7.2 Recommendations

The recommendations are provided below:

1. The works footprint will be minimised by using temporary support measures such as sheet piled excavations to limit impact on the surrounding land and minor public road.
2. Timing of works within the public road will be programmed to minimise disturbance to the use of the public road.
3. In addition to the above, the following GSI recommendations (GSI, 2023) are also to be included within the proposed works:
    a. Access to the site is to be provided for GSI staff during construction to record any exposures of glacial till within the works;
    b. GSI are to be provided sufficient notification of the commencement of works to allow GSI staff the opportunity to schedule resources to inspect the site; and
    c. Applicant to discuss options with GSI to provide explanation of the significance of the CGS in the local community.

References

There are no changes to EIAR appendix 21-1: Coastal Erosion Assessment Report.

APPENDIX A

There are no changes to EIAR appendix 21-1: Coastal Erosion Assessment Report.

APPENDIX B

See Figure 4A-3 provided in section 4 of this Addendum which replaces the figures showing the TJB options 1 and 2 in appendix 21-1: Coastal Erosion Assessment Report (EIAR volume 2C).