



Morven Hawthorn Pit Grid Connection Project

Preliminary Environmental Information Report

Volume 2, Annex 7.2: Summary of Seabed
Conditions and Cable Installation and/or
Protection Considerations

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1.1 Purpose

- 1.1.1.1 This Technical Note summarises the current understanding of seabed conditions within the section of the export cable route where fishing activity is most prevalent, and assesses the feasibility of cable burial. The note identifies areas where burial challenges may be encountered and provides an indication of whether rock placement is likely to be required.

1.2 Introduction

- 1.2.1.1 The proposed GC-1 export cable route was subject to reconnaissance level geophysical and geotechnical surveys in 2023. The preliminary data from these surveys has been interpreted to improve understanding of the existing ground conditions and to support early-stage cable design and installation assessments. Accordingly, the information presented in this Technical Note is based on the 2023 survey results. A subsequent survey of similar quality and resolution was undertaken in 2024 for the same export cable route, incorporating a slight refinement of the centreline position (informed by the 2023 survey findings) and a wider survey corridor suitable for consenting and future engineering development. Although the 2024 survey data has not yet been interpreted, its comparable resolution and geographical coverage means that for the purpose of this Technical Note, the 2023 dataset is considered sufficient for estimating any potential requirement for rock placement within the 2024 survey area.

1.3 Data Review & Seabed Conditions

- 1.3.1.1 As identified in drawing M3-MV-PRJ-0168, the interpretation performed to date shows that shallow bedrock (at seabed or <2m depth) may be encountered in the landfall / nearshore area (area shaded red between KP0-9). Between KP9-20 & 64-94 softer lower strength clays are identified and between KP24.5-64 a zone of extremely low strength clay is identified. This Technical Note focuses on KP 0-94 only, where the cable corridor area overlaps with known nephrops fishing grounds. Drawing MHPGC-NIM-CF-0038 outlines the distribution and relative intensity of the key demersal trawl fishing effort (hours), based on Fishmadim data (cumulative 2012-2021).

1.4 Cable Installation & Protection Considerations

- 1.4.1.1 Preliminary engineering assessment has identified that, within the Landfall and nearshore zone, where rock is shallow or exposed at seabed level, several installation options will require further evaluation. These include direct lay onto the rocky seabed with subsequent rock cover protection, or the creation of a mechanically cut trench followed by backfilling. At this early-stage of the project, standard cable installation techniques such as jet trenching or ploughing with no rock protection being required are considered applicable for areas where low and extremely low strength clays are present. It is anticipated that initial seabed preparation including the removal or avoidance of mobility features, UXO and boulders, will be required along the cable route length.

Table 1-1: Summary of the expected soil zones and expected cable installation / protection

KP Section	Expected Soil Zones	Expected Cable Installation / Protection	Considerations
0-9	Shallow Bedrock	Seabed lay / rock dump protection	May require mechanical cutting for any areas of shallow water depth.

KP Section	Expected Soil Zones	Expected Cable Installation / Protection	Considerations
9-20, 64-94	Low Strength Clays	Trenched / backfilled	Seabed rock placement is not expected, detailed design to confirm.
20-24.5	Sand	Trenched / backfilled	Seabed rock placement is not expected, detailed design to confirm.
24.5-64	Extremely Low Strength Clays	Trenched / backfilled	Detailed design stage involving cable manufacturer and cable installer may see a requirement to include rock placement for stability purposes.

1.5 Summary

- 1.5.1.1 Future detailed engineering assessments will be required to determine the most suitable cable and installation design, supported by further targeted geotechnical & geophysical surveys. These additional surveys may reveal seabed conditions or hazards that are not currently known or anticipated, potentially requiring engineering measures to enable an appropriate design solution. Whilst the presence of extremely low strength clays (blue shaded area on drawing M3-MV-PRJ-0168) is not currently considered a significant risk to buildability, some sections of the cable route may, following more detailed design, require installation methods involving rock placement. However, this is considered a low probability scenario at this stage.

Appendices

Drawing M3-MV-PRJ-0168

Drawing MHPGC-NIM-CF-0038





Project Name:
MORVEN OFFSHORE WIND FARM

Drawing Title:
INDICATIVE GC 1 SOIL ZONES

01234567891011

km

Scale@A3:1:255,000

Service Layer Credits:
Datum: OSGB 1936
Projection: British National Grid

Drawing Number:
M3-MV-PRJ-0168

Data Sources:
Ordnance Survey, Morven

Geodetic Information:
World Topographic Map: Esri, HERE, DeLorme, Intermap, Inc., Swisstopo, USGS, NOAA, IGN, CNRS, etc.
GB Background: Contains OS data © Crown Copyright and database right 2025. Contains data from OS Zoomstack

VER	DATE	DETAILS	BY	CHECK
00	25/03/26	Initial Issue	GM	MC

LEGEND

Morven Transmission Redline Boundary

 MV_PRJ_m3_0857_R08_PEIR_TransmissionRedlineBoundary

 Kilometre Point (KP)

 Route Centreline

 2023 Survey Area

Expected Soil Zones

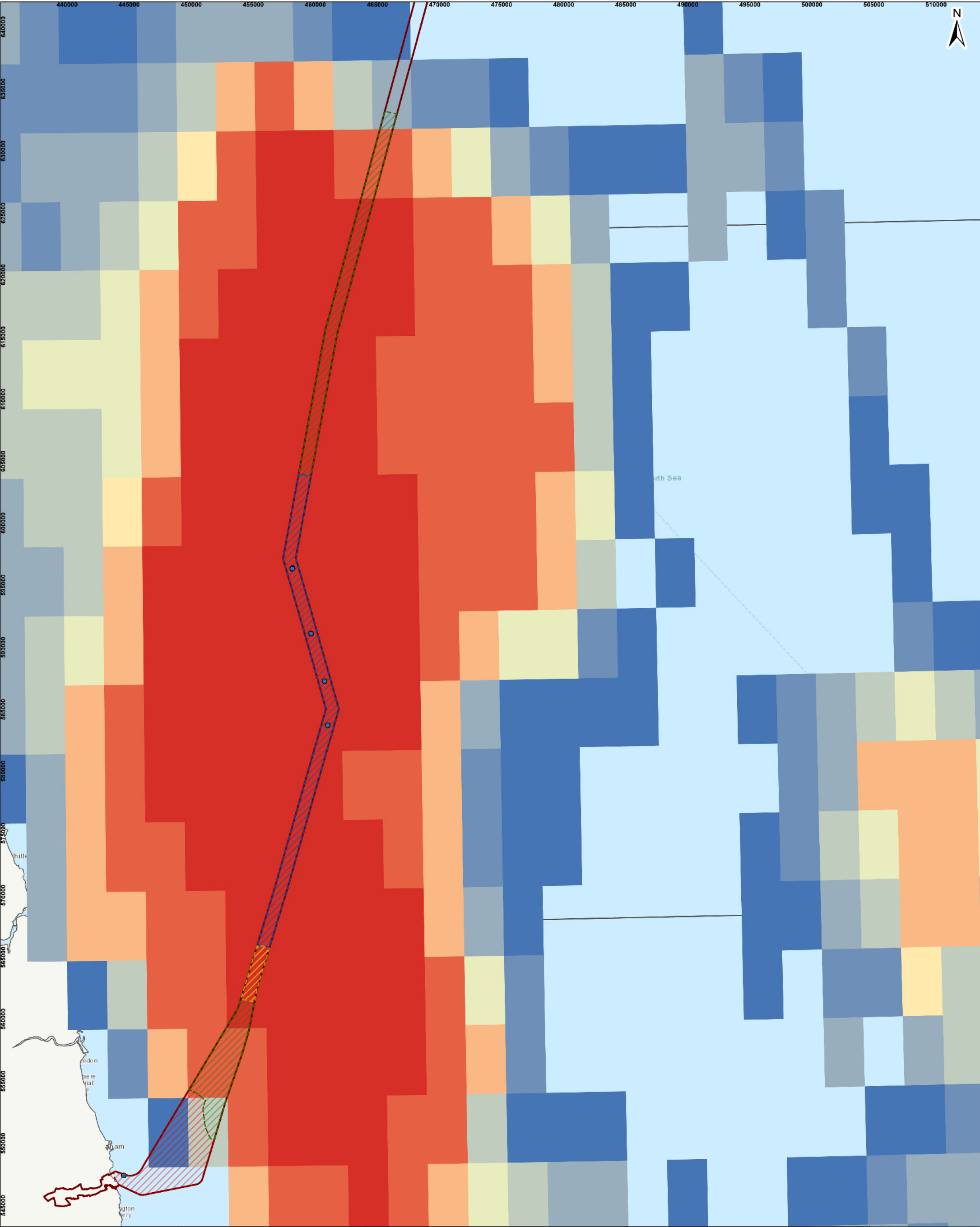
 Shallow bedrock

 Low strength clays

 Extremely low strength clays

 Sand







Project Name:
MORVEN HAWTHORN PIT GRID CONNECTION PROJECT

Drawing Title:
DEMERSAL OTTER TRAWL FISHING EFFORT (HOURS) BASED ON FISMADIM DATA (CUMULATIVE 2012-2021)

0 1 2 4 6 nm
Scale@A3:1:275,000

Service Layer Credits:
Datum: OSGB 1936
Projection: British National Grid

Drawing Number:
MHPGC-NIM-CF-0038

Data Sources:
Ordnance Survey, ICES, Cefas FISMADIM, 2025

Geodetic Information:
World Geodetic System 1984 (WGS 84) / UTM Zone 30N
Datum: OSGB 1936 / British National Grid
Projection: British National Grid

VER	DATE	DETAILS	BY	CHECK
00	20/11/25	Initial Issue	FN	SM
01	03/09/26	Final Issue	FN	SM
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LEGEND

MHPGC Project PEIR

Red Line Boundary

ICES Rectangles

6 nm Limit

12 nm Limit

200 nm Limit

Territorial Limits

Cable Crossings

Expected Soil Zones

Shallow bedrock

Low strength clays

Extremely low strength clays

Sand

Demersal Trawl Fishing Effort

Fishing hours (2012-2021)

1.3 - 5.0

5.1 - 10.0

10.1 - 25.0

25.1 - 50.0

50.1 - 75.0

75.1 - 100.0

100.1 - 250.0

250.1 - 750.0

750.1 - 1,852.0

