

# Norfolk Boreas Offshore Wind Farm

# Consultation Report

## Appendix 27.7 Offshore Order Limits change report

Applicant: Norfolk Boreas Limited  
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Author: Copper Consultancy

*Photo: Ormonde Offshore Wind Farm*

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14/12/2018	01D	First draft for Norfolk Boreas Limited review	DT	JL	AD
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## Glossary of Acronyms

AC	Alternating Current
AfL	Area for Lease
DC	Direct Current
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
PEIR	Preliminary Environmental Information Report
ZEA	Zonal Environmental Appraisal

## Glossary of Terminology

Array cables	Cables which link wind turbine to wind turbine, and wind turbine to offshore electrical platforms.
Electrical platform	A fixed structure located within the Norfolk Boreas site, containing electrical equipment to aggregate the power from the wind turbines and convert it into a suitable form for export to shore.
Interconnector cables	Offshore cables which link offshore electrical platforms within the Norfolk Boreas site
Norfolk Boreas site	The Norfolk Boreas wind farm boundary. Located offshore, this will contain all of the wind farm array.
Norfolk Vanguard	Norfolk Vanguard offshore wind farm, sister project of Norfolk Boreas. Offshore the project has two wind farm sites; Norfolk Vanguard East and Norfolk Vanguard West.
Offshore cable corridor	The corridor of seabed from the Norfolk Boreas site to the landfall site within which the offshore export cables will be located.
Offshore export cables	The cables which transmit power from the offshore electrical platform to the landfall.
Offshore project area	The area including the Norfolk Boreas site, project interconnector search area and offshore cable corridor.
Project interconnector cables	Offshore cables which would link either turbines or an offshore electrical platform in the Norfolk Boreas site with an offshore electrical platform in one of the Norfolk Vanguard sites.
Project interconnector search area	The area within which the project interconnector cables would be installed.

## 1 Introduction

1. Norfolk Boreas Limited will be making an application for development consent in June 2019 to construct and operate the Norfolk Boreas Offshore Wind Farm (herein also known as “the project”). This document forms part of pre-application, non-statutory consultation in relation to a minor proposed change to the offshore Order limits for the project. A new area to be included within the Order limits is shown in Figure 1 of this document.
2. Norfolk Boreas Limited published a Preliminary Environmental Information Report (PEIR) in October 2018 which contains further information about the project. The PEIR is published on the Norfolk Boreas website at:

<https://corporate.vattenfall.co.uk/projects/wind-energy-projects/vattenfall-in-norfolk/norfolkboreas/documents>

3. Baseline data collected for the project was presented within the PEIR and comments have been received in relation to the established baseline. Therefore, this consultation is to firstly inform stakeholders of the proposed change in Order limits and to seek feedback on the proposed approach to updating the Environmental Impact assessment to take account of the change. Sections of the PEIR which may be of particular interest are when reading this document are:
  - The **Non-Technical Summary** which provides a summary of the report written in non-technical language;
  - **Chapter 5 Project Description** which provides a detailed description of the proposed project;
  - **Chapter 8 Marine Oceanography, Geology and Physical Processes** which assesses potential effects of the project on the marine physical environment;
  - **Chapter 10 Benthic Ecology** which assesses potential impacts to organisms which live on the seabed or within it;
  - **Chapter 11 Fish and Shellfish Ecology** which assesses potential impacts of the project on fish and shellfish;
  - **Chapter 12 Marine mammals** which assesses the potential impacts of the project on porpoise, dolphins and seals;
  - **Chapter 13 Offshore Ornithology** which assesses the potential impacts of the project on birds;
  - **Chapter 14 Commercial Fisheries** which assesses the potential impacts of the project on commercial fisheries;
  - **Chapter 15 Shipping and Navigation** which assesses the potential impacts of the project on shipping and navigation;
  - **Chapter 16 Aviation and Radar** which assesses the potential impacts of the project on aviation and radar;

- **Chapter 17 Offshore Archaeology** which assesses the potential impacts of the project on known and unknown archaeology in the marine environment; and
- **Chapter 18 Infrastructure and other users** which assesses the potential impacts of the project on other marine users such as the oil and gas, offshore wind and aggregates industries.

## 1.1 Background

4. In early 2018 Norfolk Boreas Limited (and Norfolk Vanguard Limited) took the decision to commit to using a HVDC solution for transmitting electricity from the turbine array to the grid connection point near to Necton in Norfolk. This decision was driven by feedback received during consultation with a range of stakeholders as well as a desire to reduce environmental impacts. In the offshore environment, a HVDC transmission would reduce the maximum number of offshore export cables from the six required for a HVAC transmission to two, thus greatly reducing the area and duration of seabed disturbance. This is especially desirable as the offshore export cables would cross the Haisborough, Hammond and Winterton Special Area of Conservation. In addition, there would be fewer Horizontal Directional Drilling (HDD) bores to bring the cables ashore at landfall which is located at Happisburgh South.
5. The HVDC technology would also reduce or remove many impacts onshore, including the fact that cable relay stations (required for a HVAC transmission) would not be required near to the coast as well there being significant reductions in construction effort along the onshore cable route.
6. Norfolk Boreas Limited (and Norfolk Vanguard Limited) have undertaken extensive project design optimisation work in conjunction with potential suppliers of HVDC technology. This has led to the development of three different options (termed 'electrical solutions') for the transmission of energy from the projects to shore. Two of the three electrical solutions require the Norfolk Boreas array to be connected to the Norfolk Vanguard array. The reason for this requirement is to allow power to be routed through the other project. Both of these two solutions involve the installation of 'project interconnector cables'. These would be located within the 'project interconnector search area' shown in Figure 1. Project interconnector cables would link turbines or an electrical platform located within the Norfolk Boreas site to an electrical platform in either the Norfolk Vanguard East site or the Norfolk Vanguard West site.
7. The two HVDC electrical solutions requiring project interconnector cables are described below and respective parameters summarised in Table 1.1.

### 1.1.1 A 3 × 1,200MW electrical platform solution

8. Under a 3 × 1,200MW electrical platform solution for the Norfolk Boreas and Norfolk Vanguard projects, project interconnector cables would be required to cross the gap between Norfolk Boreas and Norfolk Vanguard East. These cables would be installed by Norfolk Boreas.
9. Under this solution up to eight AC cables would run from turbines within the southern part of the Norfolk Boreas site to an electrical platform located within Norfolk Vanguard East. In addition, one pair of HVDC cables and a single AC cable may also be required to connect the platform in Norfolk Boreas with the platform in Norfolk Vanguard East.

### 1.1.2 A 2 × 1,800MW electrical platform solution

10. Under a 2 × 1,800MW electrical platform solution for the Norfolk Boreas and Norfolk Vanguard projects, project interconnector cables would be required to connect a single electrical platform located in Norfolk Boreas with a single electrical platform located within Norfolk Vanguard West. This would require one pair of HVDC cables and one AC cable to be installed within the project interconnector search area connecting both platforms.

**Table 1.1 Infrastructure Parameters for HVDC Export Solutions**

HVDC export solution covering both the Norfolk Vanguard and Norfolk Boreas projects	Norfolk Boreas specific infrastructure requirements
<p><b>3 x 1200MW HVDC platform solution</b></p> <ul style="list-style-type: none"> <li>• 2 x 1,200MW electrical platforms in Norfolk Vanguard; and</li> <li>• 1 x 1,200MW electrical platform in Norfolk Boreas</li> </ul>	<ul style="list-style-type: none"> <li>• 1 electrical platform;</li> <li>• 1 pair of HVDC project interconnector cables connecting the electrical platform in Norfolk Boreas to an electrical platform in Norfolk Vanguard East,</li> <li>• 1 AC project interconnector cable connecting the electrical platform in Norfolk Boreas with an electrical platform in Norfolk Vanguard East.</li> <li>• 8 AC cables connecting turbines located in the southern part of the Norfolk Boreas site to the electrical platform in Norfolk Vanguard East</li> <li>• 1 pair of HVDC export cables connecting the electrical platform within the Norfolk Boreas site to landfall at Happisburgh South.</li> </ul>
<p><b>2 x 1800MW HVDC platform solution</b></p> <ul style="list-style-type: none"> <li>• 1 x 1,800MW electrical platform in Norfolk Vanguard; and</li> <li>• 1 x 1,800MW electrical platform in Norfolk Boreas</li> </ul>	<ul style="list-style-type: none"> <li>• 1 electrical platform;</li> <li>• 1 pair of HVDC project interconnector cables connecting the electrical platform in Norfolk Boreas with an electrical platform in Norfolk Vanguard West.</li> <li>• 1 AC project interconnector cable connecting the electrical platform in Norfolk Boreas with an electrical platform in Norfolk Vanguard West.</li> <li>• 1 pair of HVDC export cables connecting the electrical platform within the Norfolk Boreas site to landfall at Happisburgh South.</li> </ul>



11. It is also worth noting that the project is considering a third electrical solution, the ‘4 x 900MW solution’, where both the Norfolk Boreas project and the Norfolk Vanguard project has two offshore platforms of 900MW each. As this solution comprises two offshore electrical platforms to serve each project, a project interconnector is not required in this solution.

## **1.2 Reason for proposed change in Order limits**

12. As a result of the project design optimisation work undertaken since PEIR, it has become clear that, under the 3 x 1200MW platform solution described in section 1.1.1 and summarised in Table 1.1, installing project interconnector cables directly across the area of seabed between Norfolk Boreas and Norfolk Vanguard East (herein ‘the gap’) would maximise installation and energy efficiency and minimise seabed disturbance.
13. This ‘gap’ of seabed is not currently included in the proposed Order limits for either the Norfolk Boreas or the Norfolk Vanguard projects. For the optimised design solution to be consented this area will need to be included within the Order limits for Norfolk Boreas.
14. The seabed within the gap was not assessed as part of the preliminary environmental information presented within the Norfolk Boreas PEIR (Norfolk Boreas Limited, 2018) and section 3 of this report describes how the assessment will be updated to include the gap.

## **2 The change in offshore Order limits**

15. Figure 1 shows the area now required within the Order limits in orange hatching. This will be incorporated within the project interconnector search area which is shown in green in Figure 1. The new area to accommodate the project interconnector cables under the 3 x 1200MW electrical platform solution is approximately 7km by 1km.
16. As described above this extension represents a change to the Norfolk Boreas offshore Order limits (also known as the offshore project area) from that which was presented and assessed within the PEIR. For clarity, the Order limits and project interconnector search area as presented in the PEIR are shown in Figure 2.
17. It is important to note that the orange hatched area shown in Figure 1 (which is the subject of this consultation) will only be required if the 3 x 1200MW electrical platform solution is progressed. Whereas, in the event that the 2 x 1800MW electrical platform solution is progressed, only the section of the project interconnector search area that runs west from the Norfolk Boreas site into the southern part of Norfolk Vanguard West will be relevant; this will allow for an option

to connect directly to an offshore electrical platform within Norfolk Vanguard West. The offshore area required for this second option was previously included in the PEIR.

18. Therefore, only part of the project interconnector search area will be required dependent on which electrical solution is taken forward post-consent.

### 3 Existing data and Approach to EIA

19. The size of the area which Norfolk Boreas Limited would seek to be included within the Order limits ('the gap') is 7.38km<sup>2</sup>. This area is very small in relation to the size of the Norfolk Boreas site (725km<sup>2</sup>) and offshore cable corridor (236km<sup>2</sup>). The gap is approximately 7km by 1km and the maximum footprint of works within the gap would be approximately 0.36km<sup>2</sup>. The gap is surrounded by areas which have already been rigorously surveyed and assessed as part of the Norfolk Vanguard Development Consent Order (DCO) application (Norfolk Vanguard Limited, 2018) and the Norfolk Boreas PEIR (Norfolk Boreas Limited, 2018). Furthermore, the Zone which now includes six wind farm projects was assessed as part of the ZEA (further information can be found in Chapter 4 Site selection and assessment of alternatives in the Norfolk Boreas PEIR (Norfolk Boreas Limited, 2018).
20. Although the gap has not been subject to site specific surveys the area is covered by existing data sets which are summarised in the following sections with further information available within the PEIR (Norfolk Boreas Limited, 2018). Also in the following sections descriptions are provided on how existing data will be used to update the EIA and assess potential impacts within the gap.

#### 3.1 Geophysical data

21. The existing extent of available geophysical data is shown in Figure 3. Approximately 81% of the gap is covered by this data. This includes data from:
  - Surveys commissioned by Norfolk Boreas Limited which were conducted in summer 2017. These encompass most of the northern side of the gap;
  - Surveys commissioned by East Anglia FOUR and completed in 2012 which cover some of the southern part of the gap; and
  - Surveys commissioned by East Anglia Offshore Wind which were conducted in 2010. These cover the former East Anglia Zone and provide coverage of approximately 20% of the gap. The coverage does however overlap with the 2012 and 2017 data.
22. From the existing data it is clear that the large and medium sized features such as sand banks, troughs and sandwaves are present either side of the gap and therefore these are likely to be continuous across the gap. The baseline used in the EIA, as presented in Chapter 8 of the Norfolk Boreas PEIR (Norfolk Boreas Limited, 2018),

will analyse these data to make inferences about the seabed morphology within the gap.

### 3.2 Sediment data

23. Grab samples were also taken from the seabed during the surveys listed in section 3.1 (for further detail please see Chapter 8 Marine Geology, Oceanography and Physical Processes of the Norfolk Boreas PEIR (Norfolk Boreas Limited, 2018)). Particle size analysis was conducted for these samples. The results show that the composition of the sediment adjacent to the north and south of the gap is very similar, as shown in the table below and in Figure 4. This data will be used in the updated EIA to make inferences about the seabed characteristics within the gap.

**Table 3.1 Particle size analysis data from samples close to the gap**

Sample ID	Distance from the gap (km) (direction)	Gravel (%)	Sand (%)	Mud (%)	d <sub>50</sub> (mm)
Norfolk Boreas Survey					
ST28	0.90 (N)	0.26	99.74	0	0.31
ST01	2.11 (N)	4.04	95.96	0	0.39
ST34	0.96 (NE)	0.43	99.57	0	0.27
Norfolk Vanguard Surveys					
16_MS	0.91 (S)	6.03	83.81	10.16	0.28
ZEA surveys					
102A	0.56 (N)	0.3	98.2	1.5	0.30
97A	0.62 (S)	0.2	98.8	1.0	0.26
115A	0.09 (S)	0.76	96.4	2.84	0.24
109A	0.67 (S)	0.03	98.12	1.85	0.3
110A	1.21 (S)	0.12	98.71	1.17	0.25
103A	0.58 (S)	4.28	82.76	12.96	0.2
104A	0.85(S)	0.46	98.11	1.42	0.21

### 3.3 Benthic Ecology

24. The grab samples mentioned above (in section 3.2) were also analysed for their infaunal (organisms that reside within the sediment) species content. Multivariate analysis undertaken on these data for the PEIR (see Chapter 10 Benthic Ecology and Appendix 10.2 of the Norfolk Boreas PEIR (Norfolk Boreas Limited, 2018)) identified 18 different infaunal groups within the Norfolk Boreas offshore project area and wider former East Anglia Zone. For further detail on the benthic ecology baseline please see Chapter 10 Benthic Ecology and Appendix 10.2 Benthic Ecology data Analysis of the Norfolk Boreas PEIR (Norfolk Boreas Limited, 2018)
25. Figure 5 shows that of the samples either side of the gap, all but one were found to be community 'o' which was the most common group within the Zone. The only exception was sample point 103A, collected during the ZEA surveys, which was identified as community 'h'. Sample 103A was found to be distinct from all other groups as it was dominated by the polychaete *Capitella capitata* (48 of the 54

individuals) with one Ophiuridae, one *Lagis koreni*, three *Spiophanes bombyx* and one *Spio decoratus* also present.

26. This data along with the geophysical data described in section 3.1 will be interpreted to make inferences about what benthic communities are likely to be present within the gap.

### 3.4 Ornithology and Marine Mammals

27. The EIA as presented within the PEIR (Norfolk Boreas, 2018) is supported by marine mammal and ornithology survey data which was collected for the project over a 24-month period between August 2016 and July 2018 (please see Chapter 12 Marine Mammal Ecology and Chapter 13 Offshore Ornithology for further information on the baseline established for the project for each of these topics). The survey area included the Norfolk Boreas site (Figure 1) as well as a 4km buffer around the site, therefore the gap which is 1km wide is covered by these survey data (further information is provided in Chapters 12 Marine Mammals and Chapter 13 Offshore Ornithology of the Norfolk Boreas PEIR (Norfolk Boreas Limited, 2018)). The EIA will use data collected from within the buffer to update the assessment.

### 3.5 Shipping and navigation

28. The Shipping and Navigation EIA as presented within the PEIR (Norfolk Boreas, 2018) is supported by three shipping surveys. The survey area included the Norfolk Boreas site (Figure 1) as well as a 10nm buffer around the site, therefore the gap which is 1km wide is covered by these survey data (further information is provided in Chapter 15 Shipping and Navigation of the Norfolk Boreas PEIR (Norfolk Boreas Limited, 2018)). The EIA will use data collected from within the buffer to update the assessment.

### 3.6 Offshore Archaeology

29. The Archaeology assessment presented in the PEIR (Chapter 17 Offshore Archaeology (Norfolk Boreas Limited, 2018)) is informed by analysis of the geophysical data and geotechnical data (core samples taken from within the Norfolk Boreas site). The analysis presented in the PEIR is limited to the boundaries of the Norfolk Boreas and Norfolk Vanguard sites. For the DCO submission this analysis will be extended to the full extent of the geophysical data collected from within the gap (see Figure 3) and the outline Written Scheme of Investigation (Appendix 17.6 of the PEIR) will also be updated (to form document 8.06 Outline Written Scheme of Investigation: Offshore of the DCO submission).
30. A commitment will also be made within the DCO to use preconstruction surveys (see section 33) to update the Written Scheme of Investigation prior to construction of the project.

### 3.7 Commercial Fisheries, Aviation and Radar and Infrastructure and other users

31. The assessments undertaken for commercial fisheries, aviation and radar and infrastructure and other users (as presented in Chapters 14, 16 and 18 of the Norfolk Boreas PEIR (Norfolk Boreas Limited, 2018)) utilise data that is available from third parties and not collected by Norfolk Boreas Limited. The extent of these data sources is much greater than that of the Norfolk Boreas project and therefore the updated EIA will use these data to extend the assessment to cover the gap.

### 3.8 Existing Pipeline

32. Norfolk Boreas Limited is currently consulting with the owner of the pipeline which is installed within the gap. The primary focus of this is to communicate potential crossing requirements and to check the availability of existing survey data which could inform the EIA, such as:
- Pipeline burial status (depth, extent, protection etc.)
  - Physical characteristics;
  - Expected life span; and
  - Colonising biotopes
33. If any such data becomes available this will be incorporated into the relevant assessments.

### 3.9 Future surveys

34. As part of the preconstruction surveys; the commitment to which will be secured within the DCO; the area to be included within the proposed Order limits boundary would be subject to further surveys. Following analysis of survey data, the need for any further assessment would be evaluated in consultation with relevant stakeholders.

## 4 Conclusion

35. The available data indicate that physical characteristics, sediment, and benthic communities in the southern part of Norfolk Boreas and Norfolk Vanguard East are similar. In view of the proximity and relatively small spatial area that is encompassed by the gap, it is confidently expected that it will be analogous to and consistent with the surrounding well-surveyed areas of the Norfolk Boreas and Norfolk Vanguard East sites. Therefore, although the EIA will be expanded to encompass this area, the conclusions of the impact assessment contained in the PEIR (Norfolk Boreas Limited, 2018) for all offshore topics are likely to remain unchanged.
36. With regards to the human activity within the area to be included within the proposed Order limits there is little evidence to suggest that activity here is any different from that which occurs within the Norfolk Boreas site.

37. The EIA for all relevant chapters will be updated as described in section 3 and this will be presented within the Norfolk Boreas Environmental Statement which will form part of the Norfolk Boreas DCO application to be submitted in June 2019.

## 5 Providing your feedback

38. This document provides information regarding a proposed change to the Norfolk Boreas offshore Order limits and how the Environmental Impact Assessment will be updated to incorporate the change. Further information on the Norfolk Boreas project (including the PEIR) is available online at the following link:

<https://www.vattenfall.co.uk/norfolkboreas>

39. We would welcome your feedback on the changes proposed above and how we intend to incorporate them within our EIA. Please provide feedback using one of the following options:

Visit our project website: [www.vattenfall.co.uk/norfolkboreas](http://www.vattenfall.co.uk/norfolkboreas) and register your interest in the project to receive updates.

Email us at: [Info@norfolkboreas.co.uk](mailto:Info@norfolkboreas.co.uk)

Write to us at: FREEPOST NORFOLK BOREAS

40. This consultation starts on the **1st February 2019**. Any response or representation in respect of this consultation must (i) be received before **11.59pm on 4th March 2019** (ii) state in writing the grounds of the response or representation (iii) indicate who is making the response and representation, and (iv) include an address to which correspondence relating to the response or representations may be sent.
41. Your comments will be analysed by the Applicant and any appointed agent of the Applicant. Responses may be made public, although personal information will be removed. Personal information that is supplied to Norfolk Boreas Limited in connection with its application for development consent will be treated confidentially and processed and handled in accordance with the Data Protection Act 1998 and the GDPR 2018. The information may be disclosed to or shared with Norfolk Boreas Limited connected companies, agents, contractors and advisors who provide services to Norfolk Boreas Limited in connection with the development consent application.

## 6 References

Norfolk Boreas Limited (2018) Norfolk Boreas Offshore Wind Farm Preliminary Environmental Information report. Available at:

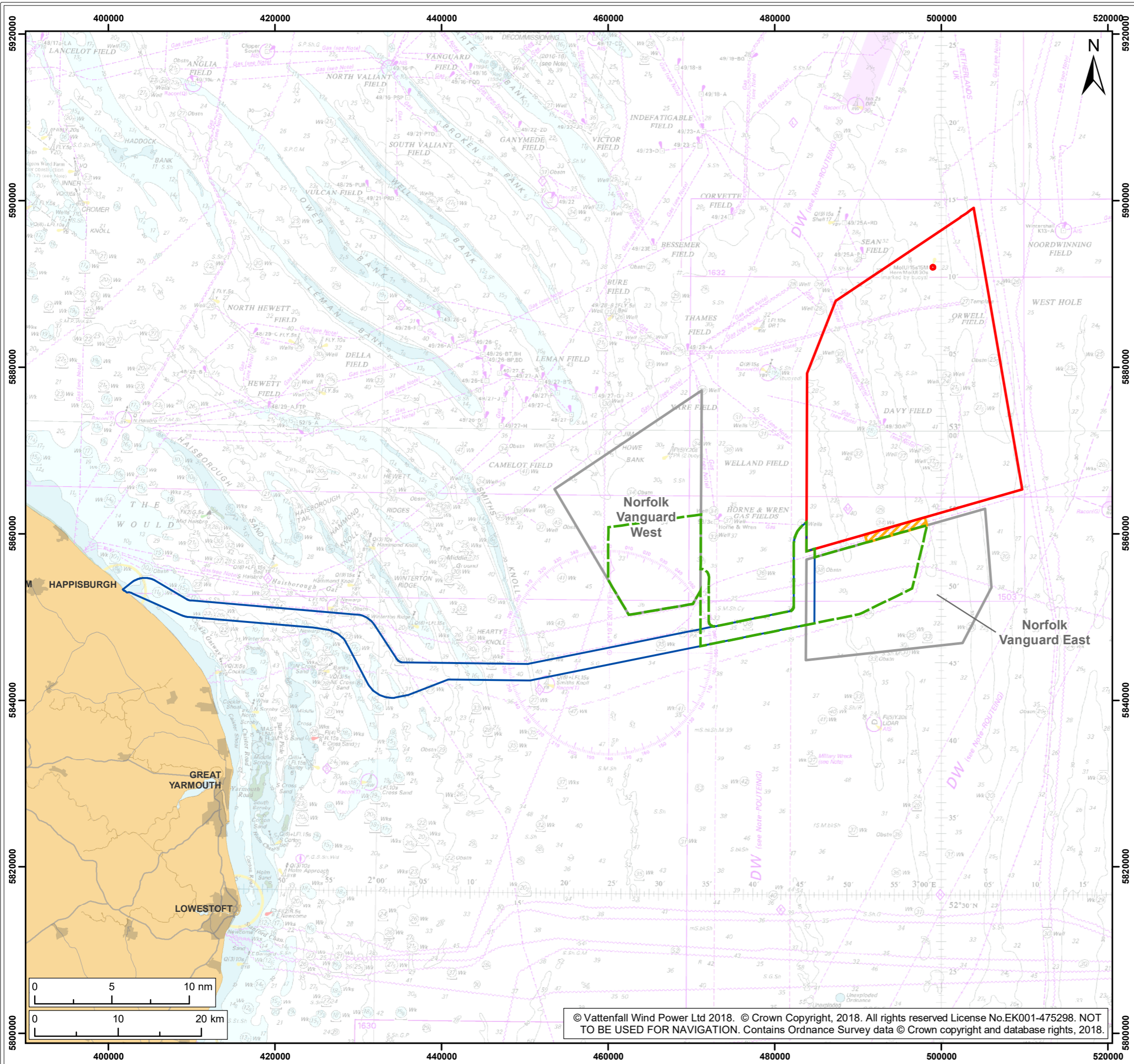
<https://corporate.vattenfall.co.uk/projects/wind-energy-projects/vattenfall-in-norfolk/norfolkboreas/documents/preliminary-environmental-information-report/>

Norfolk Vanguard Limited (2018) Norfolk Vanguard Offshore Wind Farm Development Consent Order Application. Available at:

<https://infrastructure.planninginspectorate.gov.uk/projects/eastern/norfolk-vanguard/?ipcsection=docs&stage=app&filter1=Environmental+Statement>

## 7 Figures

42. The figures referenced in the above report are presented in the following pages.



**Legend:**

- Norfolk Boreas site
- Offshore cable corridor
- Project interconnector search area
- New area to be included within the Order limits
- Norfolk Vanguard

Project: <b>Norfolk Boreas</b>	Report: <b>Redline Boundary Change Report</b>
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Title:  
**Revised Project Area**

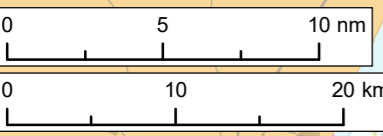
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**Co-ordinate system: ETRS 1989 UTM Zone 31N EPSG: 25831**

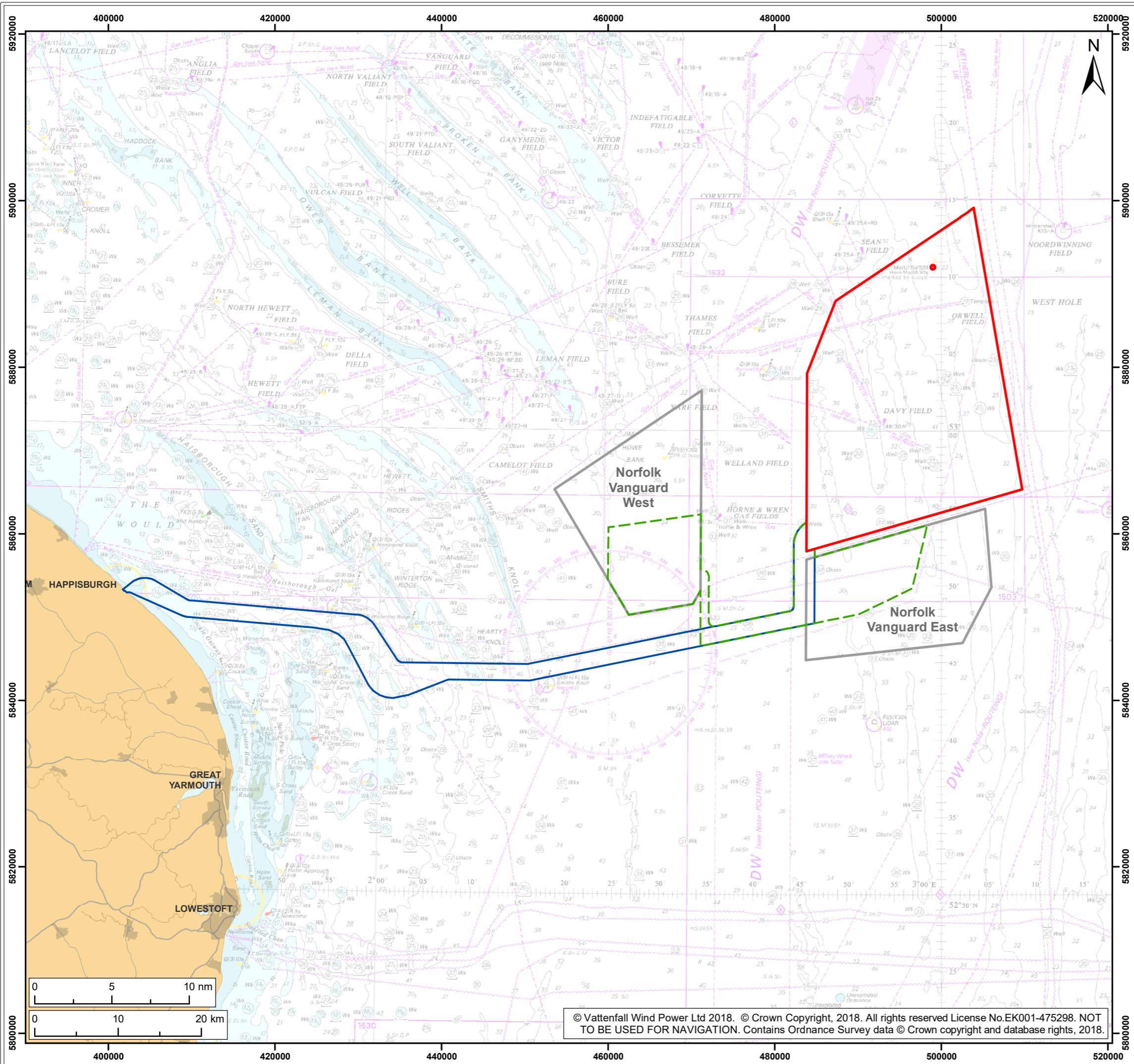
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Legend:

- Norfolk Boreas site
- Offshore cable corridor
- Project interconnector search area (October 2018)
- Norfolk Vanguard

Project: <b>Norfolk Boreas</b>	Report: <b>Redline Boundary Change Report</b>
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Title:  
**Offshore project areas as presented in the PEIR (Norfolk Boreas Ltd, 2018)**

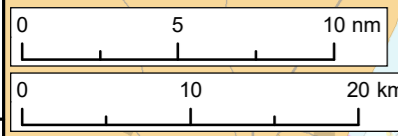
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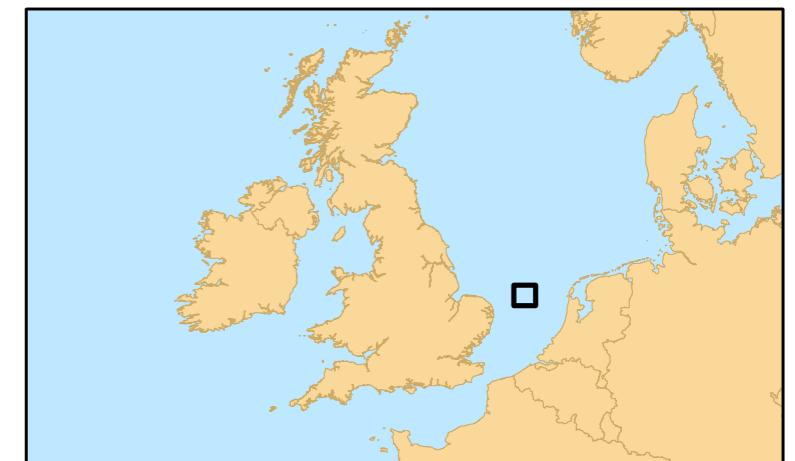
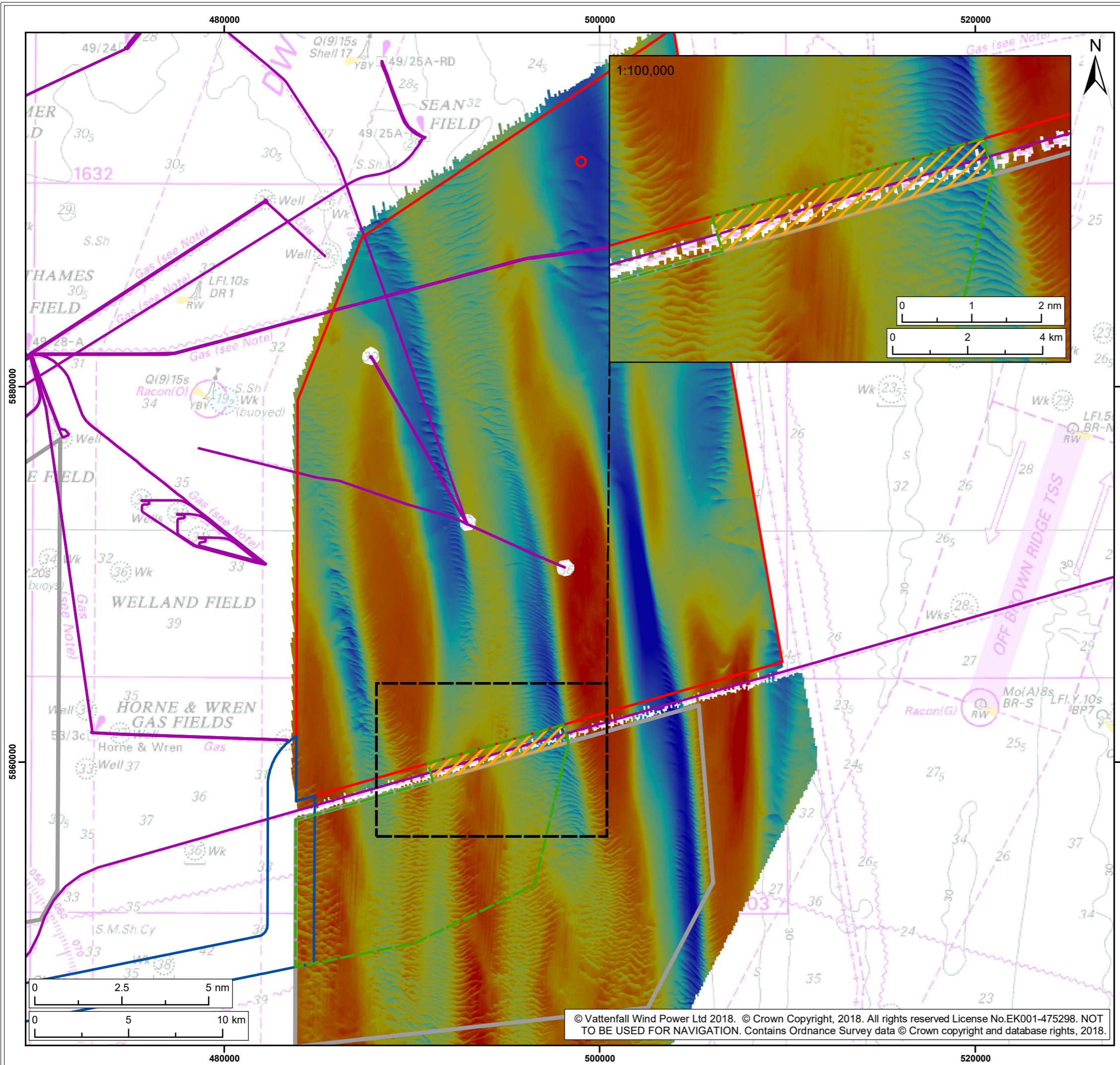
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**Legend:**

- Norfolk Boreas site
- Offshore cable corridor
- Project interconnector search area
- New area to be included within the Order limits
- Norfolk Vanguard
- Pipelines (UKOG)

**Bathymetry Depth (m) <sup>1 2</sup>**

High : -20.4

Low : -45.42

<sup>1</sup> Fugro, 2016/2017.  
<sup>2</sup> Fugro EMU, 2012.  
<sup>3</sup> UK Oil & Gas, 2018.

Project: Norfolk Boreas	Report: Redline Boundary Change Report
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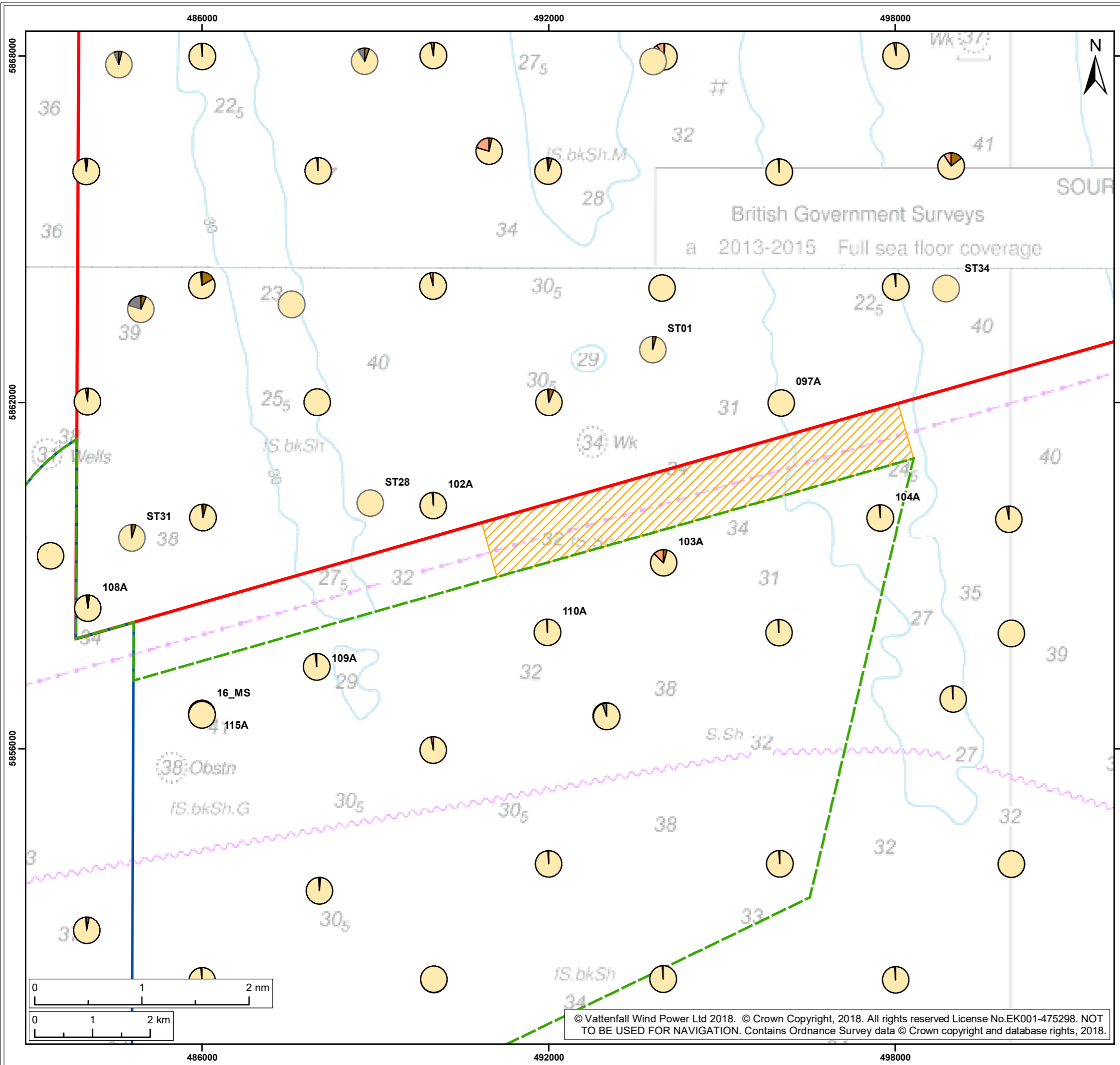
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**Co-ordinate system:** ETRS 1989 UTM Zone 31N EPSG: 25831

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Legend:

- Norfolk Boreas site
- Offshore cable corridor
- Project interconnector search area
- New area to be included within the Order limits

**Principal sediment components (%)<sup>1</sup>**

- Gravel
- Sand
- Mud
- Silt

<sup>1</sup> MESL, 2011/Fugro, 2016/ Fugro, 2017.

Project: Norfolk Boreas	Report: Redline Boundary Change Report
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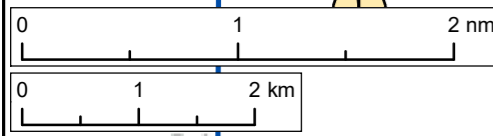
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Sediment distribution

Figure: 4	Drawing No: PB5640-002-004-004				
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
03	10/01/2019	JT	DT	A3	1:65,000
02	07/12/2018	JT	DT	A3	1:65,000

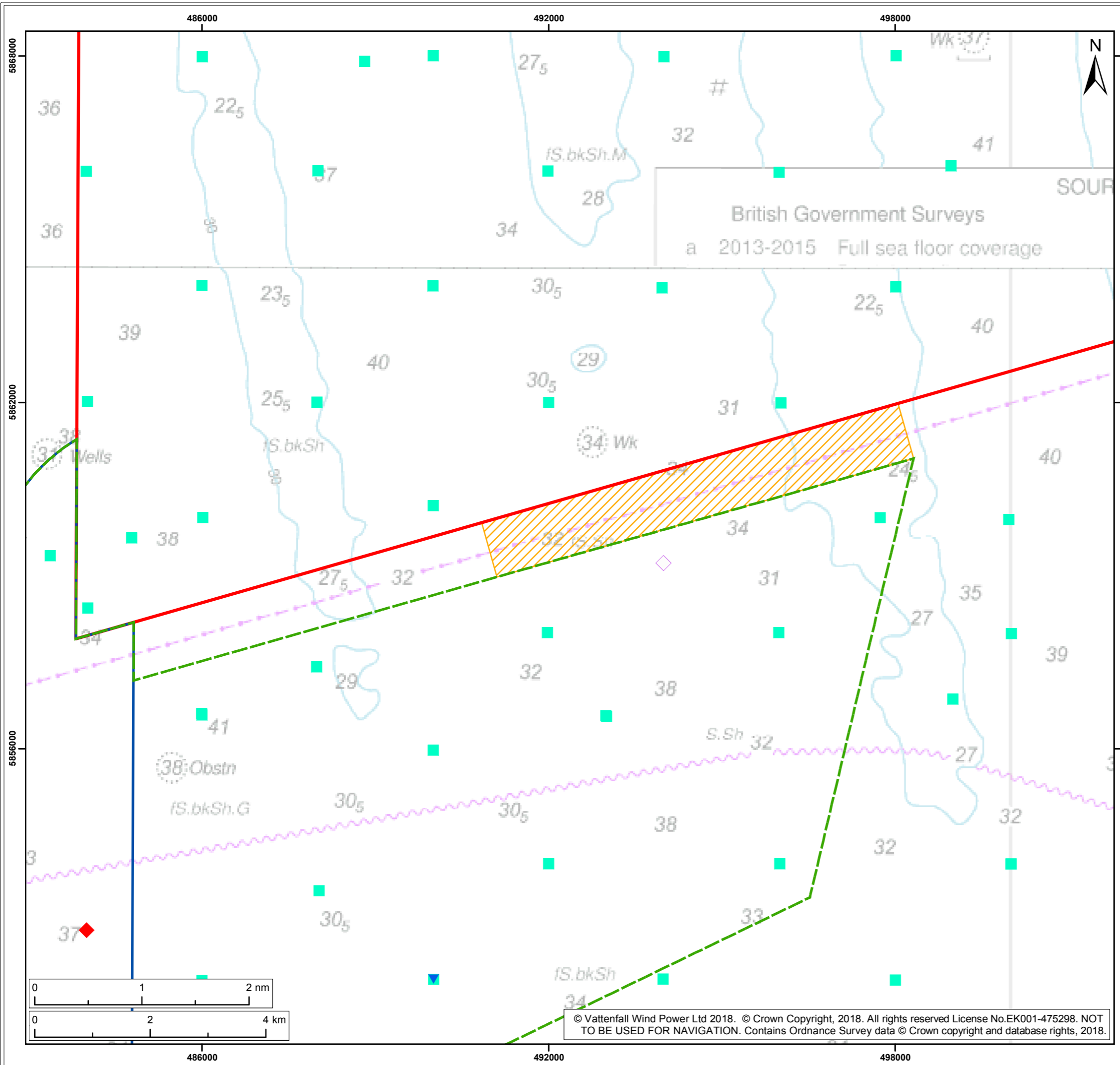
Co-ordinate system: ETRS 1989 UTM Zone 31N EPSG: 25831

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- Legend:
- Norfolk Boreas site
  - Offshore cable corridor
  - Project interconnector search area
  - New area to be included within the Order limits
- Infaunal group<sup>1</sup>**
- ◇ Infaunal group h
  - ▼ Infaunal group n
  - Infaunal group o
  - ◆ Infaunal group p

NOTE: Infaunal group defined using multivariate analysis (see appendix 10.2 of the Norfolk Boreas PEIR)  
<sup>1</sup> MESL, 2011/Fugro, 2016/Fugro, 2017.

Project: Norfolk Boreas	Report: Offshore Order Limits Change Report
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Title:  
Infaunal Groups – Combined data set

Figure: 5	Drawing No: PB5640-002-004-005				
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
03	10/01/2019	JT	DT	A3	1:65,000
02	07/12/2018	JT	DT	A3	1:65,000

Co-ordinate system: ETRS 1989 UTM Zone 31N EPSG: 25831



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