

# Norfolk Vanguard Offshore Wind Farm Onshore Project Substation Masterplan



Applicant: Norfolk Vanguard Limited  
Document Reference: 8.27

Date: August 2021  
Author: Royal HaskoningDHV

*Photo: Kentish Flats Offshore Wind Farm*

Date	Issue No.	Remarks / Reason for Issue	Author	Checked	Approved
19/07/2021	01D	First draft for internal review	CD	VR/JL	JL
02/08/2021	01F	Version for submission 02 August 2021	CD	VR/JL	JL

## Table of Contents

<b>1</b>	<b>Onshore Project Substation Masterplan.....</b>	<b>1</b>
<b>1.1</b>	<b>Onshore Project Substation Masterplan Principles .....</b>	<b>1</b>
<b>1.2</b>	<b>Onshore Project Substation Masterplan.....</b>	<b>2</b>

## 1 ONSHORE PROJECT SUBSTATION MASTERPLAN

---

### 1.1 Onshore Project Substation Masterplan Principles

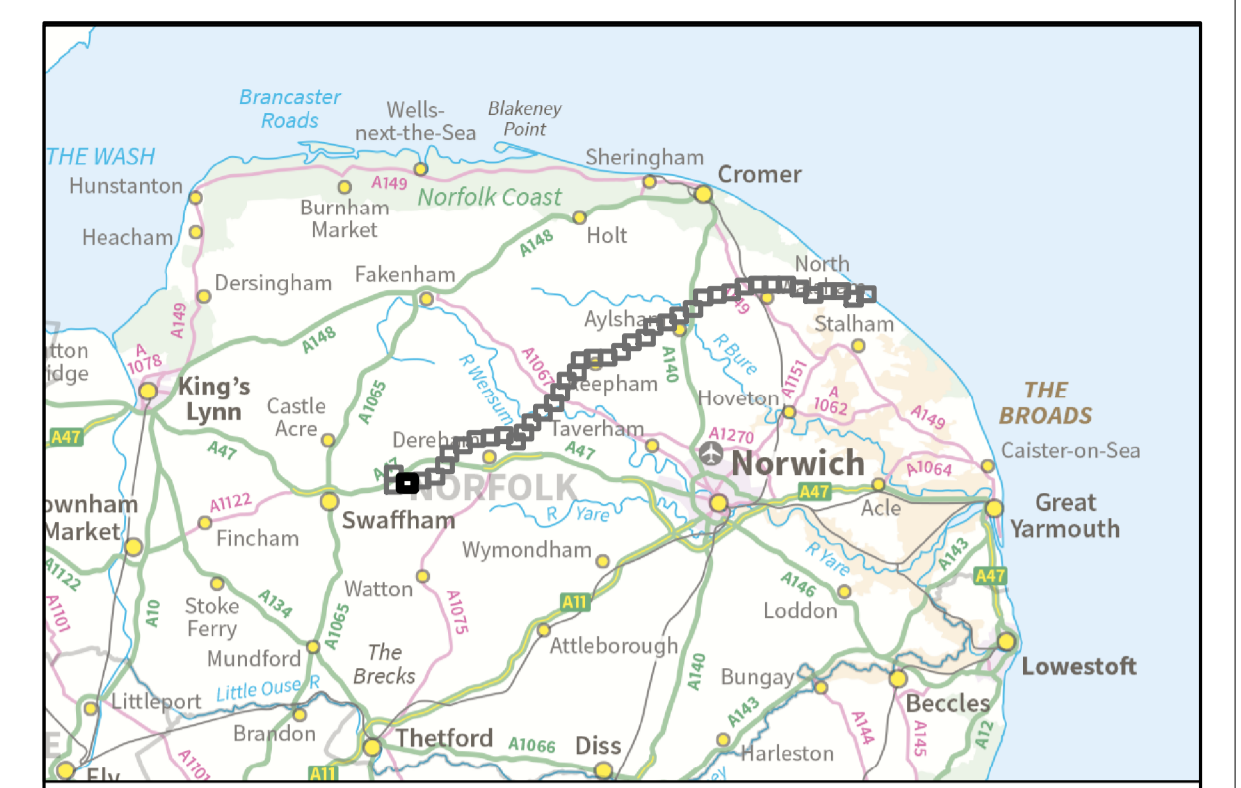
1. The Norfolk Vanguard and Norfolk Boreas Design and Access Statements (DAS) (DCO document 8.3; Norfolk Vanguard version 2 submitted 2<sup>nd</sup> August 2021 and Norfolk Boreas REP14-014) outline the design principles which will be adhered to in developing the detailed design of the onshore project substations for both projects. Building on these principles, under Norfolk Boreas Scenario 1 the design and development of the onshore infrastructure and associated landscaping will be considered holistically for Norfolk Vanguard and Norfolk Boreas Scenario 1 in line with the principles listed below and presented on the Onshore Project Substation Masterplan drawing PB94476-009-017-001.
  - Continued commitment to co-location of onshore project substation infrastructure to keep these developments contained within a localised area.
  - Zoning of the onshore project substation footprint to locate the converter buildings in the northern zone of the onshore project substation footprints.
  - Strategic approach to landscaping to minimise visual effects, both alone and cumulatively. Each project will have their own planting scheme however they will continue to be designed to work together to enhance landscape character and biodiversity in the local area.
  - Locally specific landscape mitigation measures will be developed considering how the infrastructure of the onshore project substations can be collectively integrated into the existing rural landscape.
  - Consideration of reuse of earthworks generated as part of level change across both projects to maximise the efficient use of earthworks generated material in a co-ordinated way, as well as to maximise opportunities for a holistic approach to landscaping.
  - The Design Guide (as detailed in the updated DAS submitted 2 August 2021, (document reference 8.3, version 2)) will take a holistic approach by presenting details of the onshore project substations for both projects. It will set out a design approach and mitigation measures which can be applied across both onshore project substations to minimise the impacts of the onshore project substations alone and cumulatively.
  - The detailed design of both onshore project substations will integrate embedded mitigation in order to minimise potential effects on landscape character and visual amenity alone and cumulatively. Embedded mitigation will consider the detailed design of the built features, including the colour and finish of the materials for the converter buildings. It will also include the detailed design of the landscape features, including tree, hedgerow and grassland planting, earthworks, water attenuation ponds and

drainage, and how these are integrated to form a robust co-ordinated landscape framework across both projects.

2. Adherence to these principles will ensure that the effects of both projects, both alone and cumulatively, are being mitigated through the detailed design of the onshore substations and associated landscaping using a co-ordinated approach.

## 1.2 Onshore Project Substation Masterplan

3. Drawing PB94476-009-017-001 presents a masterplan of the proposed infrastructure for Norfolk Vanguard and Norfolk Boreas Scenario 1 onshore project substations. It shows the co-location of infrastructure, zoning of the onshore project substation footprints and how the indicative landscaping proposals have been designed to work together across both projects and with existing landscape features.
4. The onshore project substations design and landscape schemes will be further refined as part of the detailed design process in accordance the principles of the OPS Masterplan. The indicative hard and soft landscaping will be developed holistically alongside the detailed design of the substations in order to optimise the level of mitigation that the landscaping will provide, for the projects alone and cumulatively.



- Legend:**
- Combined Norfolk Boreas Scenario 1 and Norfolk Vanguard Order Limits
  - Norfolk Boreas Scenario 1 and Norfolk Vanguard Onshore Cable Route Areas
- Norfolk Boreas Scenario 1**
- Onshore project substation
- Onshore project substation zones\***
- Northern zone – Zone containing the converter buildings, control buildings and outside electrical equipment
  - Southern zone - Zone containing outside electrical equipment
- Norfolk Vanguard**
- Onshore project substation
- Onshore project substation zones\***
- Northern zone – Zone containing the converter buildings, control buildings and outside electrical equipment
  - Southern zone - Zone containing outside electrical equipment
- Existing vegetation**
- Existing woodland
  - Existing hedgerow
- Indicative Landscaping Proposals**
- Proposed core woodland
  - Proposed nurse woodland
  - Proposed understorey planting
  - Proposed species rich grassland
  - Proposed hedgerow
  - Indicative attenuation pond
  - Area to be clear of landscaping obstruction
  - Shared permanent access route
- \* Both zones may also contain fencing, access roads, handstanding and below ground systems such as drainage and earth systems.

Project: <b>Norfolk Vanguard Offshore Wind Farm</b>	Report: <b>Development Consent Order</b>
--	---

**Title:**  
Norfolk Vanguard and Norfolk Boreas  
Scenario 1 Onshore Project Substation  
Masterplan

Doc Ref: 8.27	APFP Ref: -	Drawing No: PB4476-009-017-001			
Revision: 01	Date: 12/07/2021	Drawn: JT	Checked: CD	Size: A1	Scale: 1:2,500

**Co-ordinate system:** British National Grid      **EPSG:** 27700

© Vattenfall Wind Power Ltd 2021. Contains Ordnance Survey data  
© Crown copyright and database rights 2021 Ordnance Survey 0100031673

