

Norfolk Boreas Offshore Wind Farm

Applicant's Responses

to the Examining

Authority's Third

Round of Written

Questions

Appendices

Section 9

Appendices 9.1 and 9.2

Applicant: Norfolk Boreas Limited
Document Reference: ExA.WQ-3.D7.V1
Deadline 7
Date: March 2020
Revision: Version 1
Author: Royal HaskoningDHV

Photo: Ormonde Offshore Wind Farm

Norfolk Boreas Offshore Wind Farm

Appendix 9.1

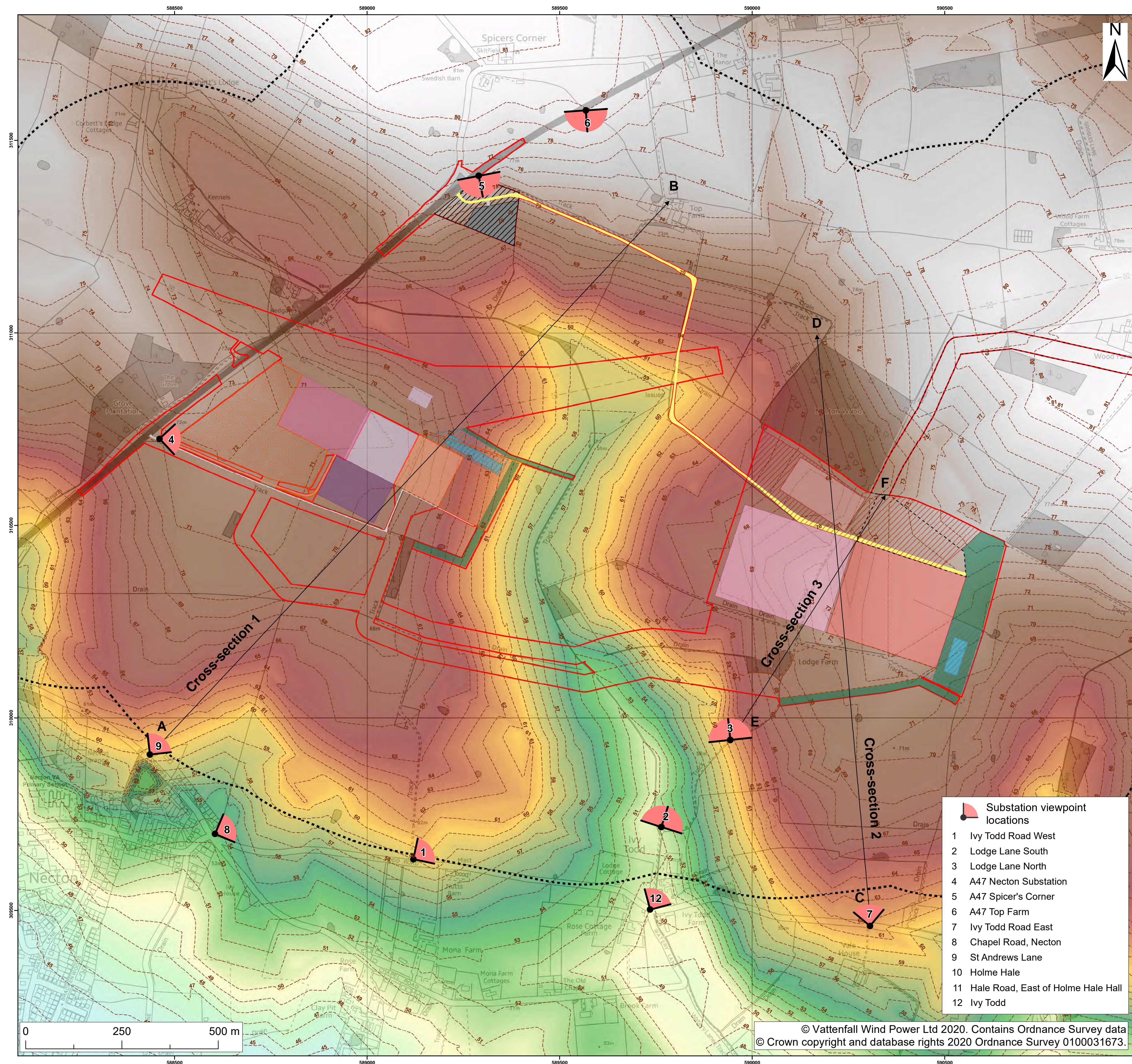
(Version 2)

Updated Additional Contour Plans,
Cross Sections and OS Maps

(Question 3.9.7.1)

Applicant: Norfolk Boreas Limited
Document Reference: ExA.WQ-3.D7.V2
Deadline 7
Date: March 2020
Revision: Version 1
Author: Royal HaskoningDHV

Photo: Ormonde Offshore Wind Farm



Legend:

- Norfolk Boreas onshore red line boundary
- Onshore cable route
 - Onshore cable route
 - Onshore 400kV cable route
- Mobilisation zone
 - Indicative mobilisation area compound
- Onshore project substation
 - Onshore project substation
 - Onshore project substation temporary construction compound zone
 - Indicative onshore project substation temporary construction compound
- Norfolk Vanguard
 - Norfolk Vanguard onshore project substation
 - Norfolk Vanguard National Grid substation extension
- National Grid
 - National Grid substation extension
 - National Grid temporary works
- Mitigation areas
 - Attenuation pond zone
 - Indicative attenuation pond
 - Indicative mitigation planting
- Access
 - Permanent access
 - Construction access
 - Operation access
- Existing substation locations
 - Dudgeon substation
 - Necton National Grid substation
- Study area 500m
- OS Terrain 5 Contours - 1m Interval
- OS Terrain 5 DTM
 - Elevation (m)
 - High : 82.4
 - Low : 42.5

Project: Norfolk Boreas

Report: Responses to the ExA's Written Questions: For Information Only

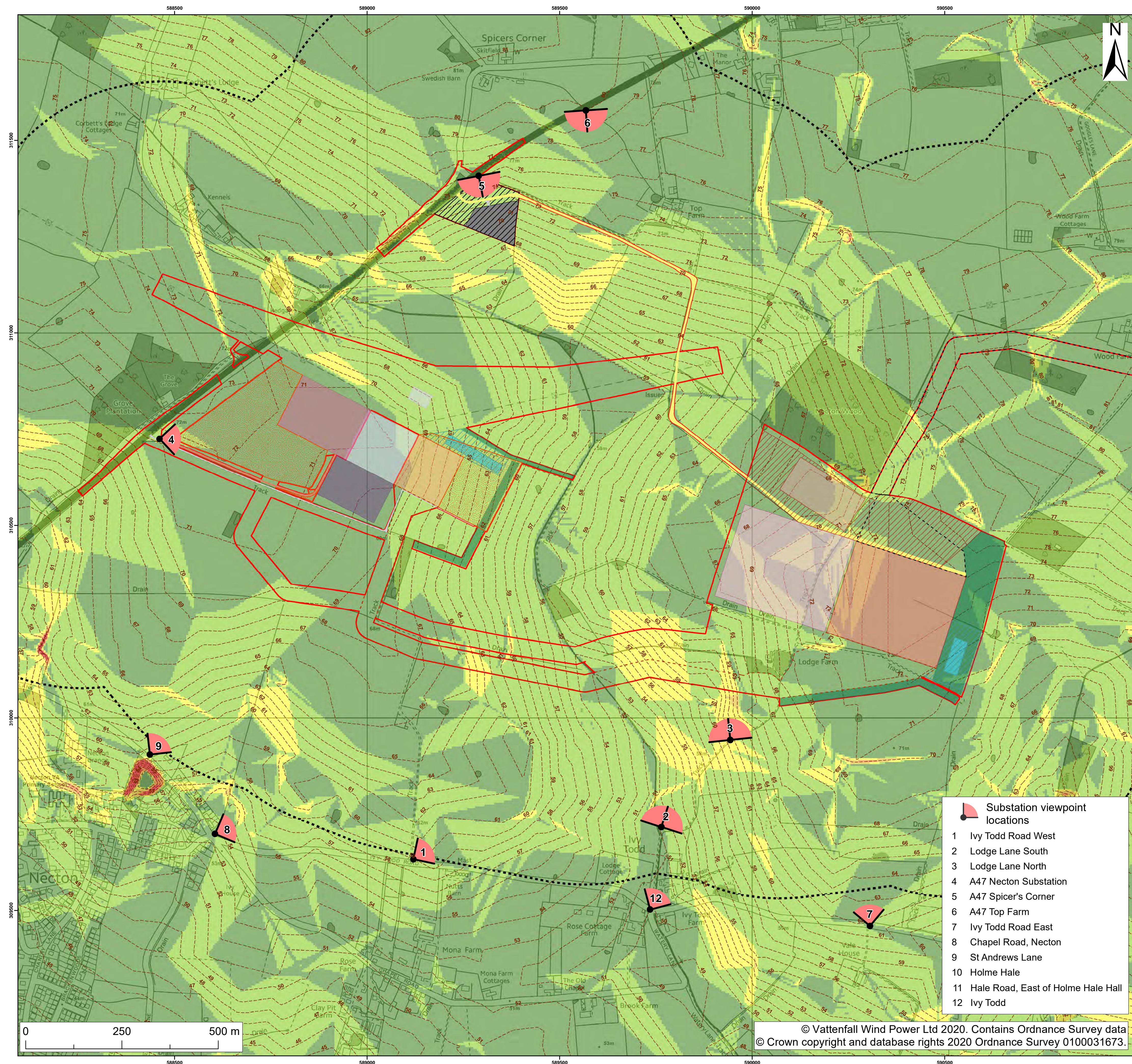
Title: Scenario 1
Viewpoints: Onshore Project Substation / National Grid Substation Extension with Landform Elevation

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01	19/02/2020	LA	JP	A1	1:5,000

Co-ordinate system: British National Grid EPSG: 27700

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- Substation viewpoint locations**
- Ivy Todd Road West
 - Lodge Lane South
 - Lodge Lane North
 - A47 Necton Substation
 - A47 Spicer's Corner
 - A47 Top Farm
 - Ivy Todd Road East
 - Chapel Road, Necton
 - St Andrews Lane
 - Holme Hale
 - Hale Road, East of Holme Hale Hall
 - Ivy Todd



Legend:

- Norfolk Boreas onshore red line boundary
- Onshore cable route
 - Onshore cable route
 - Onshore 400kV cable route
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 - Onshore project substation
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- Access
 - Permanent access
 - Construction access
 - Operation access
- Existing substation locations
 - Dudgeon substation
 - Necton National Grid substation
- Study area 500m
- OS Terrain 5 Contours - 1m Interval
- OS Terrain 5 DTM Slope Analysis
 - Slope in Degrees (Percent Rise)
 - 0 - 1.43 (0 - 2.5%)
 - 1.43 - 2.86 (2.5 - 5%)
 - 2.86 - 5.71 (5 - 10%)
 - 5.71 - 8.53 (10 - 15%)
 - 8.53 - 11.31 (15 - 20%)
 - 11.31 > (20% >)

Project: Norfolk Boreas

Report: Responses to the ExA's Written Questions: For Information Only

Title: Scenario 1
Viewpoints: Onshore Project Substation / National Grid Substation Extension with Landform Slope

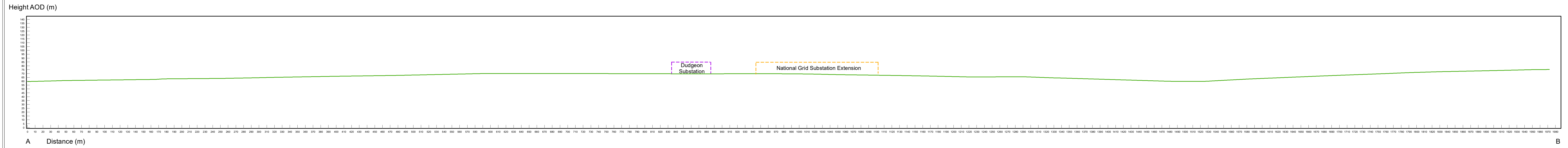
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Co-ordinate system: British National Grid EPSG: 27700

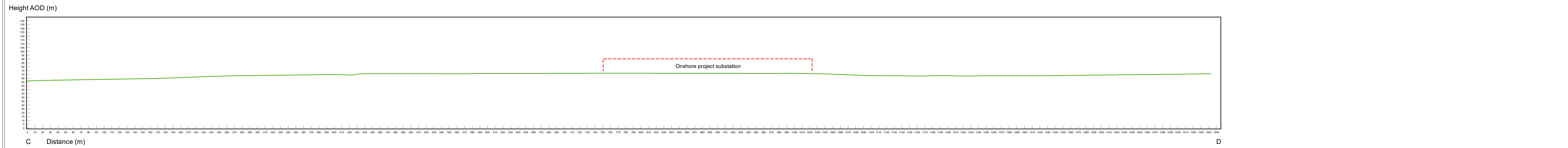
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- Substation viewpoint locations**
- Ivy Todd Road West
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 - Lodge Lane North
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 - Hale Road, East of Holme Hale Hall
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Cross Section 1





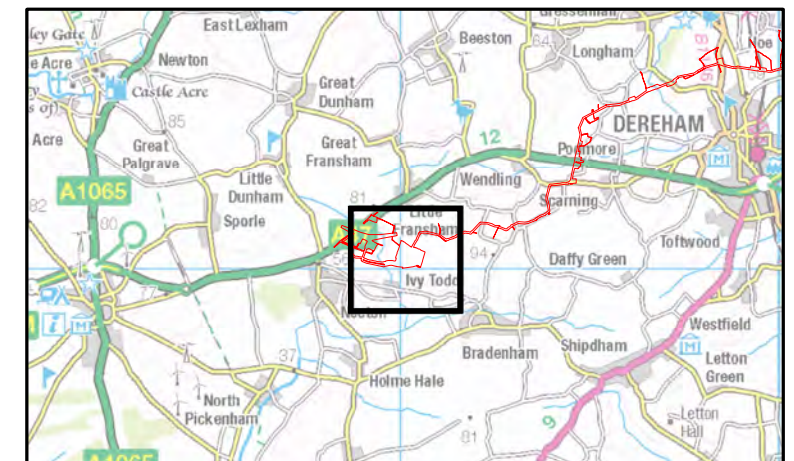
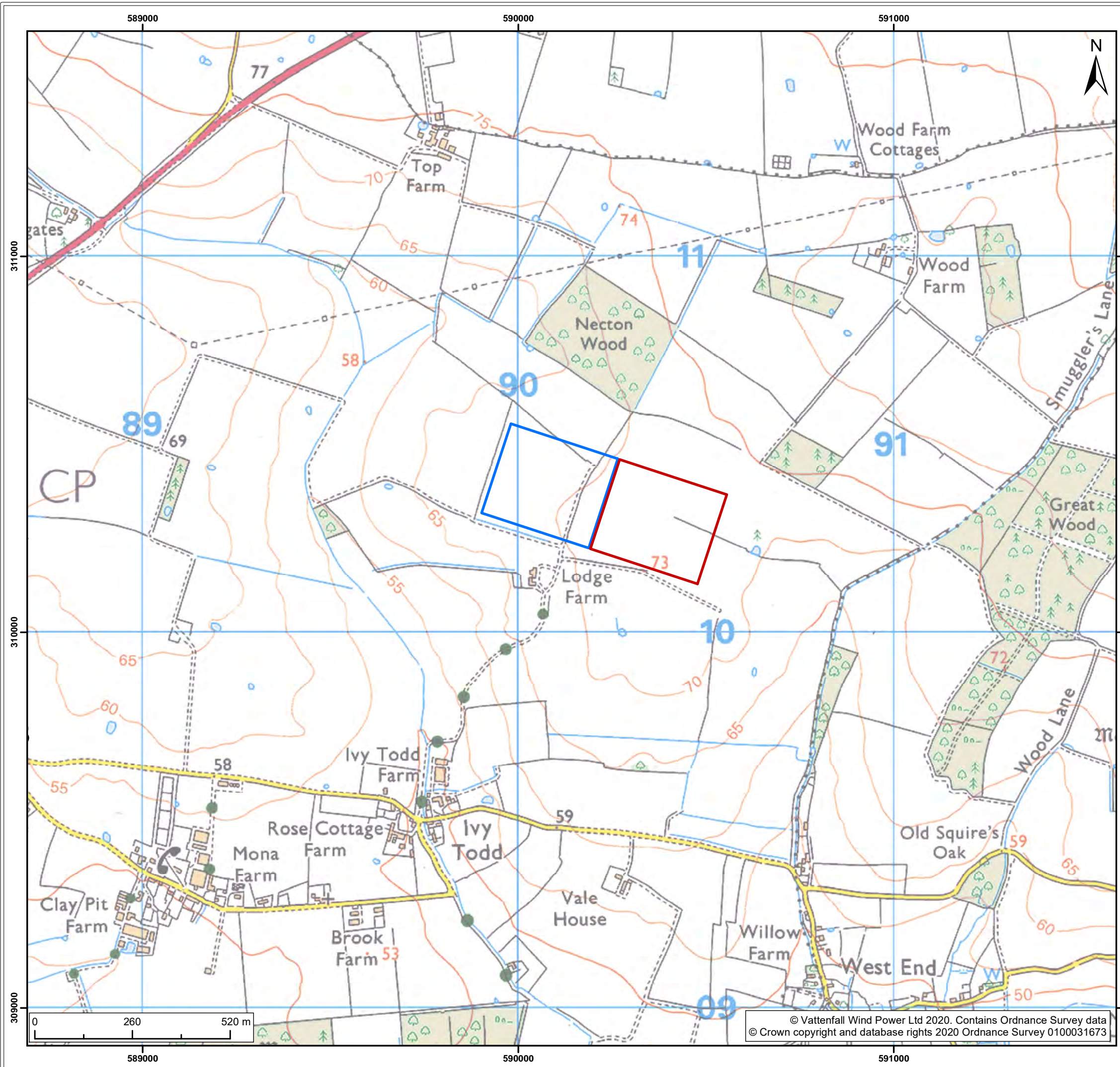
Cross Section 2



Cross Section 3



Project: Norfolk Boreas		Report: Responses to the ExA's Written Questions: For Information Only			
Title: Scenario 1 Landform Cross-Sections					
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Revision:	Date:	Drawn:	Checked:	Size:	Scale:
02	19/03/2020	LA	JP	A1	
01	19/02/2020	LA	JP	A1	
Co-ordinate system: British National Grid					EPSG: 27700
					



Legend:
 Norfolk Boreas onshore project substation
 Norfolk Vanguard onshore project substation

Project: Norfolk Boreas	Report: Responses to the ExA's Written Questions : For Information Only
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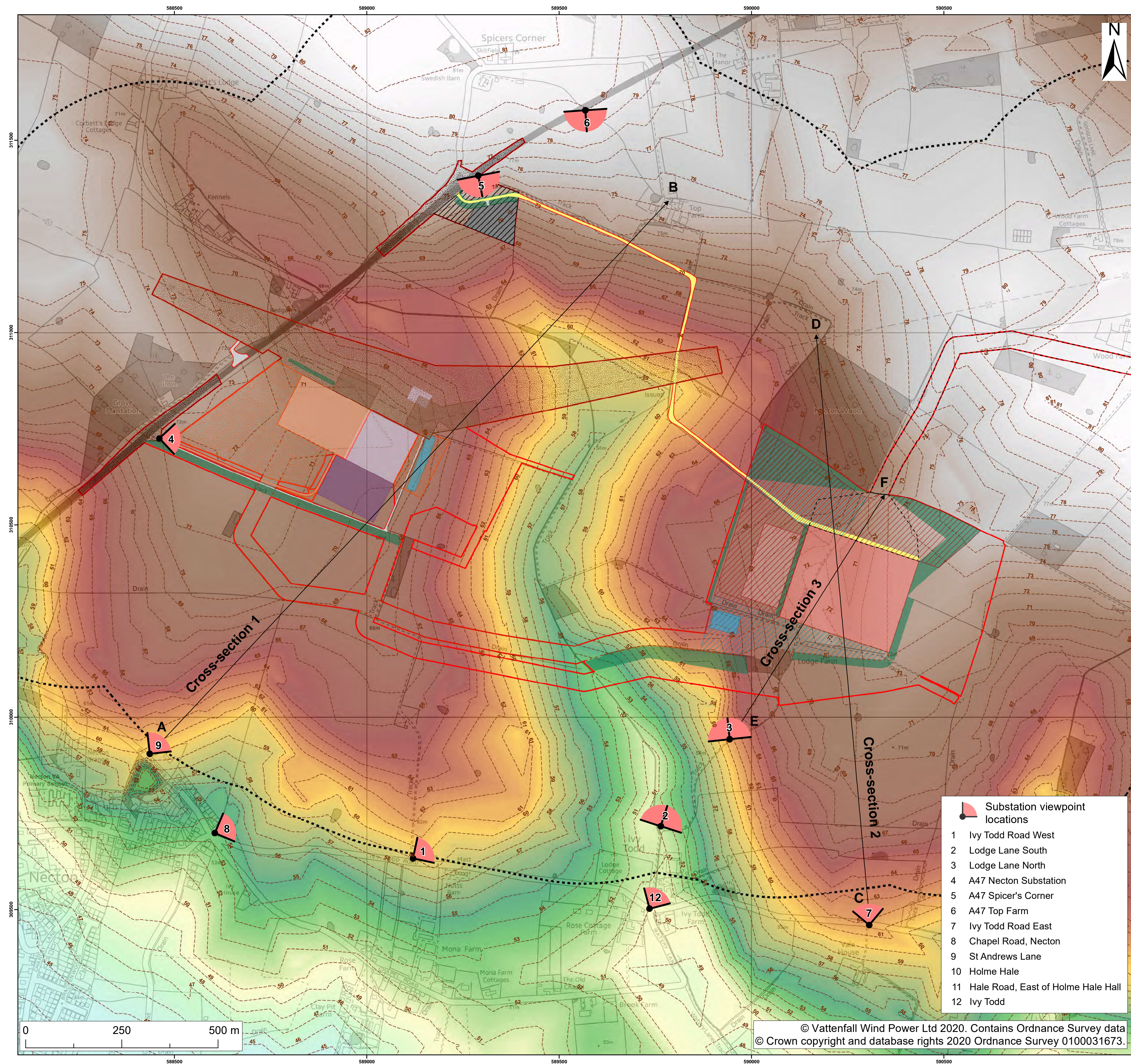
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 Scenario 1
 Substation Location

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Co-ordinate system: British National Grid EPSG: 27700



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Legend:

- Norfolk Boreas onshore red line boundary
- Onshore cable route
 - Onshore cable route
 - Onshore 400kV cable route
- Mobilisation zone
 - Indicative mobilisation area compound
- Onshore project substation
 - Onshore project substation
 - Onshore project substation temporary construction compound zone
 - Indicative onshore project substation temporary construction compound
- National Grid
 - National Grid substation extension
 - National Grid new / replacement OHL tower search area
 - National Grid temporary works
 - Overhead line temporary works
- Mitigation areas
 - Attenuation pond zone
 - Indicative attenuation pond
 - Indicative mitigation planting
- Access
 - Permanent access
 - Construction access
 - Operation access
 - Highways temporary works area
- Existing substation locations
 - SubStation
 - Dudgeon substation
 - Necton National Grid substation
- Study area 500m
- OS Terrain 5 Contours - 1m Interval
- OS Terrain 5 DTM
 - Elevation (m)
 - High : 82.4
 - Low : 42.5

Project: Norfolk Boreas

Report: Responses to the ExA's Written Questions: For Information Only

Title: Scenario 2
Viewpoints: Onshore Project Substation / National Grid Substation Extension with Landform Elevation

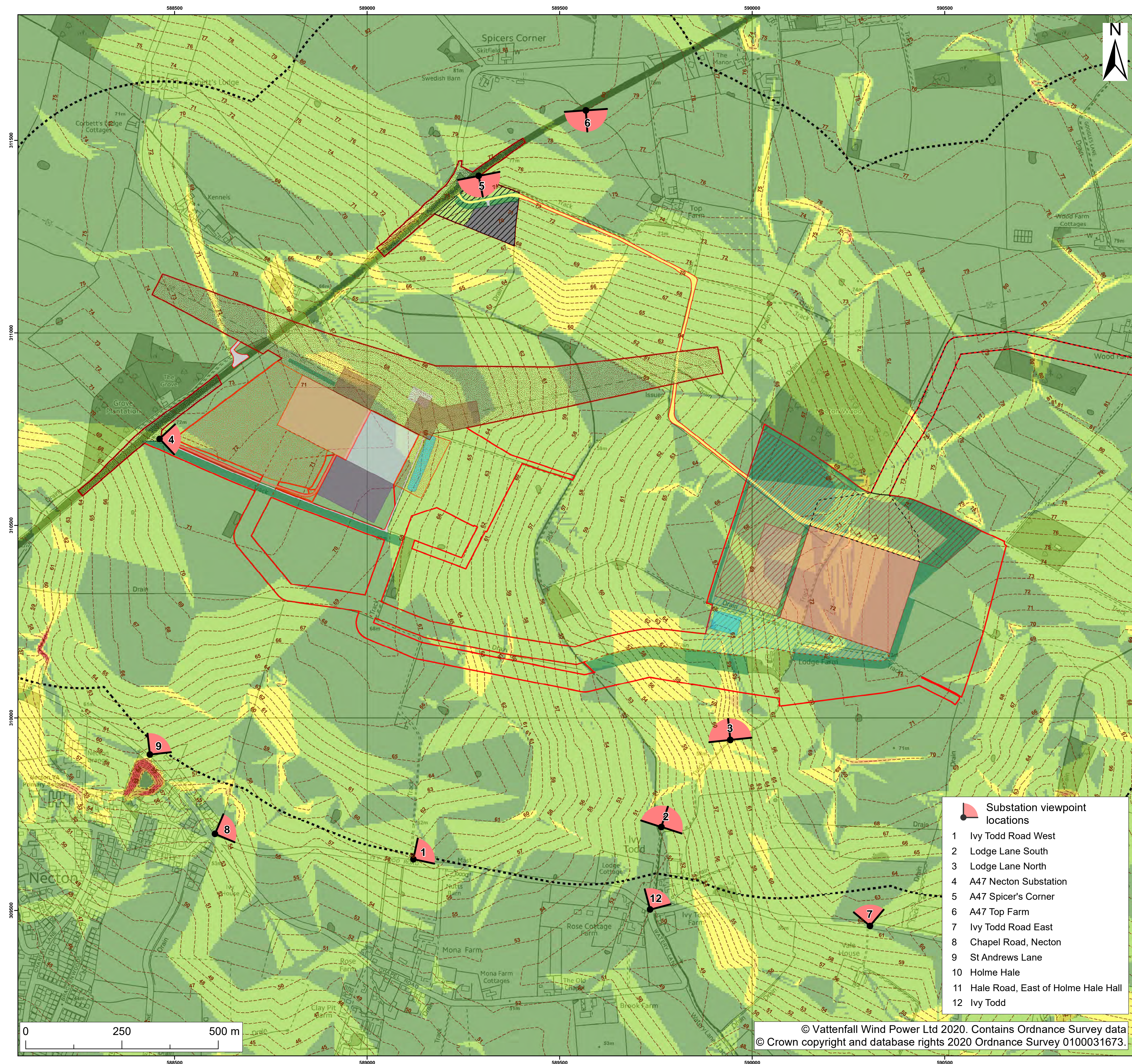
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Co-ordinate system: British National Grid EPSG: 27700

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Legend:

- Norfolk Boreas onshore red line boundary
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 - Indicative attenuation pond
 - Indicative mitigation planting
- Access**
 - Permanent access
 - Construction access
 - Operation access
 - Highways temporary works area
- Existing substation locations**
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 - Dudgeon substation
 - Necton National Grid substation
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- OS Terrain 5 DTM Slope Analysis**
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 - 1.43 - 2.86 (2.5 - 5%)
 - 2.86 - 5.71 (5 - 10%)
 - 5.71 - 8.53 (10 - 15%)
 - 8.53 - 11.31 (15 - 20%)
 - 11.31 > (20% >)

Project: Norfolk Boreas

Report: Responses to the ExA's Written Questions: For Information Only

Title: Scenario 2
Viewpoints: Onshore Project Substation / National Grid Substation Extension with Landform Slope

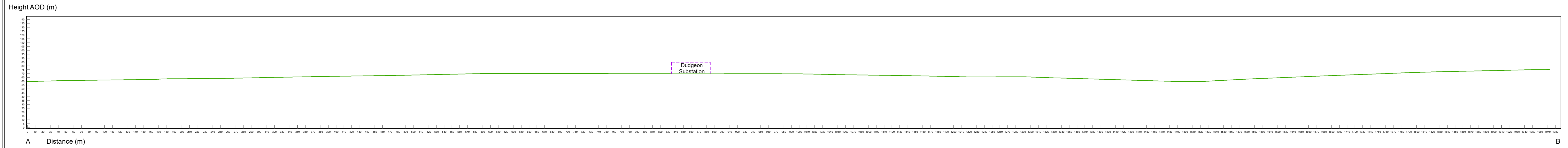
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Co-ordinate system: British National Grid EPSG: 27700

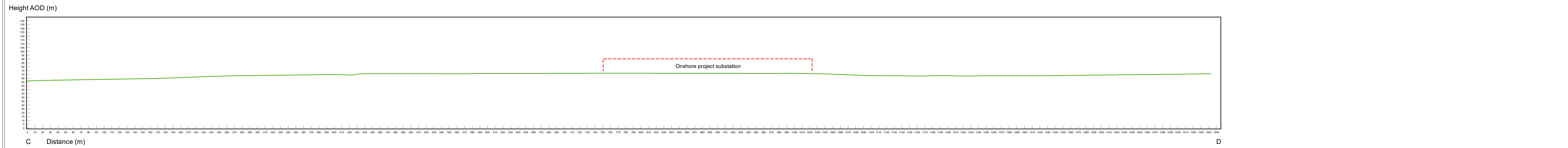
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 - Chapel Road, Necton
 - St Andrews Lane
 - Holme Hale
 - Hale Road, East of Holme Hale Hall
 - Ivy Todd

Cross Section 1





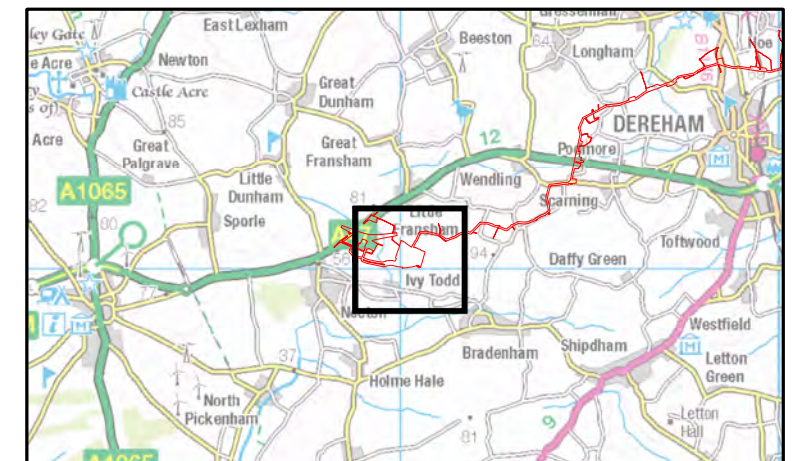
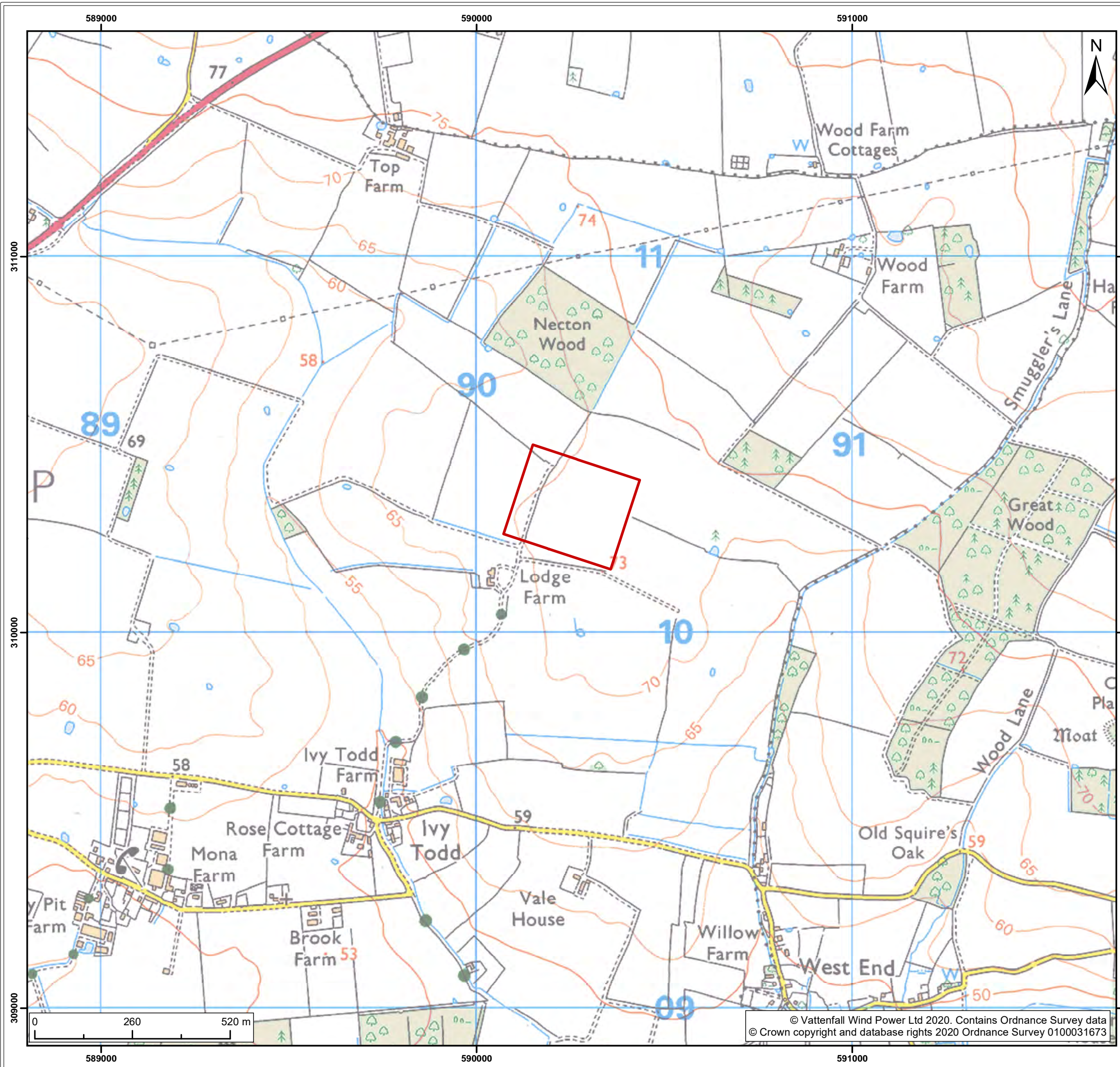
Cross Section 2



Cross Section 3



Project: Norfolk Boreas		Report: Responses to the ExA's Written Questions: For Information Only			
Title: Scenario 2 Landform Cross-Sections					
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Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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01	19/02/2020	LA	JP	A1	
Co-ordinate system: British National Grid					EPSG: 27700
					



Legend:
 Norfolk Boreas onshore project substation

Project: Norfolk Boreas	Report: Responses to the ExA's Written Questions : For Information Only
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Title:
 Scenario 2
 Substation Location

Figure: 2d	Drawing No:				
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
01	18/03/2020	LA	JP	A3	1:10,000

Co-ordinate system: British National Grid EPSG: 27700



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Norfolk Boreas Offshore Wind Farm

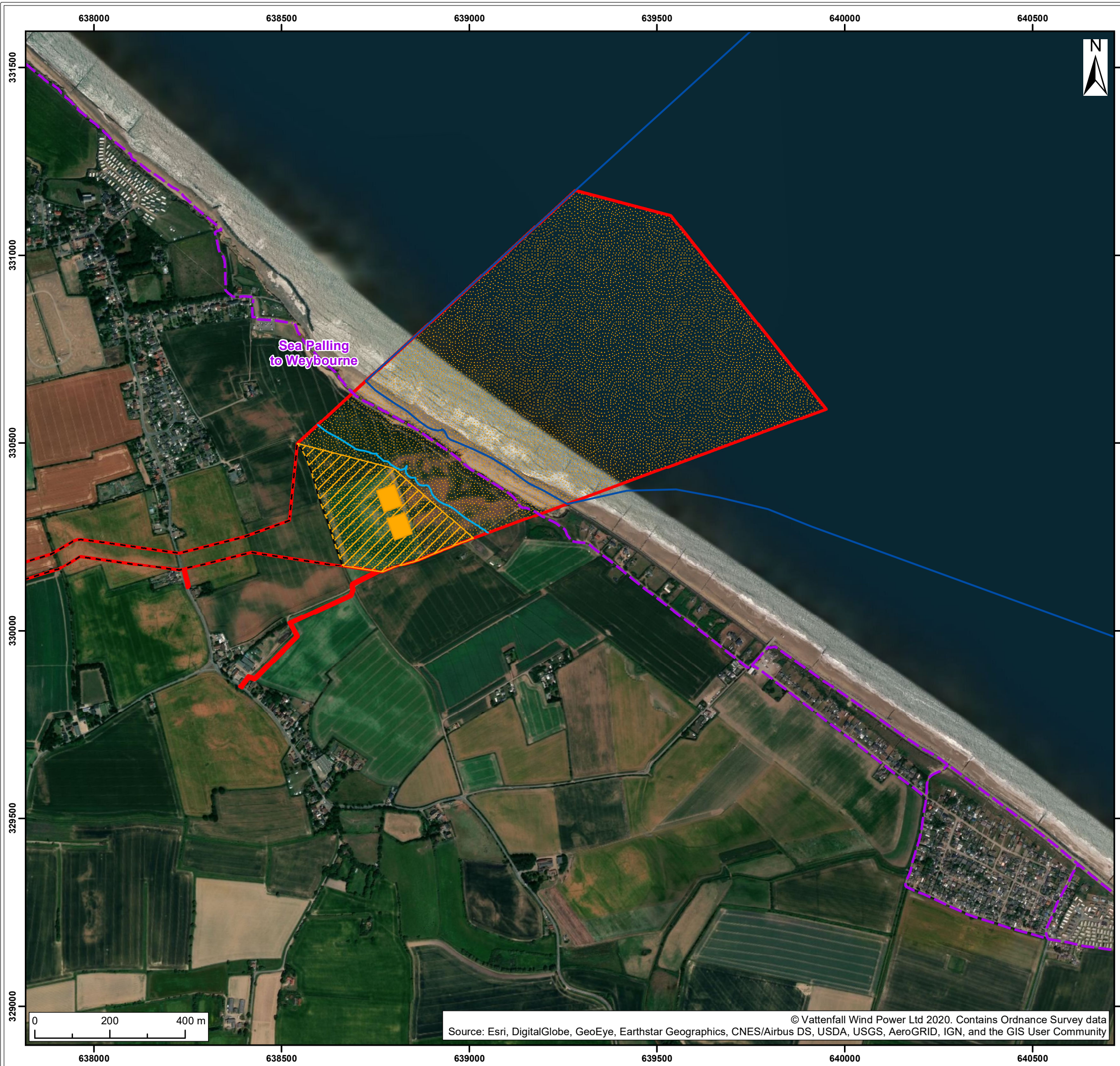
Appendix 9.2

Landfall Aerial Image

(Question 3.9.3.1)

Applicant: Norfolk Boreas Limited
Document Reference: ExA.WQ-3.D7.V1
Deadline 7
Date: March 2020
Revision: Version 1
Author: Royal HaskoningDHV

Photo: Ormonde Offshore Wind Farm



Legend:

- Offshore cable corridor
- Norfolk Boreas Order limits
- Norfolk Boreas Onshore Project Infrastructure (Scenario 1 & 2)**
- Landfall zone
- Landfall compound zone
- Indicative landfall compound
- Onshore cable route
- Coastal path¹
- 125m Flag line - set out from cliff edge

¹ Natural England, 2018.

Project:	Report:
Norfolk Boreas	Applicant's Responses to the Examining Authority's Third Round of Written Questions Appendices

Title:

Landfall Aerial Image
(Question 3.9.3.1)

Figure:	1					Drawing No:	PB5640-008-007-023				
Revision:	Date:	Drawn:	Checked:	Size:	Scale:						
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Co-ordinate system: British National Grid EPSG: 27700

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