

Norfolk Boreas Offshore Wind Farm Applicant's Responses to the Examining Authority's Written Questions Appendices

Section 9

Appendices 9.1 to 9.4

Applicant: Norfolk Boreas Limited
Document Reference: ExA.WQ-1.D2.V1
Deadline 2

Date: December 2019
Revision: Version 1
Author: Royal HaskoningDHV

Photo: Ormonde Offshore Wind Farm

Norfolk Boreas Offshore Wind Farm

Appendix 9.1

Onshore Project Substation Mitigation Planting and Removals

Written Questions 9.3.1

Applicant: Norfolk Boreas Limited
Document Reference: ExA.WQ-1.D2.V1
Deadline 2

Date: December 2019
Revision: Version 1
Author: OPEN



Legend:

- Norfolk Boreas Order Limits
- Onshore cable route**
 - Onshore cable route
 - Onshore 400kV cable route
- Onshore project substation**
 - Onshore project substation
- Existing vegetation**
 - Existing woodland
 - Existing hedgerow
 - Existing hedgerow and hedge tree removal (707m)
- Proposed mitigation area**
 - Proposed core woodland (14,452m²)
 - Proposed nurse woodland (14,001m²)
 - Proposed species rich grassland (38,630m²)
 - Indicative attenuation pond
 - Proposed hedgerow (50m)

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title:
Scenario 2
Indicative Onshore Project Substation
Mitigation Planting and Removals

Figure: Figure 1 | Drawing No: ExA.WQ-1.D2.V1-Q9.3.1.F1

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
01	02/12/2019	LA	JP	A3	1:4,000
02	06/12/2019	LA	JP	A3	1:4,000

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

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Legend:

- Norfolk Boreas Order Limits
- Onshore cable route**
 - Onshore cable route
 - Onshore 400kV cable route
- Onshore project substation**
 - Onshore project substation
 - Norfolk Vanguard onshore project substation
- Existing vegetation**
 - Existing woodland
 - Existing hedgerow
 - Existing hedgerow and hedge tree removal (1166m)
- Proposed mitigation area**
 - Proposed core woodland (8,104m²)
 - Proposed nurse woodland (7,976m²)
 - Proposed understorey planting
 - Proposed species rich grassland (27404m²)
 - Indicative attenuation pond
 - Proposed hedgerow (50m)

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title: Scenario 1
Indicative Onshore Project Substation Mitigation Planting (Norfolk Vanguard and Norfolk Boreas) and Removals

Figure: F2 Drawing No: ExA.WQ-1.D2.V1-Q9.3.1.F2

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
01	02/12/2019	LA	JP	A3	1:4,000
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Co-ordinate system: British National Grid EPSG: 27700

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Appendix 9.2

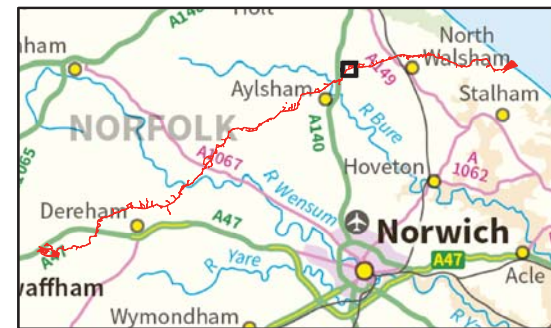
Figures showing areas of hedgerow
and tree removal where potential
significant effects identified under
Scenario 2

Written Questions 9.3.5 and 9.3.6

Applicant: Norfolk Boreas Limited
Document Reference: ExA.WQ-1.D2.V1
Deadline 2

Date: December 2019
Revision: Version 1
Author: OPEN

Photo: Ormonde Offshore Wind Farm



- Legend:
- Norfolk Boreas Order Limits
 - Onshore cable route**
 - Onshore cable route
 - Trenchless crossing zone (e.g. HDD)
 - Access**
 - Construction access
 - Operation access
 - Footpath ²
 - Areas of potential vegetation removal

¹ Sustrans, 2017 ² Ordnance Survey 1:25000 map

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title: Locations of Scenario 2 Adverse Significant Effects - Colby Road (Church Road), north of Banningham Potential Tree Removal (Map 1 of 9)

Figure: 1 | Drawing No: ExA.WQ-1.D2.V1-Q9.3.6

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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02	09/12/2019	LA	JP	A3	1:5,000

Co-ordinate system: British National Grid EPSG: 27700

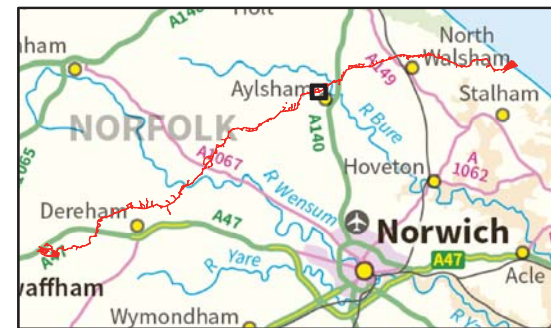
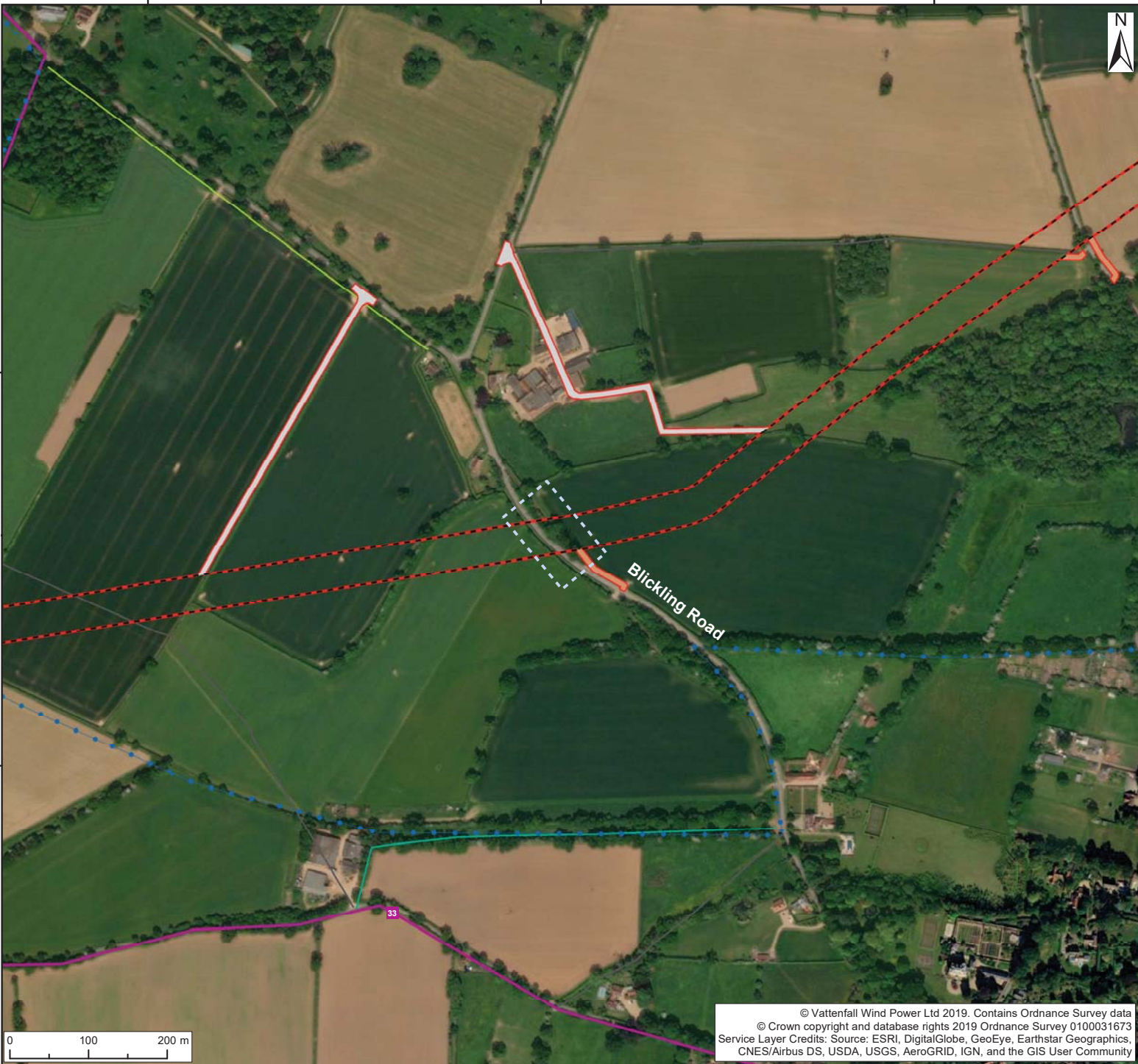
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618000

618500

619000



- Legend:
- Norfolk Boreas Order Limits
 - Onshore cable route
 - Onshore cable route
 - Access**
 - Construction access
 - Operation access
 - Regional cycle route ¹
 - Weaver's Way ²
 - Bridleway ²
 - Footpath ²
 - Restricted byway ²
 - Areas of potential vegetation removal

¹ Sustrans, 2017 ² Ordnance Survey 1:25000 map

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title: Locations of Scenario 2 Adverse Significant Effects - Blickling Road, north of Aylsham Potential Hedgerow Removal (Map 2 of 9)

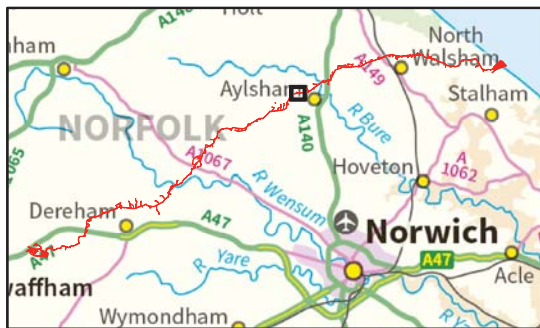
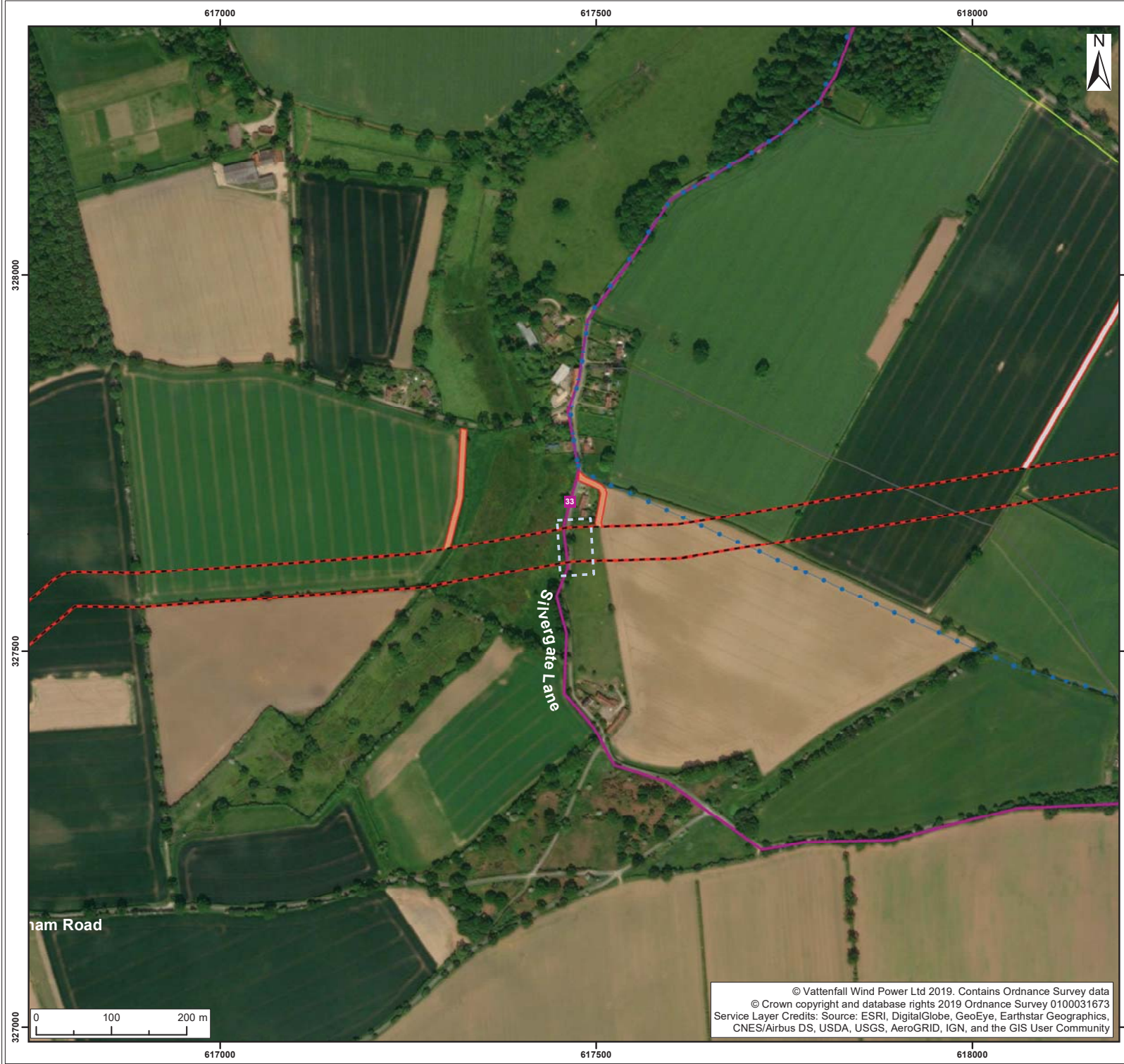
Figure: 2 Drawing No: ExA.WQ-1.D2.V1-Q9.3.6

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02	09/12/2019	LA	JP	A3	1:5,000

Co-ordinate system: British National Grid EPSG: 27700

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- Legend:
- Norfolk Boreas Order Limits
 - Onshore cable route
 - Onshore cable route
 - Access**
 - Construction access
 - Operation access
 - Regional cycle route ¹
 - Weaver's Way ²
 - Bridleway ²
 - Footpath ²
 - Areas of potential vegetation removal

¹ Sustrans, 2017 ² Ordnance Survey 1:25000 map

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title: Locations of Scenario 2 Adverse Significant Effects - Silvergate Lane, NW of Aylsham Potential Hedgerow Removal (Map 3 of 9)

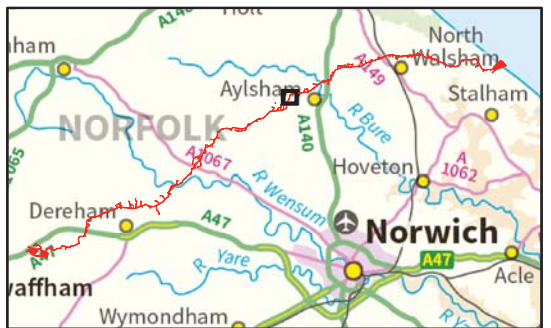
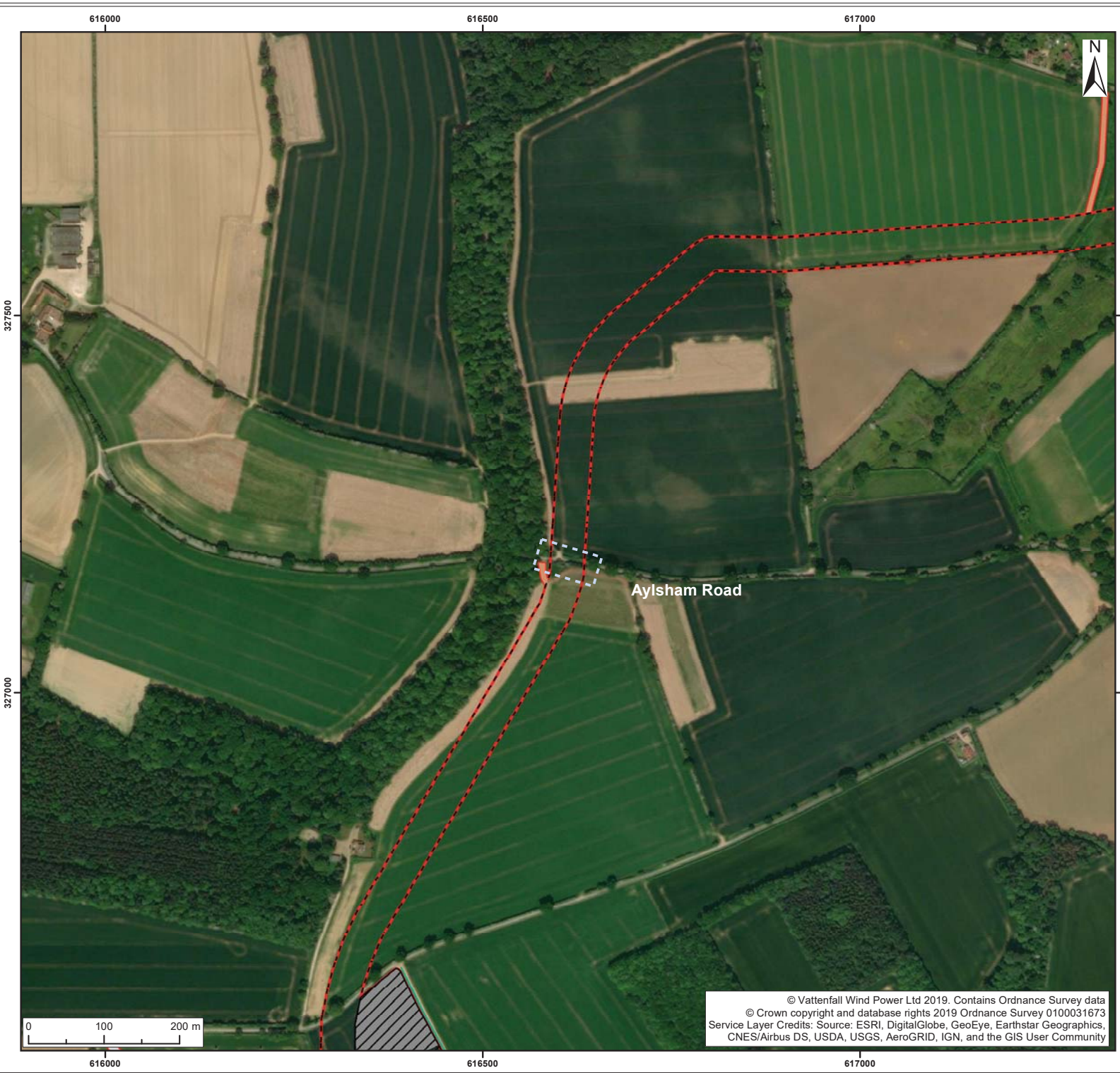
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Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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02	09/12/2019	LA	JP	A3	1:5,000

Co-ordinate system: British National Grid EPSG: 27700

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- Legend:
- Norfolk Boreas Order Limits
 - Onshore cable route**
 - Onshore cable route
 - Mobilisation zone
 - Indicative mobilisation area compound
 - Access**
 - Construction access
 - Operation access
 - Restricted byway²
 - Areas of potential vegetation removal

¹ Sustrans, 2017 ² Ordnance Survey 1:25000 map

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title: Locations of Scenario 2 Adverse Significant Effects -
Aylsham Road, west of Aylsham
Potential Hedgerow Removal
(Map 4 of 9)

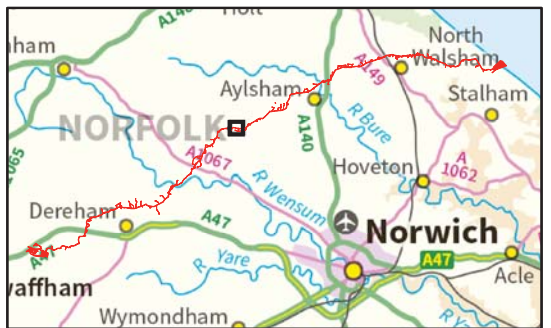
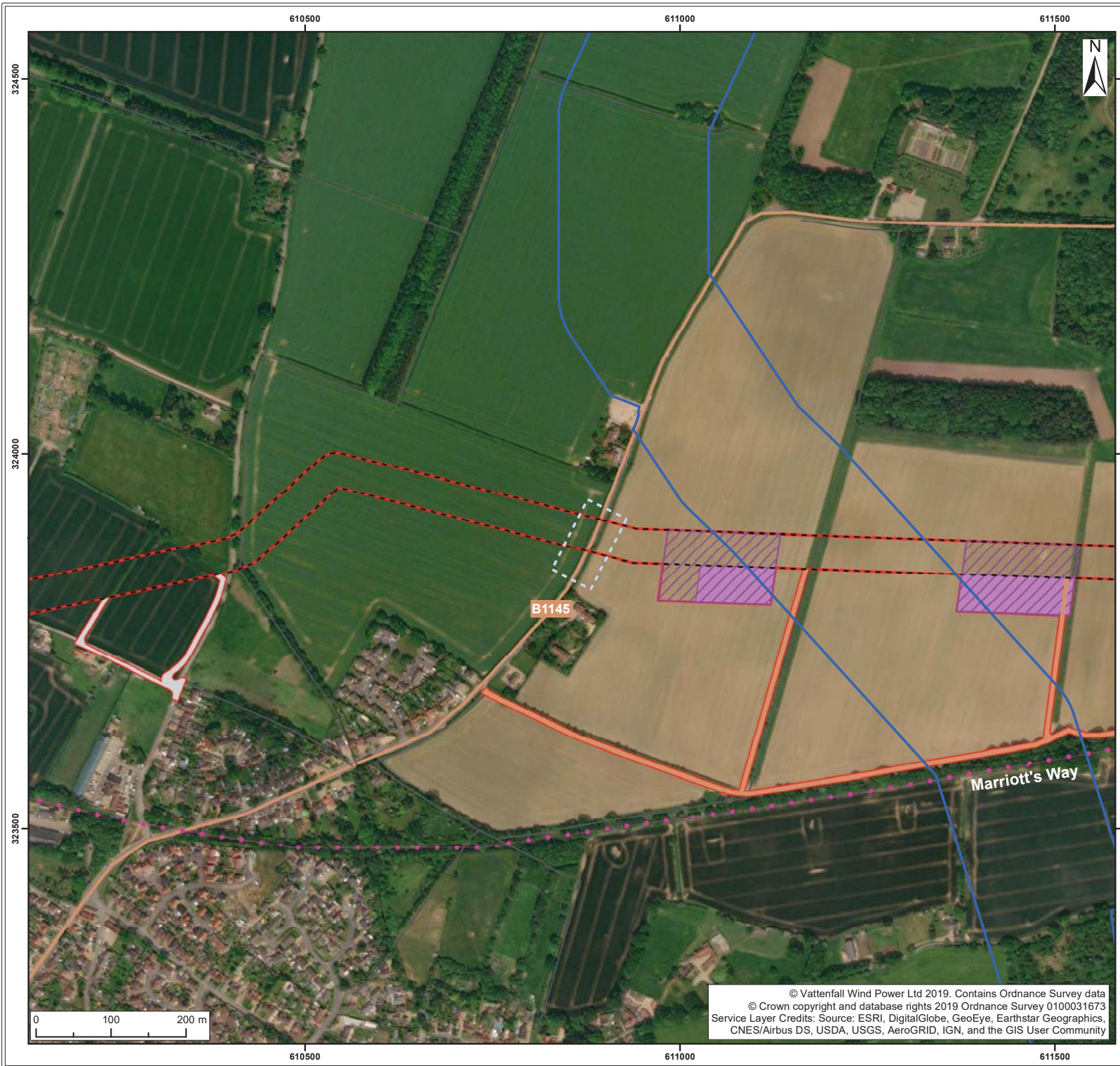
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02	09/12/2019	LA	JP	A3	1:5,000

Co-ordinate system: British National Grid EPSG: 27700

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- Legend:
- Norfolk Boreas Order Limits
 - Hornsea cable corridor
 - Onshore cable route**
 - Onshore cable route
 - Trenchless crossing zone (e.g. HDD)
 - Indicative trenchless crossing compound
 - Access**
 - Construction access
 - Operation access
 - B road
 - Marriott's Way
 - Footpath ²
 - Areas of potential vegetation removal

¹ Sustrans, 2017 ² Ordnance Survey 1:25000 map

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title: Locations of Scenario 2 Adverse Significant Effects - B1145, north of Reepham Potential Hedgerow Removal (Map 5 of 9)

Figure: 5 Drawing No: ExA.WQ-1.D2.V1-Q9.3.6

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
01	28/11/2019	LA	JP	A3	1:5,000
02	09/12/2019	LA	JP	A3	1:5,000

Co-ordinate system: British National Grid EPSG: 27700

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- Legend:
- Norfolk Boreas Order Limits
 - Onshore cable route**
 - Onshore cable route
 - Trenchless crossing zone (e.g. HDD)
 - Indicative trenchless crossing compound
 - Access**
 - Construction access
 - B road
 - Marriott's Way
 - Bridleway²
 - Footpath²
 - Areas of potential vegetation removal

¹ Sustrans, 2017 ² Ordnance Survey 1:25000 map

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title: Locations of Scenario 2 Adverse Significant Effects -
B1145, west of Reepham
Potential Hedgerow Removal
(Map 6 of 9)

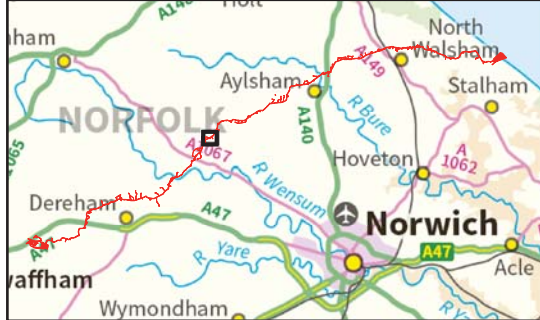
Figure: 6 Drawing No: ExA.WQ-1.D2.V1-Q9.3.6

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Co-ordinate system: British National Grid EPSG: 27700

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- Legend:
- Norfolk Boreas Order Limits
 - Onshore cable route**
 - Onshore cable route
 - Trenchless crossing zone (e.g. HDD)
 - Indicative trenchless crossing compound
 - Access**
 - Construction access
 - Operation access
 - B road
 - Marriott's Way
 - Bridleway²
 - Areas of potential vegetation removal

¹ Sustrans, 2017 ² Ordnance Survey 1:25000 map

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title: Locations of Scenario 2 Adverse Significant Effects -
Minor Road near Hackford Hall
Potential Tree Removal
(Map 7 of 9)

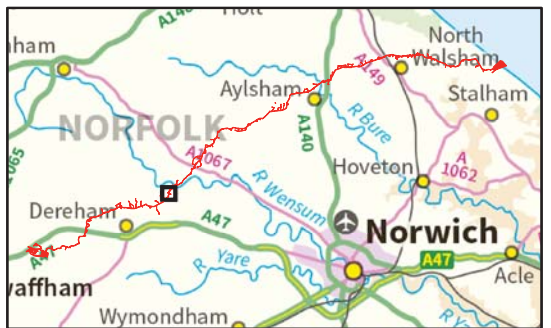
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Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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02	09/12/2019	LA	JP	A3	1:5,000

Co-ordinate system: British National Grid EPSG: 27700

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- Legend:
- Norfolk Boreas Order Limits
 - Onshore cable route**
 - Onshore cable route
 - Trenchless crossing zone (e.g. HDD)
 - Indicative trenchless crossing compound
 - Access**
 - Construction access
 - Operation access
 - Wensum Way
 - Bridleway²
 - Areas of potential vegetation removal

¹ Sustrans, 2017 ² Ordnance Survey 1:25000 map

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title: Locations of Scenario 2 Adverse Significant Effects -
Elsing Road, near River Wensum
Potential Hedgerow Removal
(Map 8 of 9)

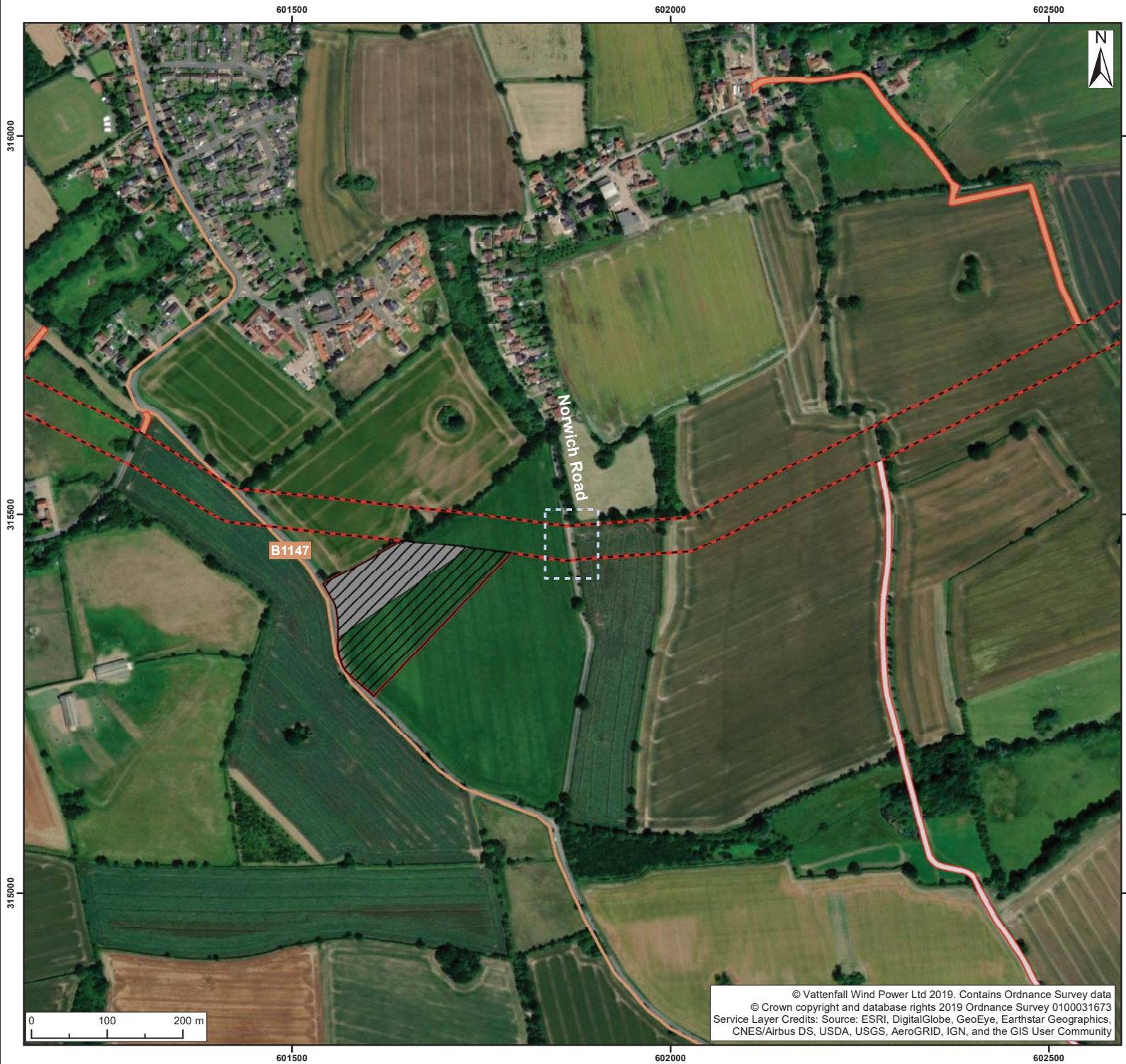
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02	09/12/2019	LA	JP	A3	1:5,000

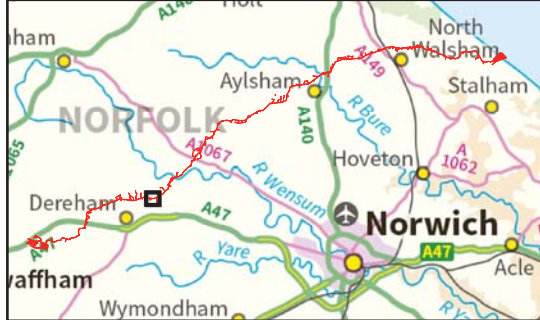
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- Legend:
- Norfolk Boreas Order Limits
 - Onshore cable route**
 - Onshore cable route
 - Mobilisation zone
 - Indicative mobilisation area compound
 - Access**
 - Construction access
 - Operation access
 - B road
 - Footpath²
 - Areas of potential vegetation removal

¹ Sustrans, 2017 ² Ordnance Survey 1:25000 map

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title: Locations of Scenario 2 Adverse Significant Effects -
 Norwich Road, Swanton Morley
 Potential Tree Removal
 (Map 9 of 9)

Figure: 9 | Drawing No: ExA.WQ-1.D2.V1-Q9.3.6

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
01	28/11/2019	LA	JP	A3	1:5,000
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Co-ordinate system: British National Grid EPSG: 27700



Norfolk Boreas Offshore Wind Farm

Appendix 9.3

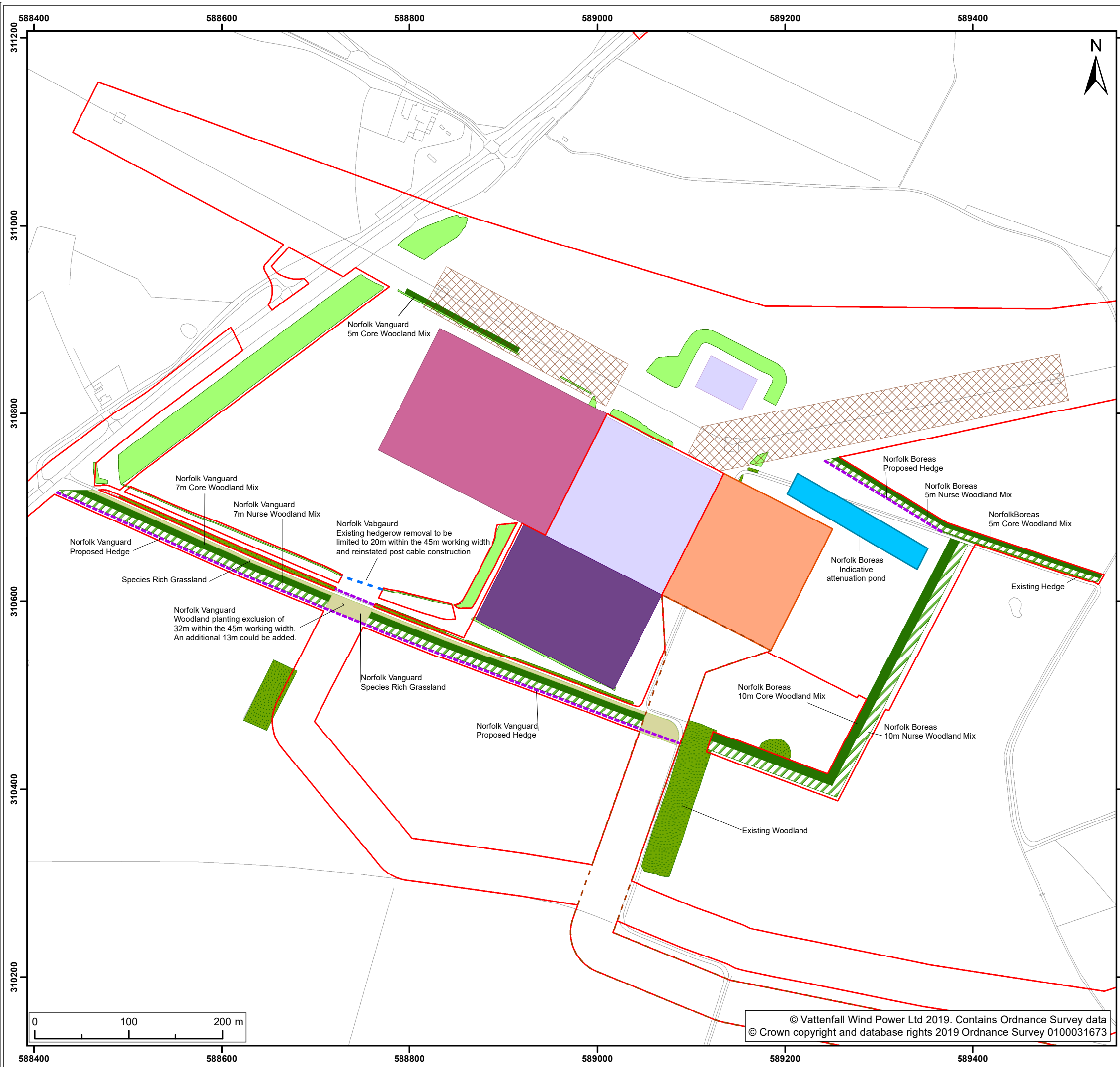
Figures showing proposed mitigation planting and overhead line clearance

Written Questions 9.3.8

Applicant: Norfolk Boreas Limited
Document Reference: ExA.WQ-1.D2.V1
Deadline 2

Date: December 2019
Revision: Version 1
Author: OPEN

Photo: Ormonde Offshore Wind Farm



Legend:

- Norfolk Boreas Order Limits
- Onshore cable route**
- Onshore 400kV cable route
- National Grid**
- National Grid substation extension
- National Grid overhead line limits of deviation
- Norfolk Vanguard National Grid substation extension
- Existing substation locations**
- Dudgeon substation
- Necton National Grid substation
- Existing mitigation area**
- Dudgeon hedgerow / woodland
- Existing hedgerow / woodland
- Proposed mitigation area**
- Proposed core woodland
- Proposed nurse woodland
- Proposed species rich grassland
- Indicative attenuation pond
- Proposed hedgerow
- Replacement hedge (in areas of removal)

Project:	Report:
Norfolk Boreas	Responses to the ExA's First Written Questions: For Information Only

Title:
Over Head Line Clearance and National Grid Substation
Extension Mitigation Planting
(Norfolk Boreas and Norfolk Vanguard) Scenario 1

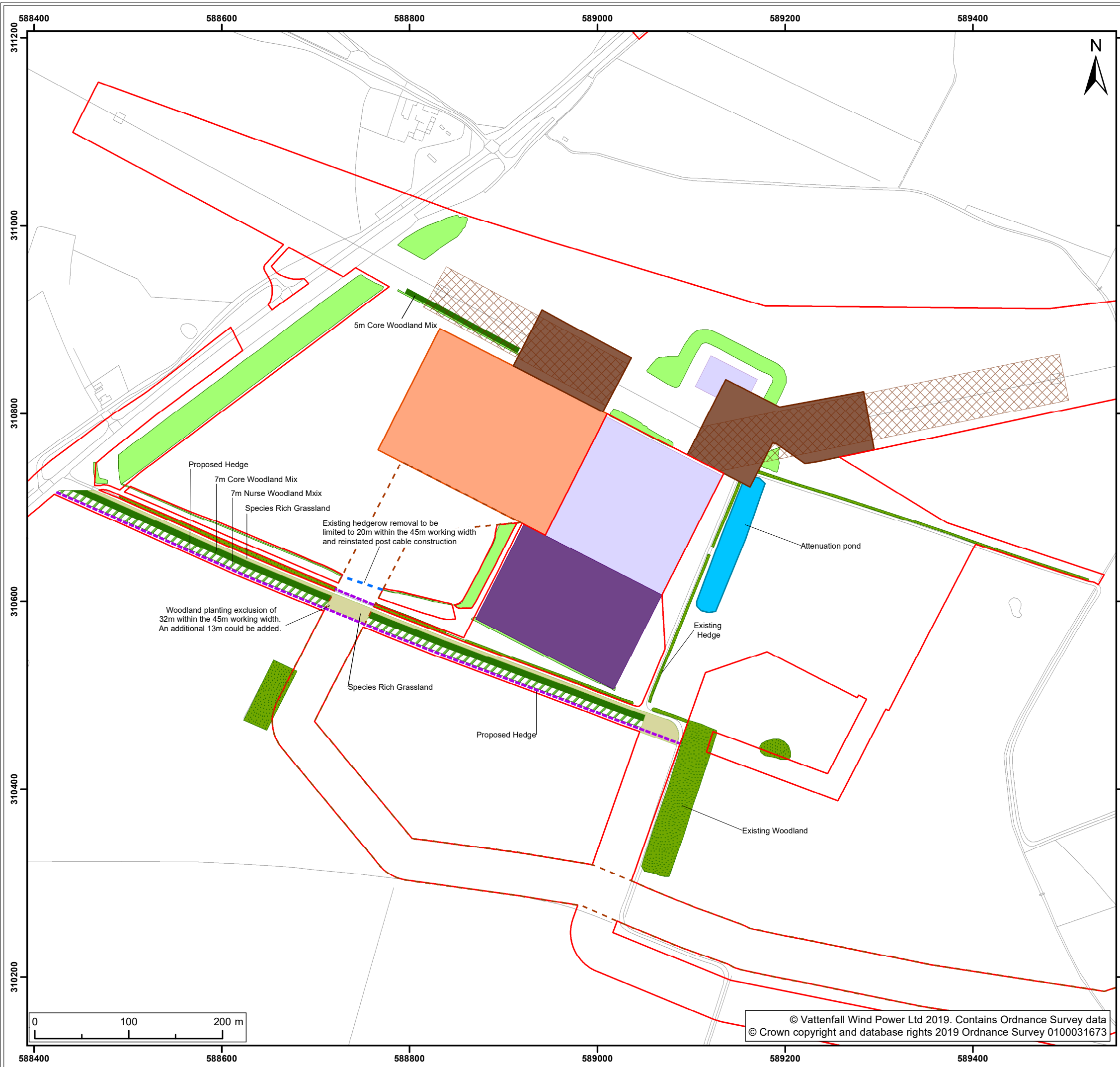
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Revision:	Date:	Drawn:	Checked:	Size:	Scale:
01	04/12/2019	LA	JP	A3	1:4,000
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Co-ordinate system: British National Grid EPSG: 27700

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- Legend:
- Norfolk Boreas Order Limits
 - Onshore cable route**
 - Onshore 400kV cable route
 - National Grid**
 - National Grid substation extension
 - National Grid new / replacement OHL tower search area
 - National Grid overhead line limits of deviation
 - Existing substation locations**
 - Dudgeon substation
 - Necton National Grid substation
 - Existing mitigation area**
 - Dudgeon hedgerow / woodland
 - Existing hedgerow / woodland
 - Attenuation pond
 - Proposed mitigation area**
 - Proposed core woodland
 - Proposed nurse woodland
 - Proposed species rich grassland
 - Proposed hedgerow
 - Replacement hedge (in areas of removal)
- * OHL - Overhead Line

Project: Norfolk Boreas	Report: Responses to the ExA's First Written Questions: For Information Only
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Title:
Over Head Line Clearance and
National Grid Substation Extension
Mitigation Planting Scenario 2

Figure: F2	Drawing No: ExA.WQ-1.D2.V1-Q9.3.8.F2				
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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Co-ordinate system: British National Grid EPSG: 27700

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Appendix 9.4

Photograph of proposed fencing at the onshore project substation

Written Question 9.4.6

Applicant: Norfolk Boreas Limited
Document Reference: ExA.WQ-1.D2.V1
Deadline 2

Date: December 2019
Revision: Version 1
Author: GHD

Photo: Ormonde Offshore Wind Farm



Photograph of proposed fencing at the onshore project substation, taken at the existing Necton National Grid substation, showing 2.4m palisade fence with the further 1.0m electrical pulse fencing mounted upon the palisade fence (Source: GHD).