



NORTH FALLS

Offshore Wind Farm

ENVIRONMENTAL STATEMENT

Chapter 12 - Figures

Document Reference:	3.2.8
Volume:	3.2
APFP Regulation:	5(2)(a)
Date:	July 2024
Revision:	0

Project Reference: EN010119



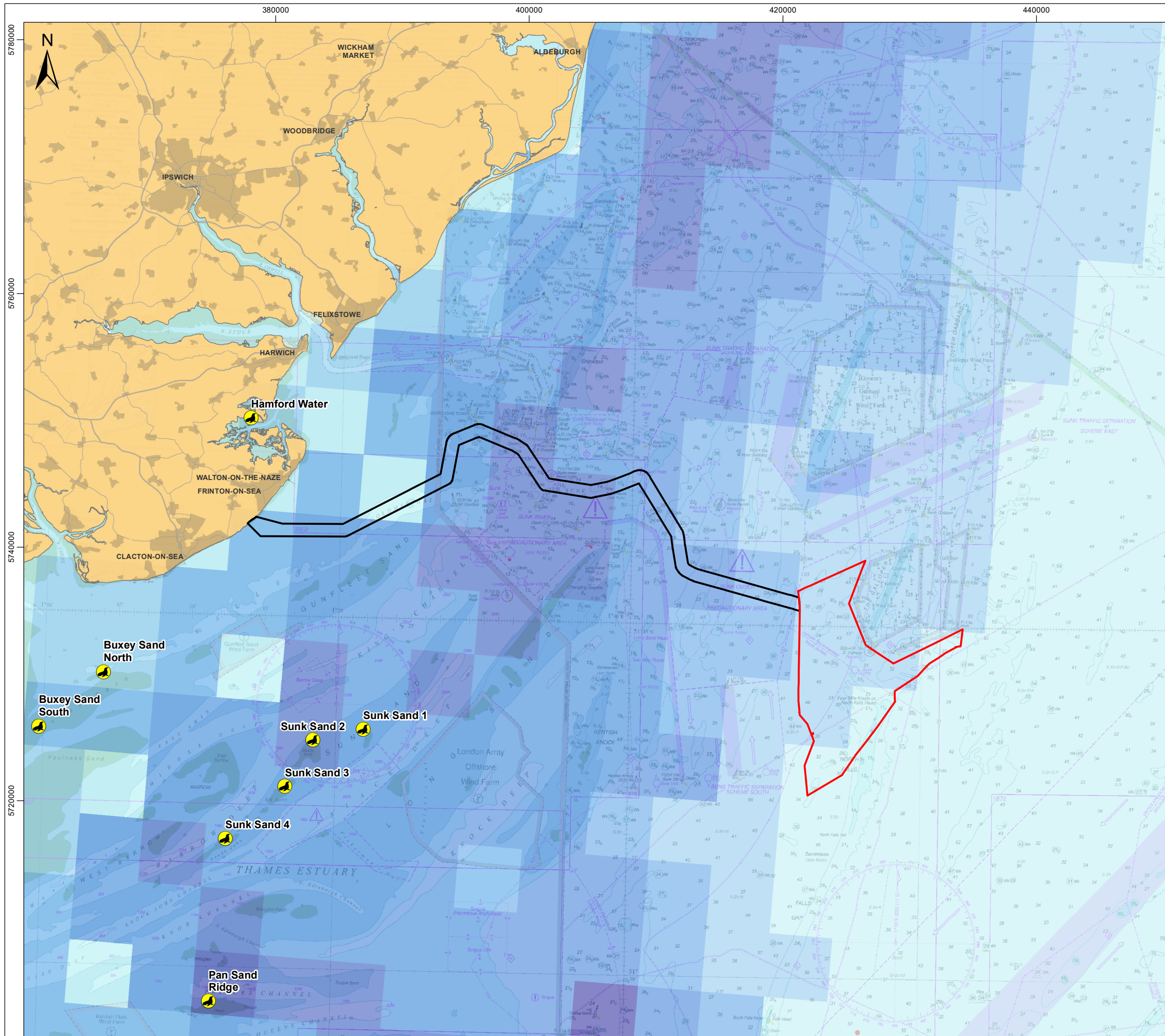
NORTH FALLS

Offshore Wind Farm

Project	North Falls Offshore Wind Farm
Document Title	Environmental Statement Chapter 12 - Figures
Document Reference	3.2.8
APFP Regulation	5(2)(a)
Supplier	Royal HaskoningDHV
Supplier Document ID	PB9244-RHD-ES-OF-RP-OF-0196

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Revision	Date	Status/Reason for Issue	Originator	Checked	Approved
0	July 2024	Submission	RHDHV	NFOW	NFOW

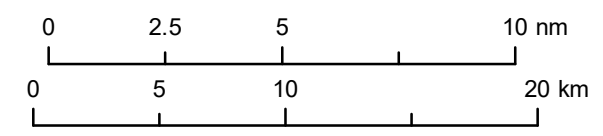


Legend

- North Falls Array Area
- Offshore Cable Corridor
- Seal Haul-Out Site

Mean Grey Seal At-Sea Usage (% per 25km²)

- 0 - 0.001
- 0.001 - 0.002
- 0.002 - 0.003
- 0.003 - 0.004
- 0.004 - 0.005
- 0.005 - 0.006



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Drawing Title

Grey Seal At-Sea Mean Densities and Haul-Out Sites

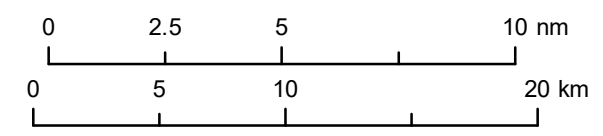
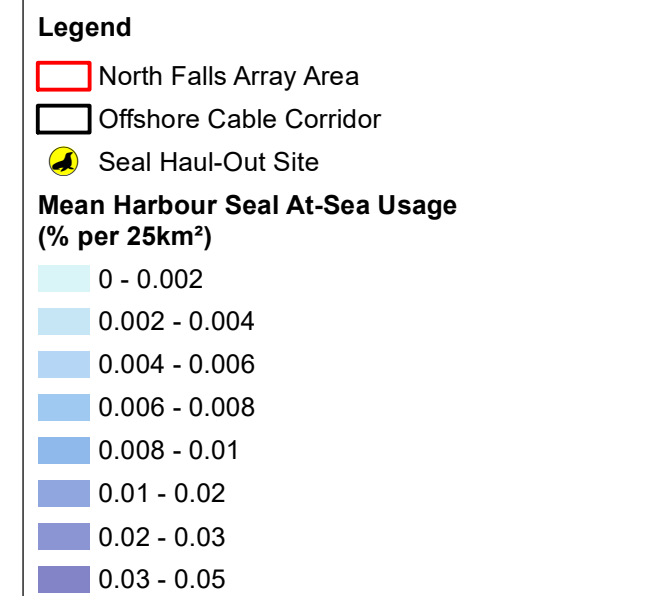
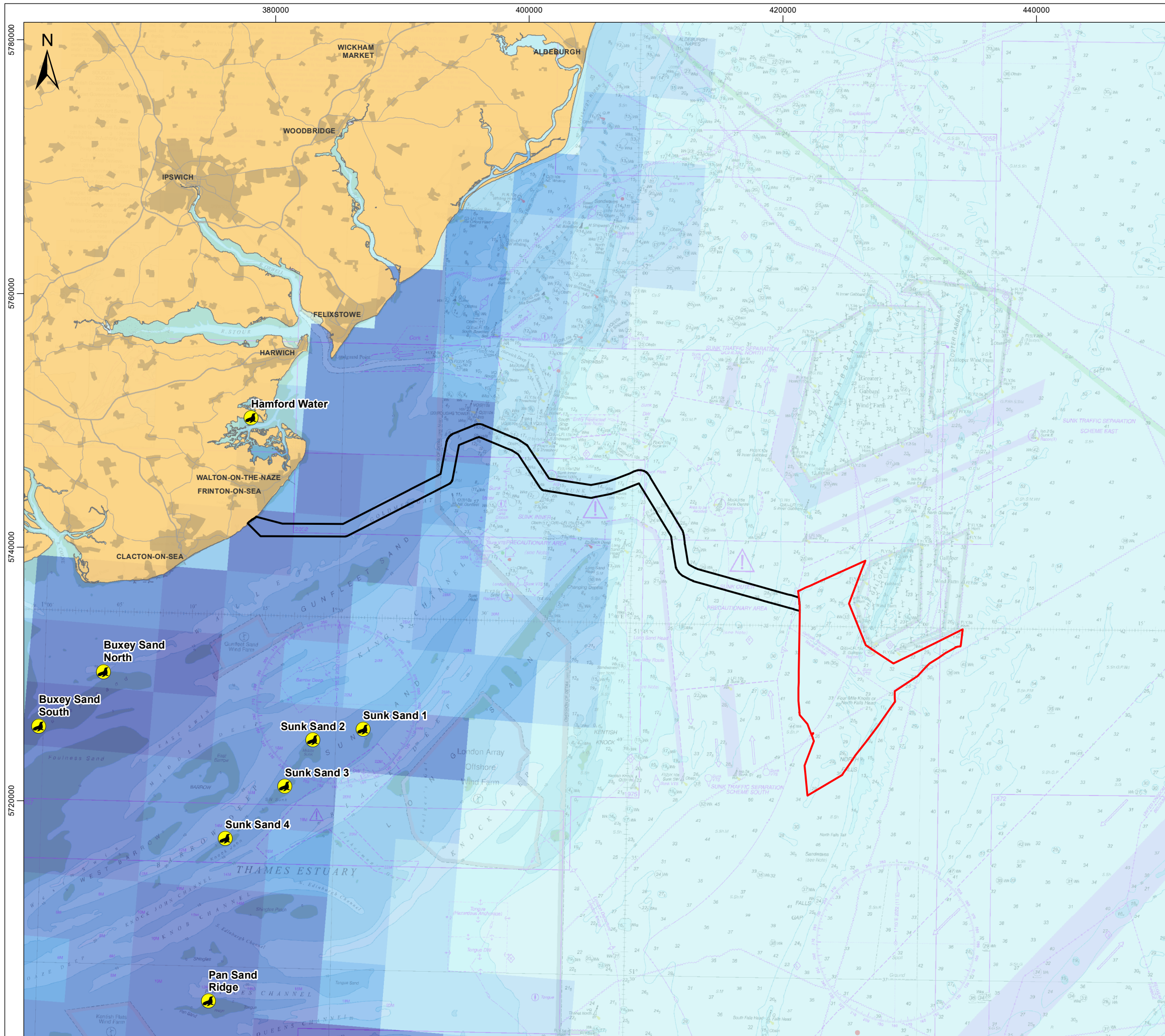
Rev	Date	Remarks	Drwn	Chkd
01	31/01/2024	First issue	JH	SB

Drawing Number PB9244-RHD-ZZ-OF-DR-GS-0486	Figure Number 12.1
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Scale 1:300,000	Plot Size A3	Datum WGS84	Projection UTM31N
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NORTH FALLS
Offshore Wind Farm



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Drawing Title

Harbour Seal At-Sea Mean Densities and Haul-Out Sites

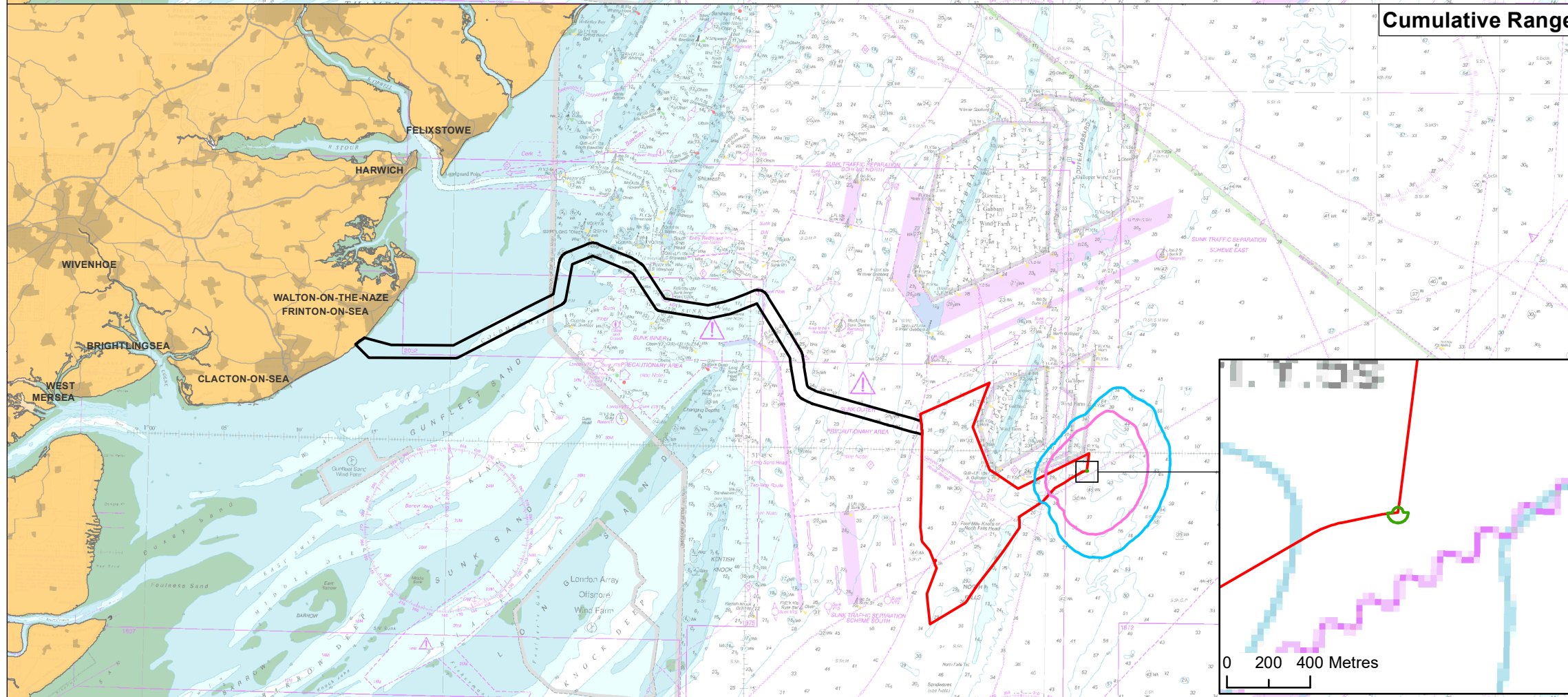
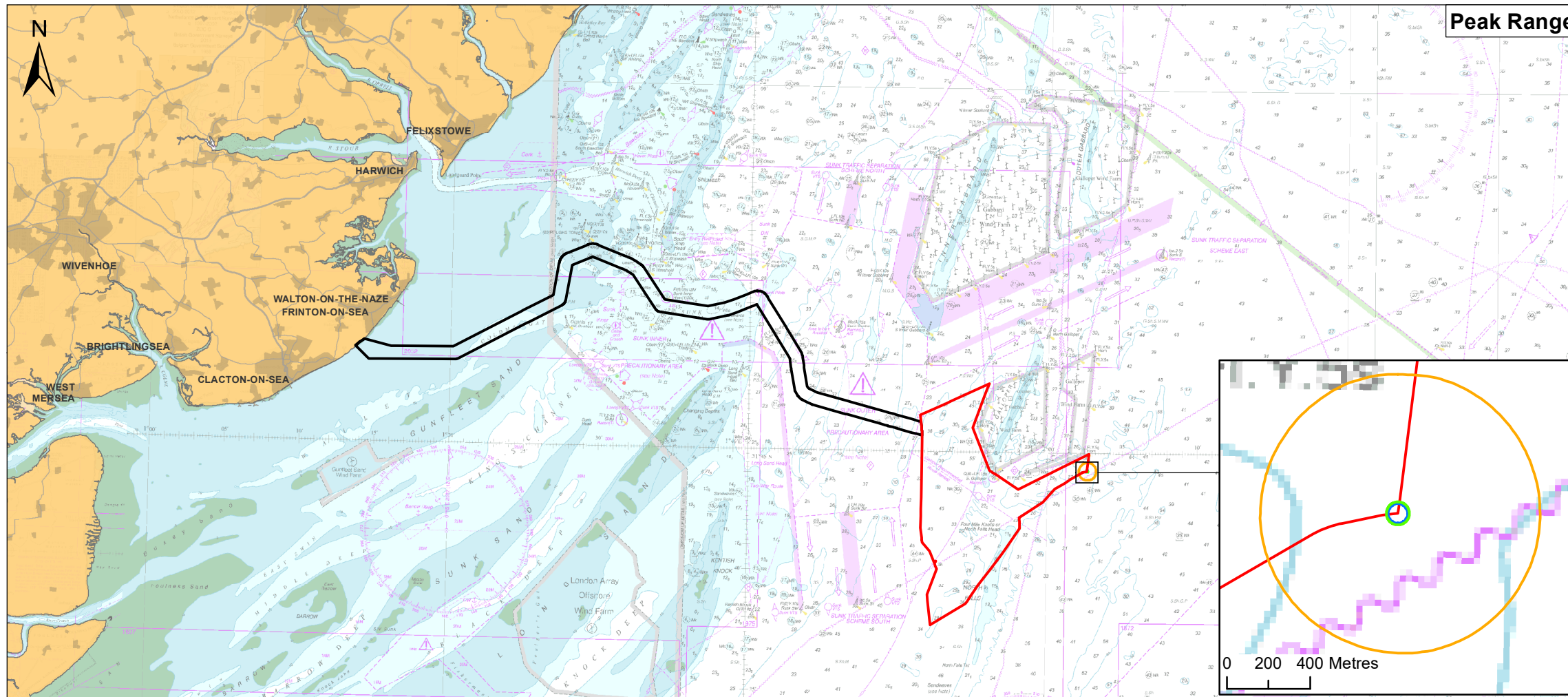
Rev	Date	Remarks	Drwn	Chkd
01	31/01/2024	First issue	JH	SB

Drawing Number PB9244-RHD-ZZ-OF-DR-GS-0487	Figure Number 12.2
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Scale 1:300,000	Plot Size A3	Datum WGS84	Projection UTM31N
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Offshore Wind Farm



Legend

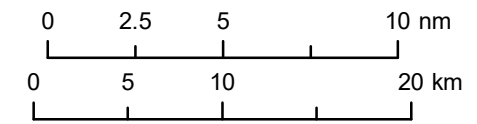
- North Falls Array Area
- Offshore Cable Corridor

Peak Ranges

- VHF Instantaneous PTS Range (202 dB SPL_{peak})
- LF Instantaneous PTS Range (219 dB SPL_{peak})
- PCW Instantaneous PTS Range (218 dB SPL_{peak})

Cumulative (Sequential) Ranges

- VHF Cumulative PTS Range due to Sequential Piling (155 dB SEL_{cum})
- LF Cumulative PTS Range due to Sequential Piling (183 dB SEL_{cum})
- PCW Cumulative PTS Range due to Sequential Piling (185 dB SEL_{cum})



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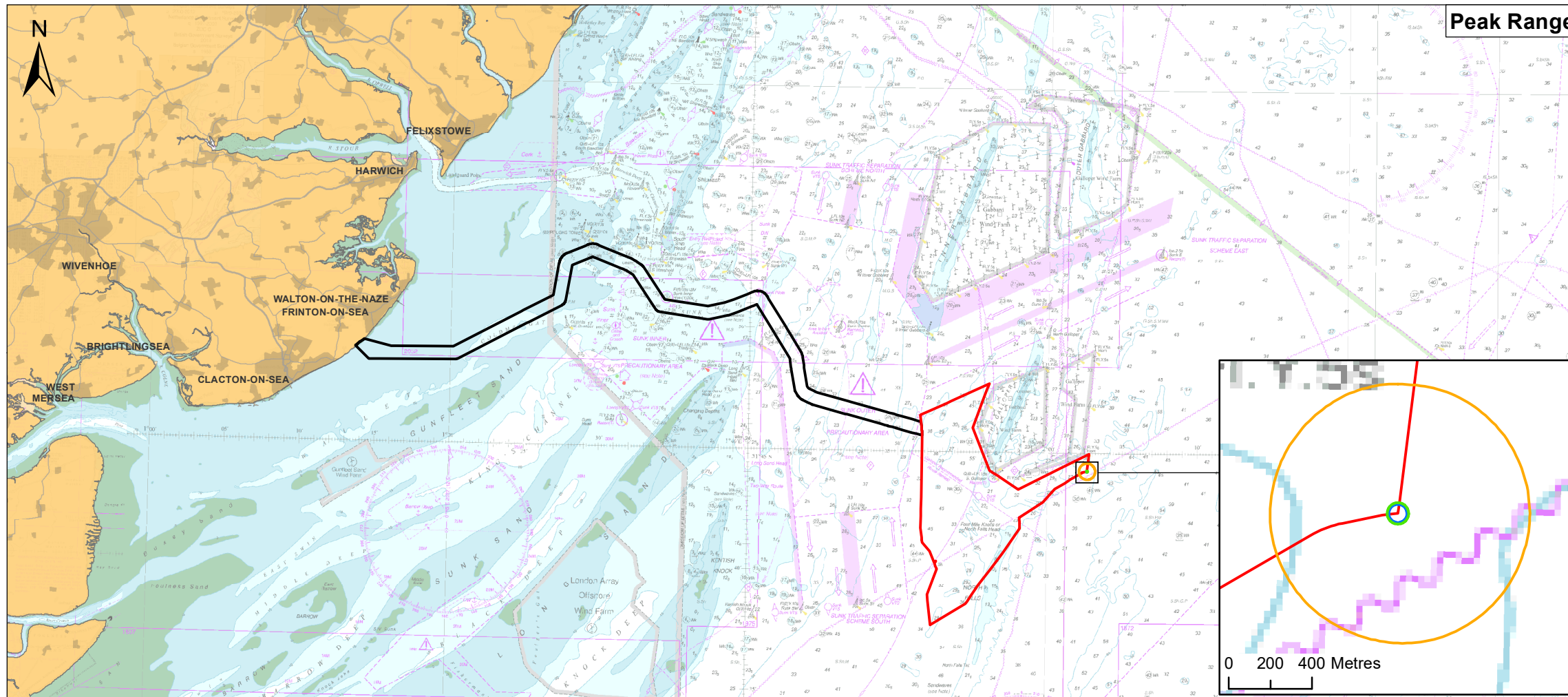
PTS Ranges for Monopiles for all Marine Mammal Species

Rev	Date	Remarks	Drwn	Chkd
01	31/01/2024	First issue	JH	SB

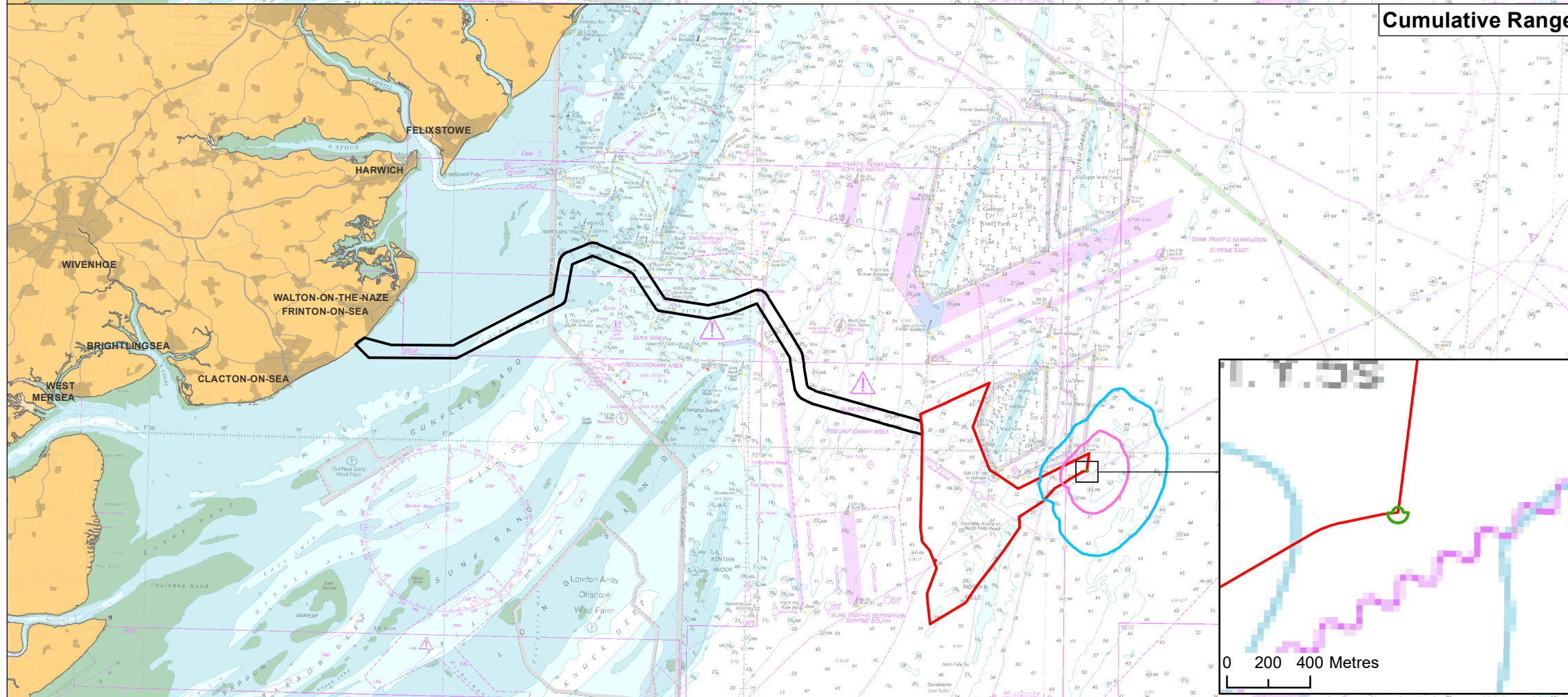
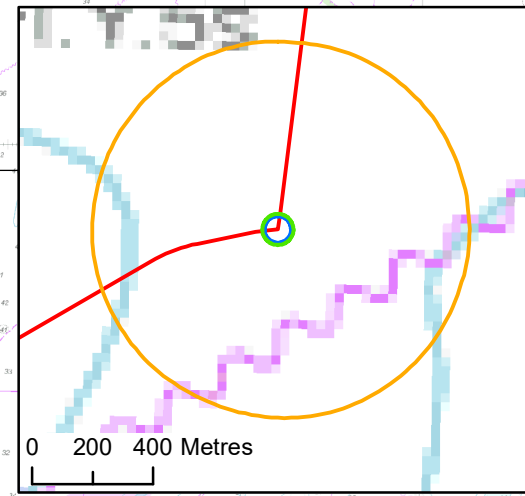
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Scale	Plot Size	Datum	Projection
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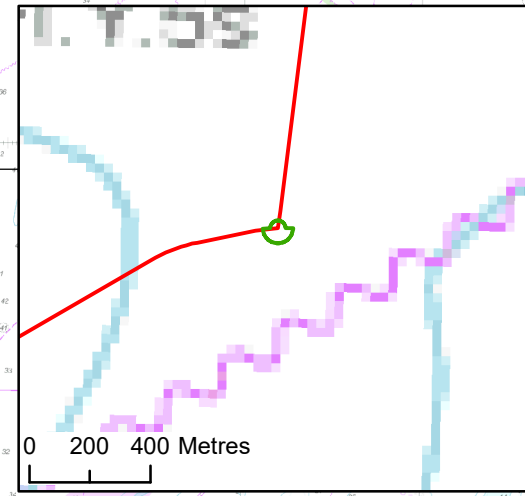




Peak Range

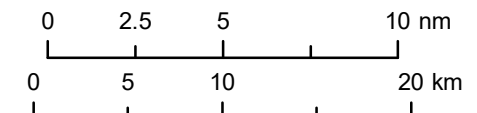


Cumulative Range



Legend

- ▭ North Falls Array Area
 - Offshore Cable Corridor
- Peak Ranges**
- VHF Instantaneous PTS Range (202 dB SPL_{peak})
 - LF Instantaneous PTS Range (219 dB SPL_{peak})
 - PCW Instantaneous PTS Range (218 dB SPL_{peak})
- Cumulative (Sequential) Ranges**
- VHF Cumulative PTS Range due to Sequential Piling (155 dB SEL_{cum})
 - LF Cumulative PTS Range due to Sequential Piling (183 dB SEL_{cum})
 - PCW Cumulative PTS Range due to Sequential Piling (185 dB SEL_{cum})



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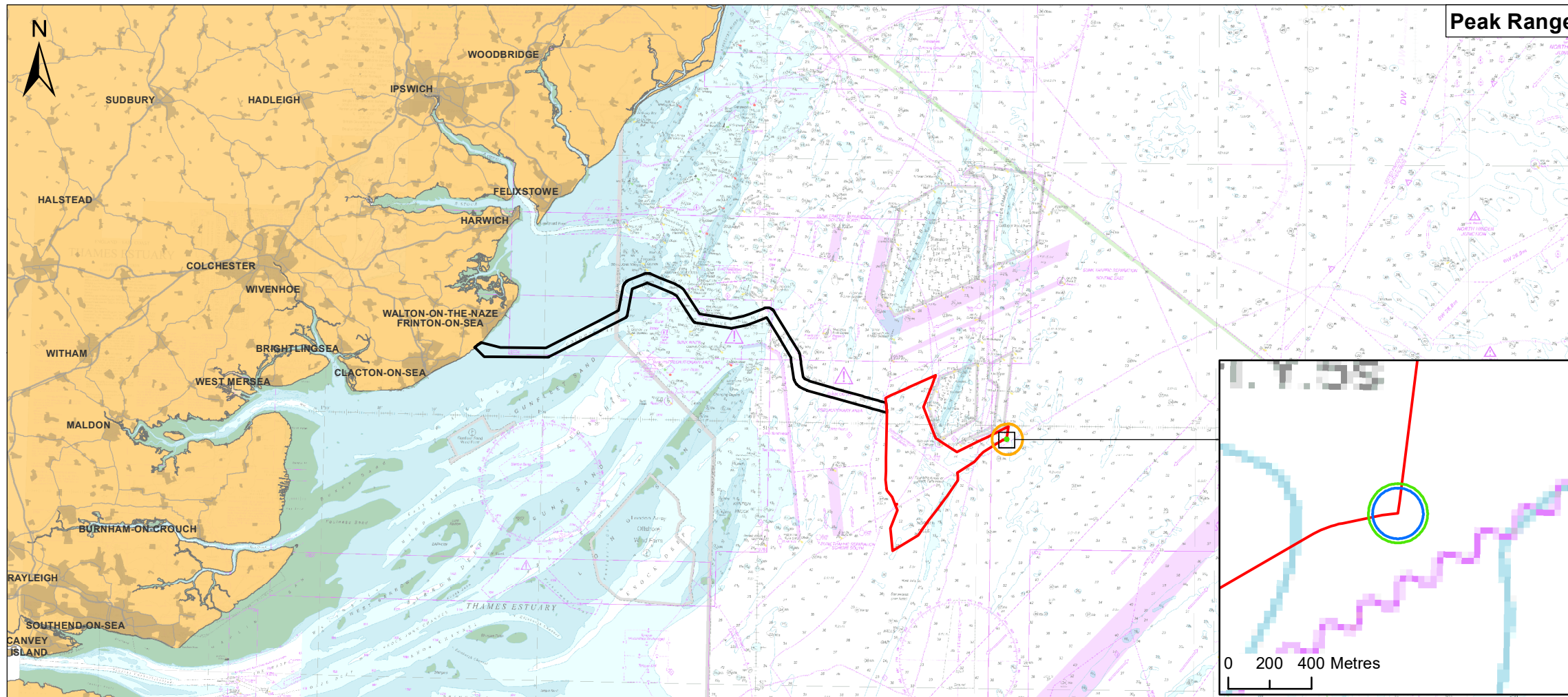
PTS Ranges for Jacket Pin Piles for all Marine Mammal Species

Rev	Date	Remarks	Drwn	Chkd
01	08/02/2024	First issue	JH	SB

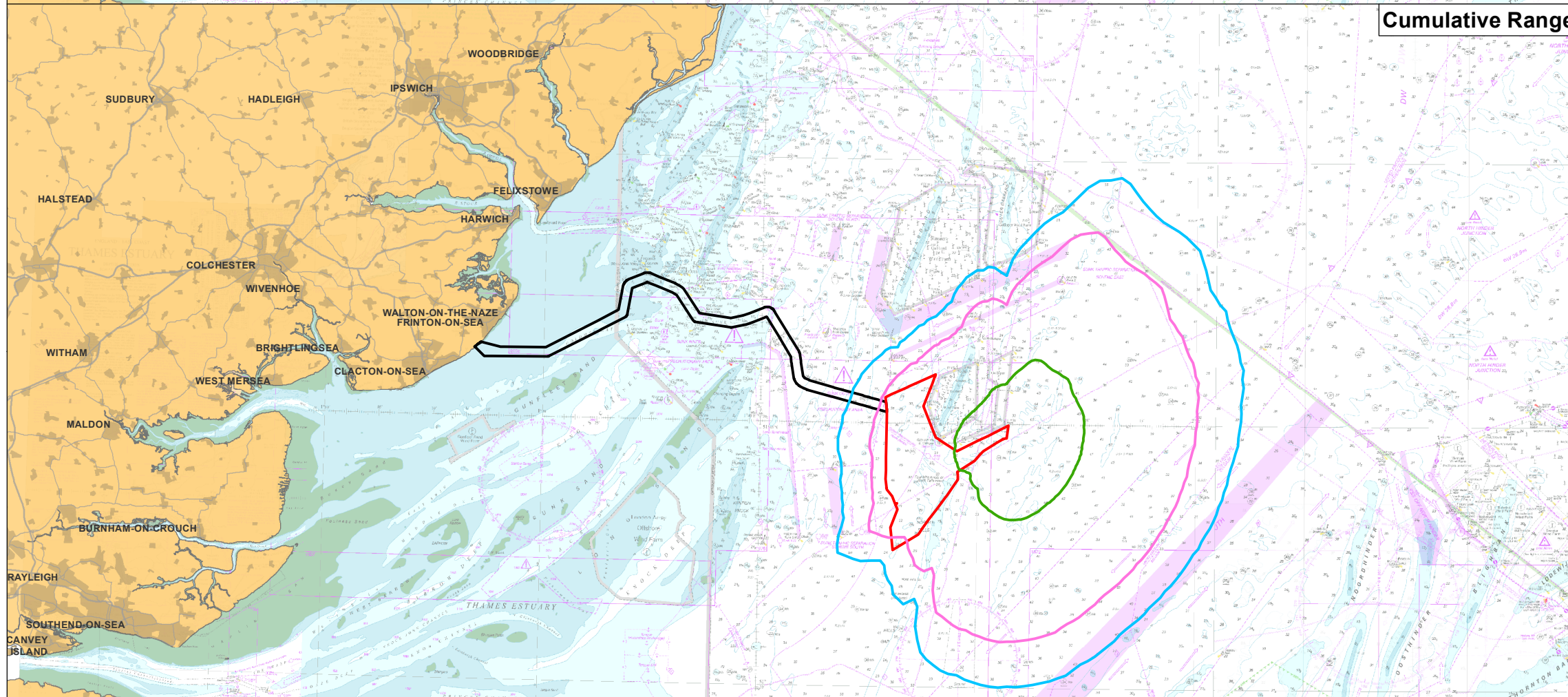
Drawing Number: **PB9244-RHD-ZZ-OF-DR-GS-0489** Figure Number: **12.4**

Scale: 1:400,000	Plot Size: A3	Datum: WGS84	Projection: UTM31N
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Peak Range



Cumulative Range



Legend

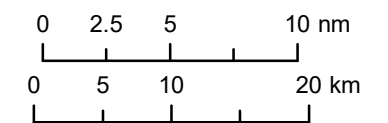
- ▭ North Falls Array Area
- Offshore Cable Corridor

Peak Ranges

- VHF Instantaneous TTS Range (196 dB SPL_{peak})
- LF Instantaneous TTS Range (213 dB SPL_{peak})
- PCW Instantaneous TTS Range (212 dB SPL_{peak})

Cumulative (Sequential) Ranges

- VHF Cumulative TTS Range due to Sequential Piling (140 dB SEL_{cum})
- LF Cumulative TTS Range due to Sequential Piling (168 dB SEL_{cum})
- PCW Cumulative TTS Range due to Sequential Piling (170 dB SEL_{cum})



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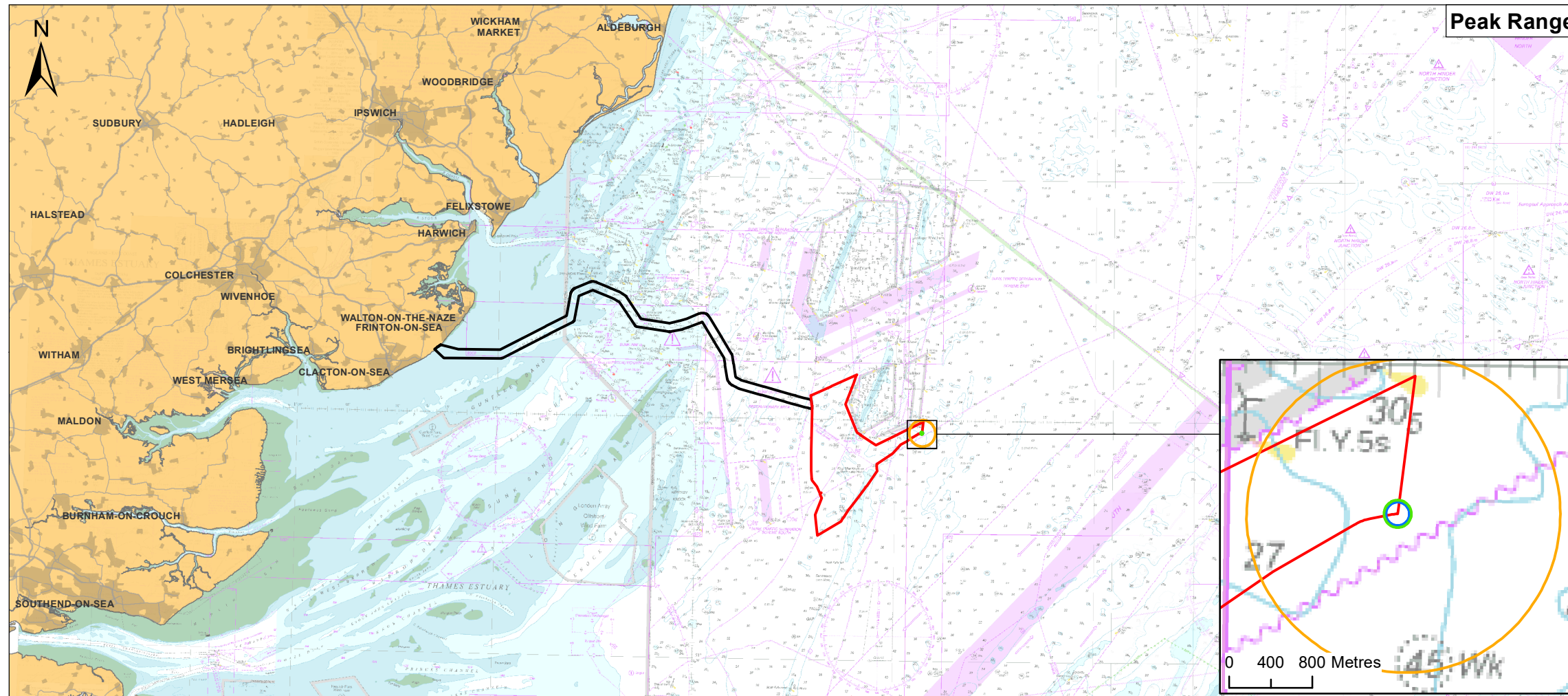
TTS Ranges for Monopiles for all Marine Mammal Species

Rev	Date	Remarks	Drwn	Chkd
01	08/02/2024	First issue	JH	SB

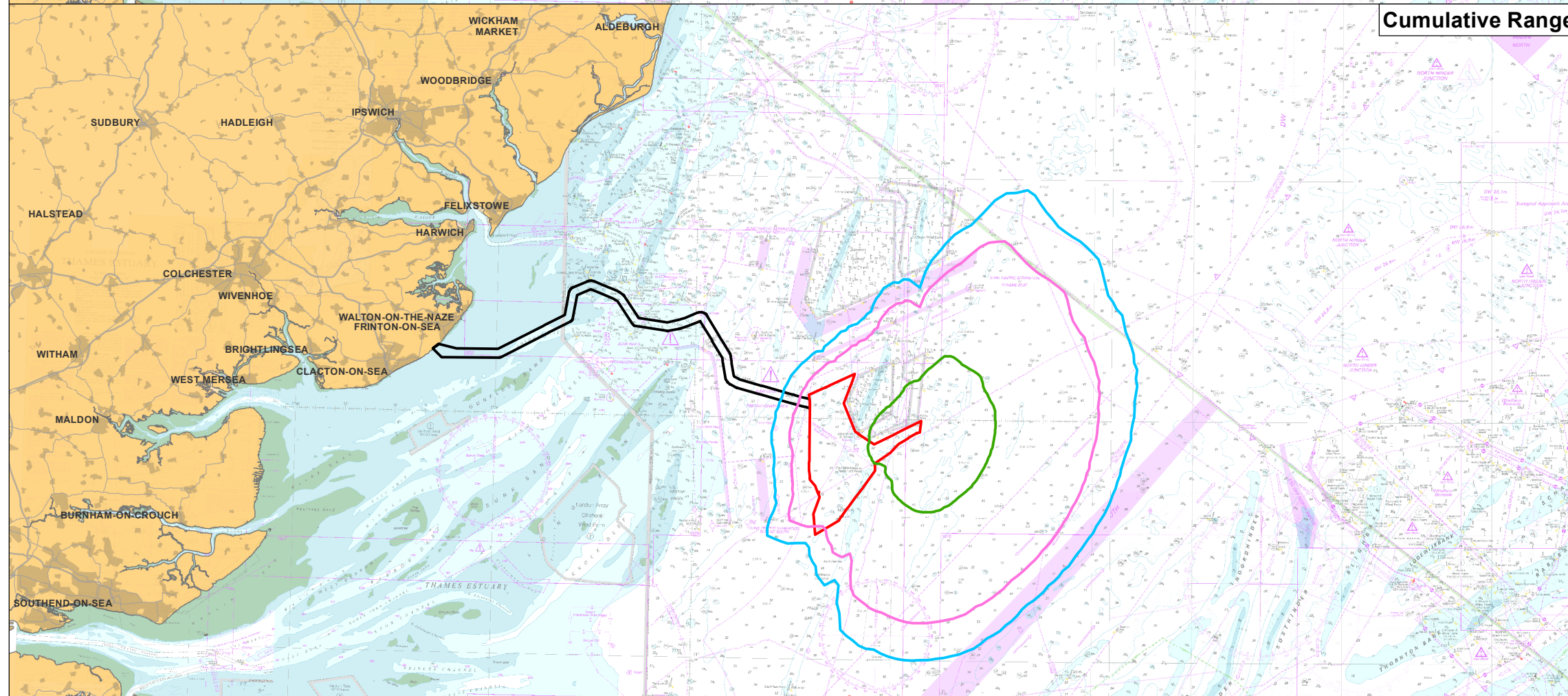
Drawing Number	Figure Number
PB9244-RHD-ZZ-OF-DR-GS-0490	12.5

Scale	Plot Size	Datum	Projection
1:550,000	A3	WGS84	UTM31N





Peak Range



Cumulative Range



Legend

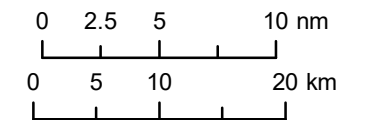
- ▭ North Falls Array Area
- Offshore Cable Corridor

Peak Ranges

- VHF Instantaneous TTS Range (196 dB SPL_{peak})
- LF Instantaneous TTS Range (213 dB SPL_{peak})
- PCW Instantaneous TTS Range (212 dB SPL_{peak})

Cumulative (Sequential) Ranges

- VHF Cumulative PTS Range due to Sequential Piling (140 dB SEL_{cum})
- LF Cumulative PTS Range due to Sequential Piling (168 dB SEL_{cum})
- PCW Cumulative PTS Range due to Sequential Piling (170 dB SEL_{cum})



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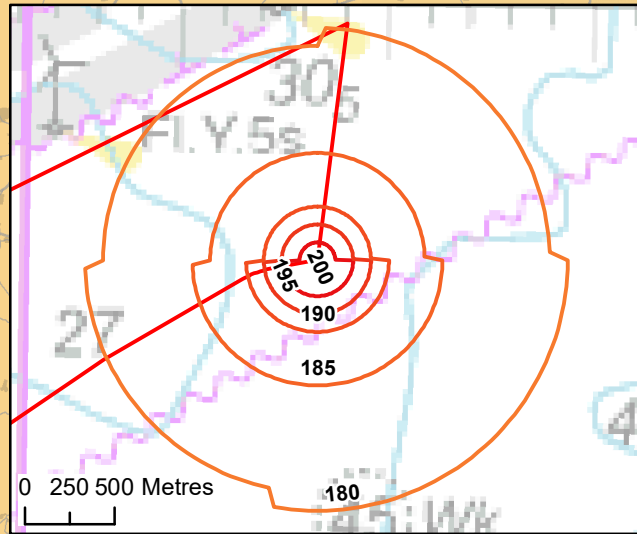
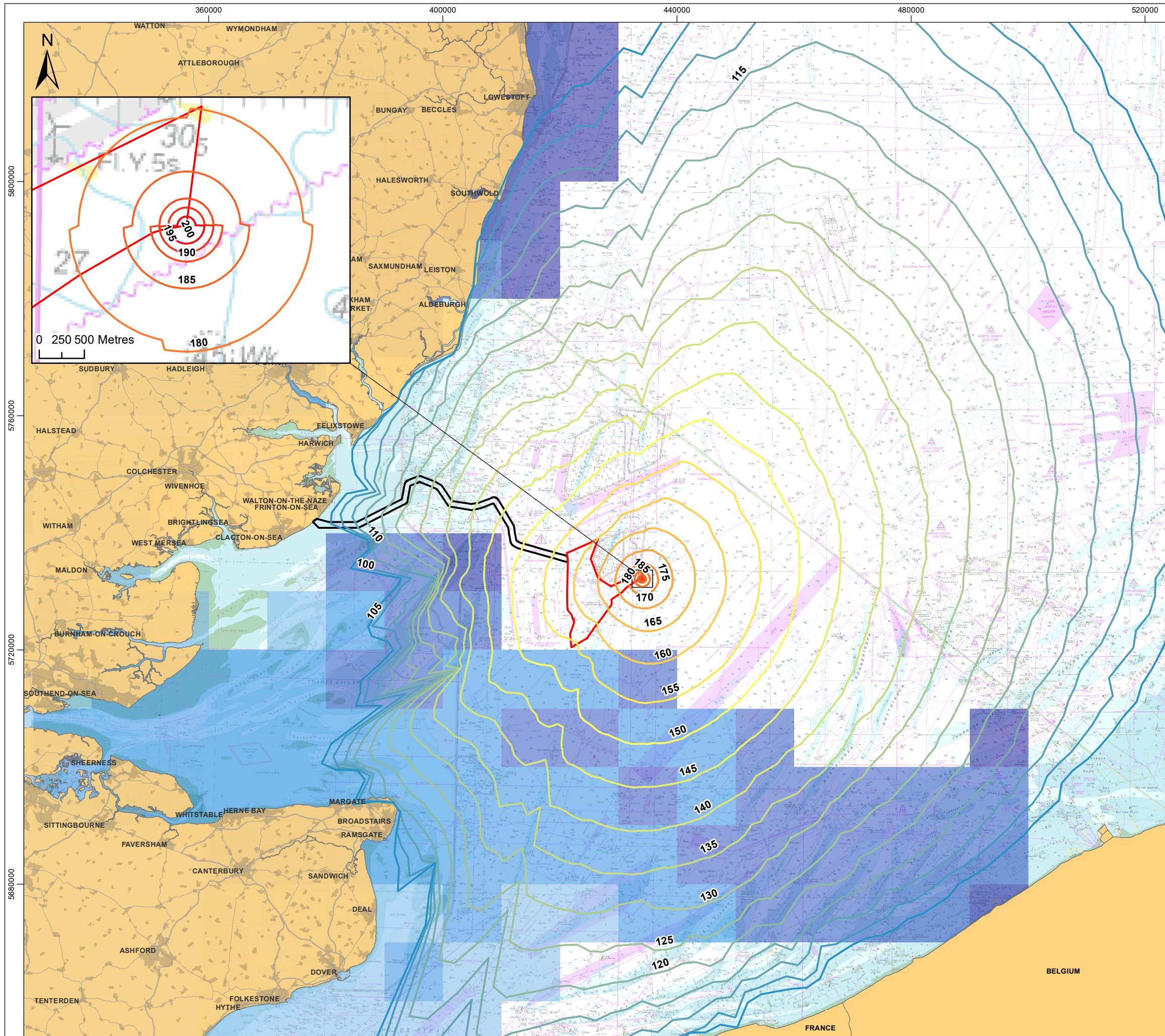
TTS Ranges for Jacket Pin Piles for all Marine Mammal Species

Rev	Date	Remarks	Drwn	Chkd
01	08/02/2024	First issue	JH	SB

Drawing Number	Figure Number
PB9244-RHD-ZZ-OF-DR-GS-0491	12.6

Scale	Plot Size	Datum	Projection
1:600,000	A3	WGS84	UTM31N





Legend

- North Falls Array Area
- Offshore Cable Corridor

Harbour Porpoise (Density per km²)

- 0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5

Monopile SEL_{ss} dB Contour

- 100
- 105
- 110
- 115
- 120
- 125
- 130
- 135
- 140
- 145
- 150
- 155
- 160
- 165
- 170
- 175
- 180
- 185
- 190
- 195
- 200

0 5 10 20 nm
0 10 20 40 km

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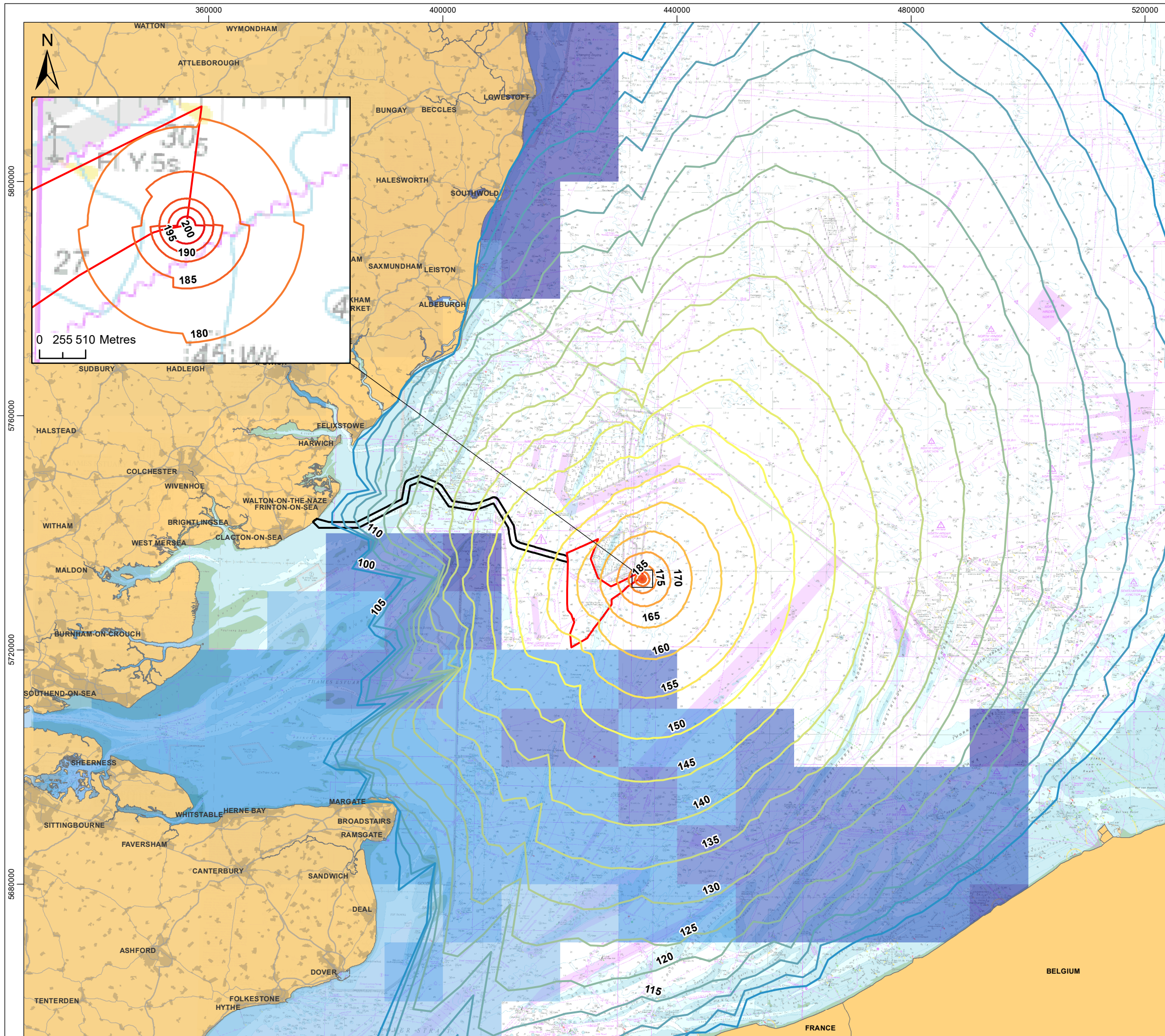
Drawing Title
5dB Underwater Noise Contours for Monopiles with Harbour Porpoise Densities

Rev	Date	Remarks	Drwn	Chkd
01	02/02/2024	First issue	JH	SB

Drawing Number: **PB9244-RHD-ZZ-OF-DR-GS-0492** Figure Number: **12.7**

Scale: 1:650,000 Plot Size: A3 Datum: WGS84 Projection: UTM31N





Legend

- North Falls Array Area
- Offshore Cable Corridor

Harbour Porpoise (Density per km²)

- 0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5

Jacket Pin Pile SEL_{ss} dB Contour

- 100
- 105
- 110
- 115
- 120
- 125
- 130
- 135
- 140
- 145
- 150
- 155
- 160
- 165
- 170
- 175
- 180
- 185
- 190
- 195
- 200

0 5 10 20 nm
0 10 20 40 km

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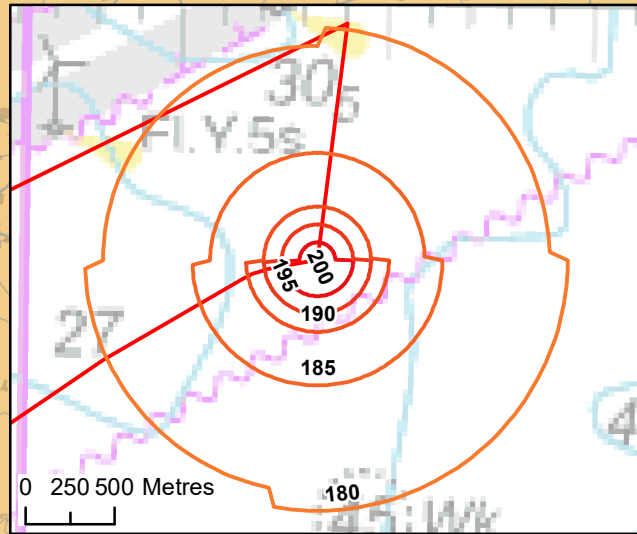
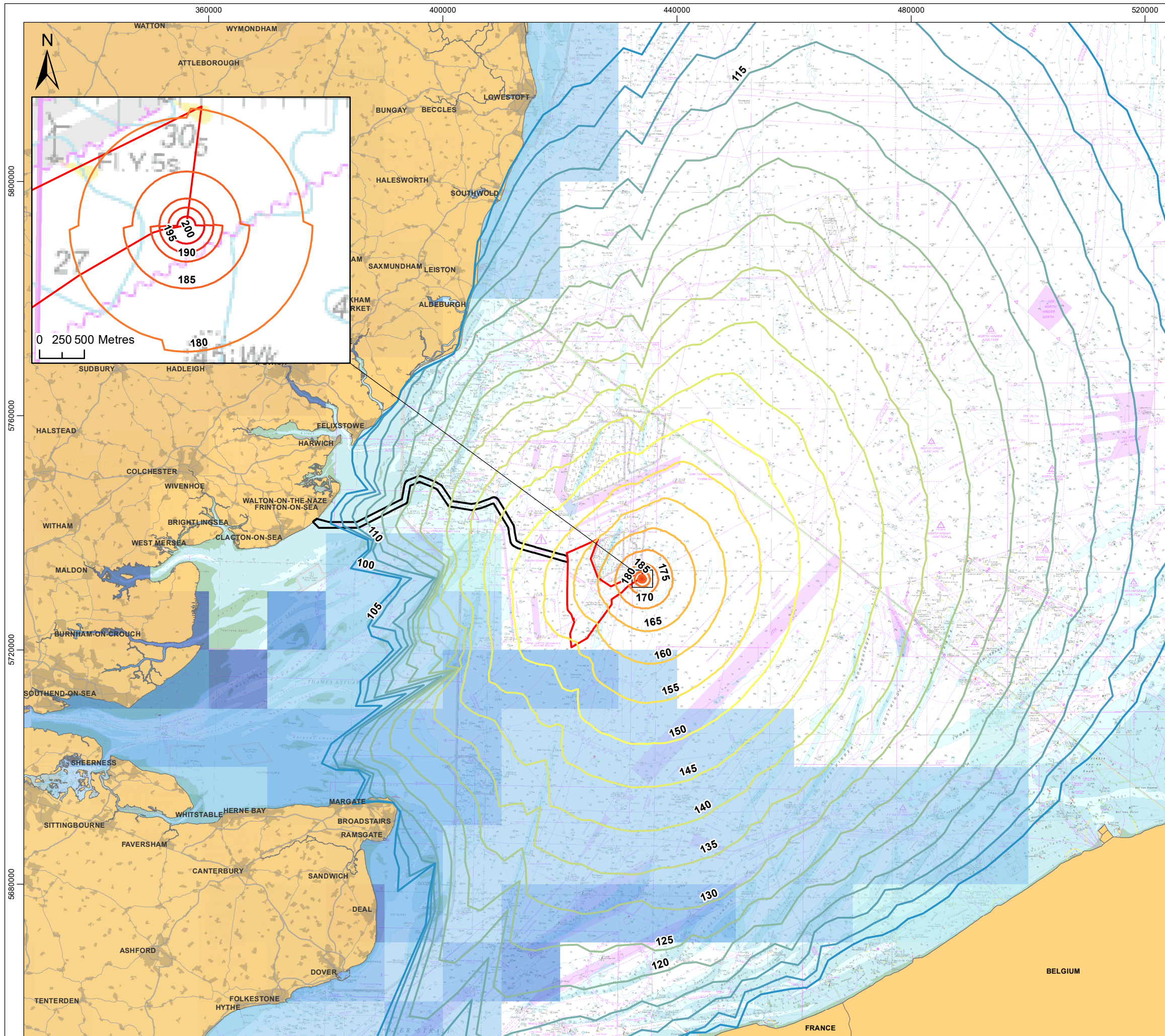
Drawing Title
5dB Underwater Noise Contours for Jacket Pin Piles with Harbour Porpoise Densities

Rev	Date	Remarks	Drwn	Chkd
01	05/02/2024	First issue	JH	SB

Drawing Number: **PB9244-RHD-ZZ-OF-DR-GS-0493** Figure Number: **12.8**

Scale: 1:650,000 Plot Size: A3 Datum: WGS84 Projection: UTM31N





Legend

- North Falls Array Area
- Offshore Cable Corridor

Minke Whale (Density per km²)

- 0 - 0.002
- 0.002 - 0.004
- 0.004 - 0.006
- 0.006 - 0.008
- 0.008 - 0.01
- 0.01 - 0.02

Monopile SEL_{ss} dB Contour

- 100
- 105
- 110
- 115
- 120
- 125
- 130
- 135
- 140
- 145
- 150
- 155
- 160
- 165
- 170
- 175
- 180
- 185
- 190
- 195
- 200

0 5 10 20 nm
0 10 20 40 km

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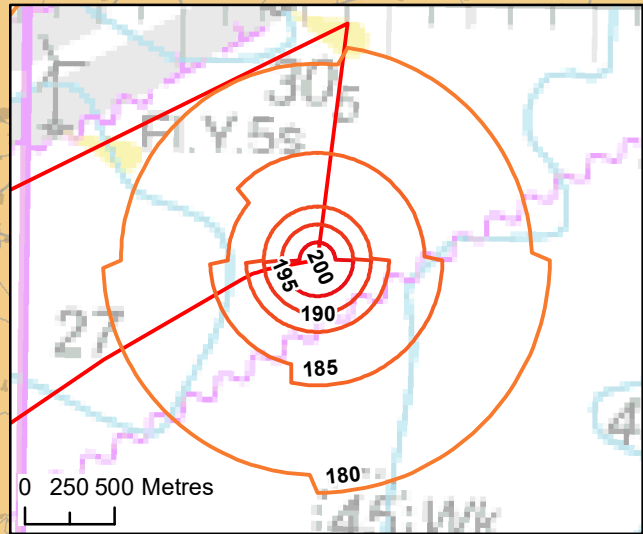
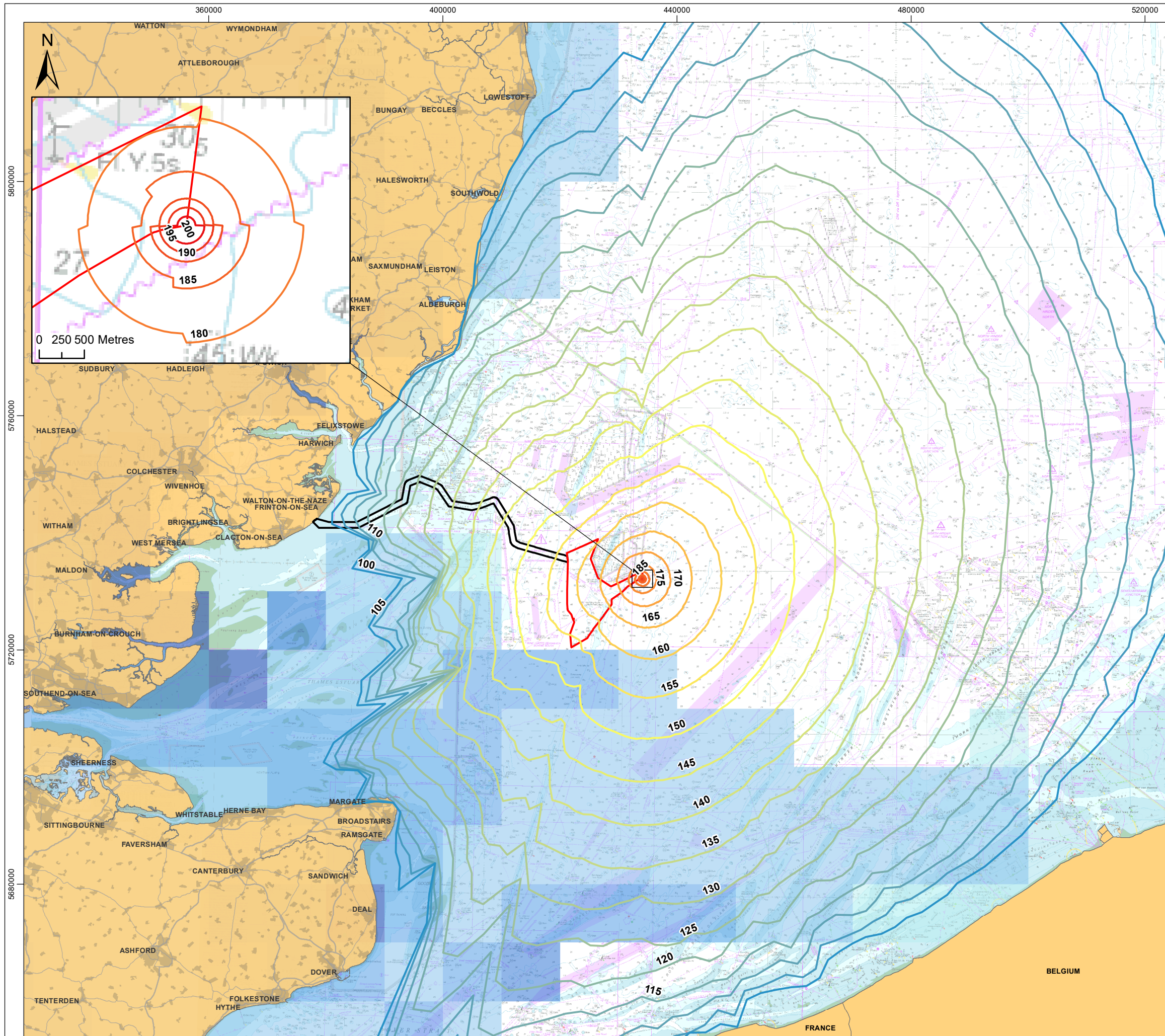
Drawing Title
5dB Underwater Noise Contours for Monopiles with Minke Whale Densities

Rev	Date	Remarks	Drwn	Chkd
01	05/02/2024	First issue	JH	SB

Drawing Number: **PB9244-RHD-ZZ-OF-DR-GS-0494** Figure Number: **12.9**

Scale: 1:650,000 Plot Size: A3 Datum: WGS84 Projection: UTM31N





Legend

- North Falls Array Area
- Offshore Cable Corridor

Minke Whale (Density per km²)

- 0 - 0.002
- 0.002 - 0.004
- 0.004 - 0.006
- 0.006 - 0.008
- 0.008 - 0.01
- 0.01 - 0.02

Jacket Pin Pile SEL_{ss} dB Contour

- 100
- 105
- 110
- 115
- 120
- 125
- 130
- 135
- 140
- 145
- 150
- 155
- 160
- 165
- 170
- 175
- 180
- 185
- 190
- 195
- 200

0 5 10 20 nm
0 10 20 40 km

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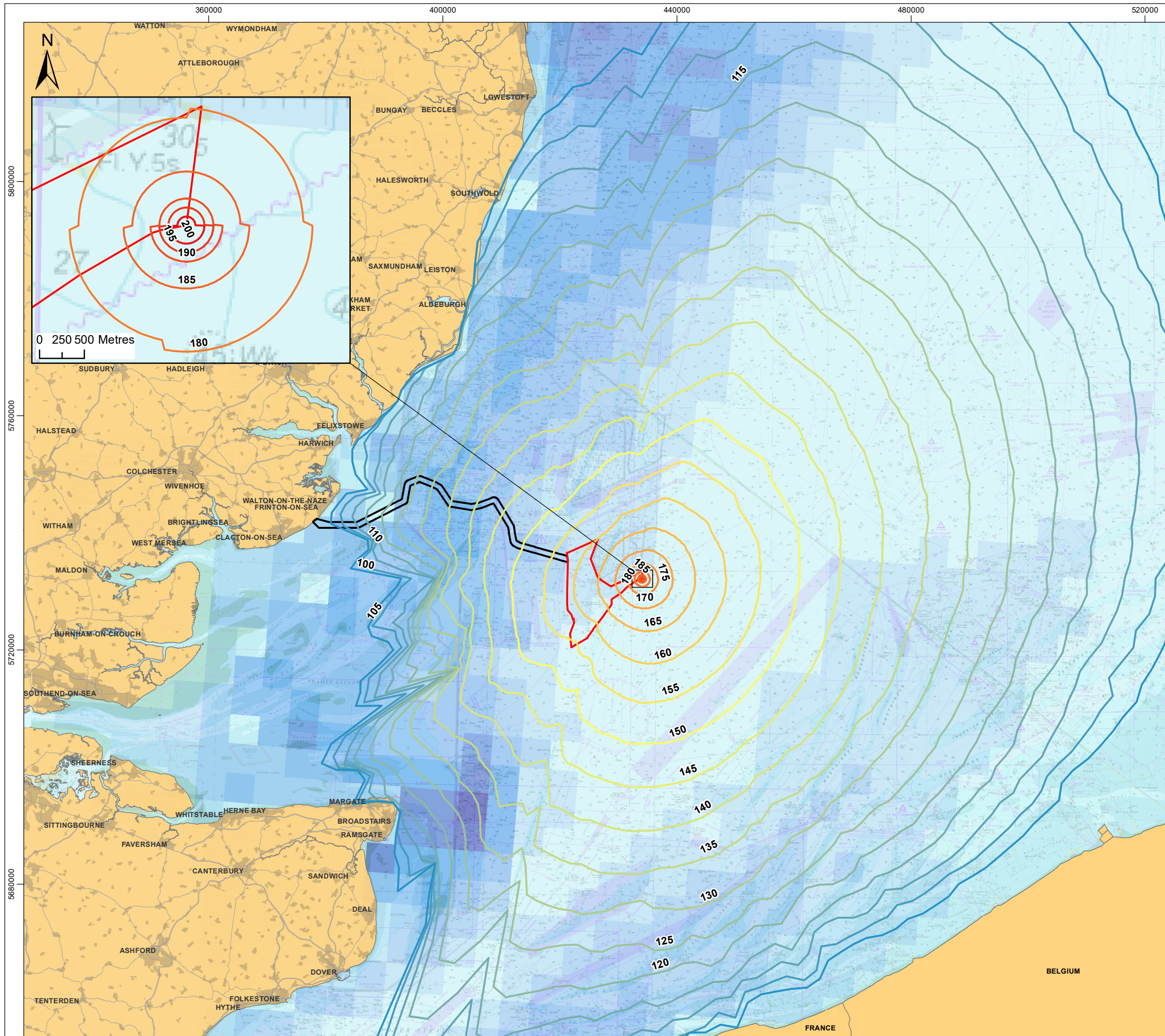
Drawing Title
5dB Underwater Noise Contours for Jacket Pin Piles with Minke Whale Densities

Rev	Date	Remarks	Drwn	Chkd
01	05/02/2024	First issue	JH	SB

Drawing Number: **PB9244-RHD-ZZ-OF-DR-GS-0495** Figure Number: **12.10**

Scale: 1:650,000 Plot Size: A3 Datum: WGS84 Projection: UTM31N





Legend

North Falls Array Area
 Offshore Cable Corridor

Mean Grey Seal At-Sea Usage (% per 25km²)

0.000 - 0.001	115
0.001 - 0.002	120
0.002 - 0.003	125
0.003 - 0.004	130
0.004 - 0.005	135
0.005 - 0.006	140
0.006 - 0.007	145
0.007 - 0.008	150
0.008 - 0.009	155

Monopile SEL_{ss} dB Contour

100	165
105	170
110	175
	180
	185
	190
	195

0 5 10 20 nm
 0 10 20 40 km

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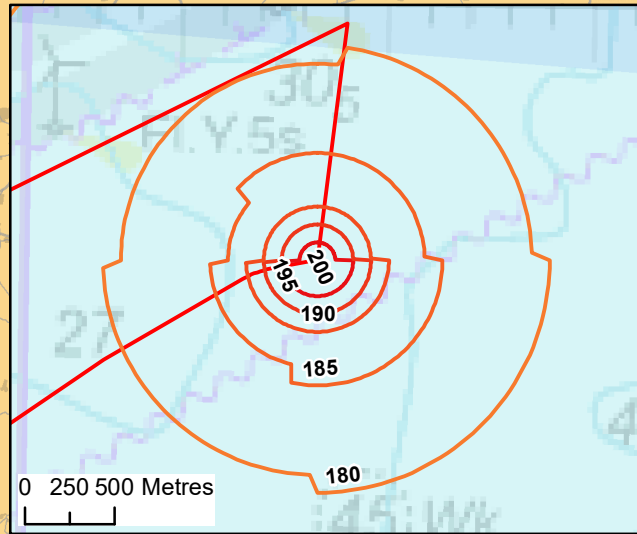
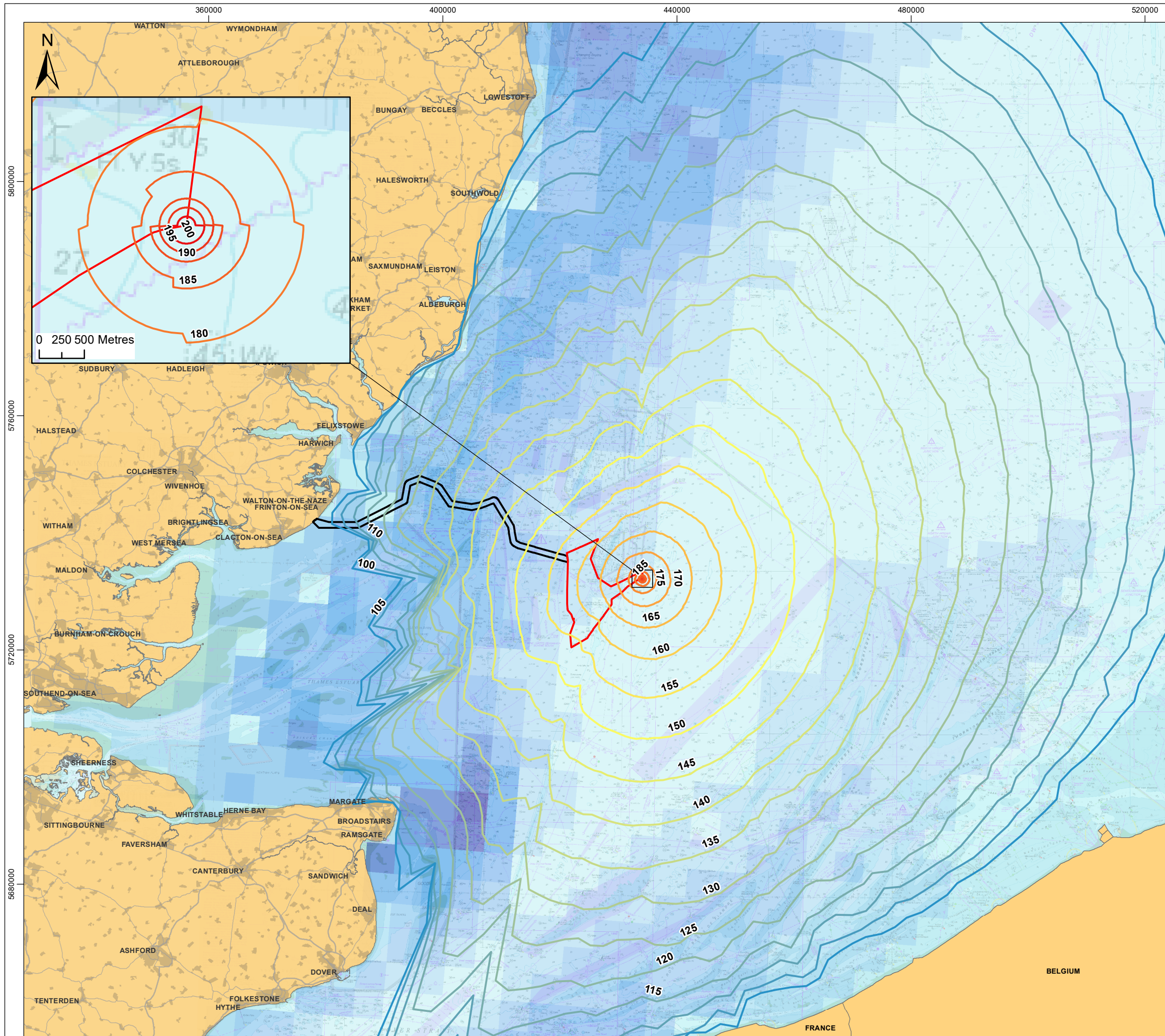
5dB Underwater Noise Contours for Monopiles with Grey Seal Densities

Rev	Date	Remarks	Drwn	Chkd
01	05/02/2024	First issue	JH	SB

Drawing Number: **PB9244-RHD-ZZ-OF-DR-GS-0496** Figure Number: **12.11**

Scale: 1:650,000 Plot Size: A3 Datum: WGS84 Projection: UTM31N





Legend

- North Falls Array Area
- Offshore Cable Corridor

Mean Grey Seal At-Sea Usage (% per 25km²)

- 0.000 - 0.001
- 0.001 - 0.002
- 0.002 - 0.003
- 0.003 - 0.004
- 0.004 - 0.005
- 0.005 - 0.006
- 0.006 - 0.007
- 0.007 - 0.008
- 0.008 - 0.009

Jacket Pin Pile SEL_{ss} dB Contour

- 115
- 120
- 125
- 130
- 135
- 140
- 145
- 150
- 155
- 160
- 165
- 170
- 175
- 180
- 185
- 190
- 195
- 200

0 5 10 20 nm
0 10 20 40 km

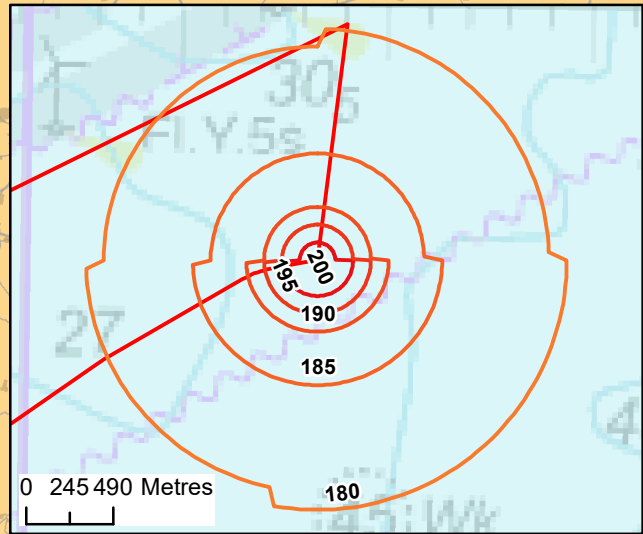
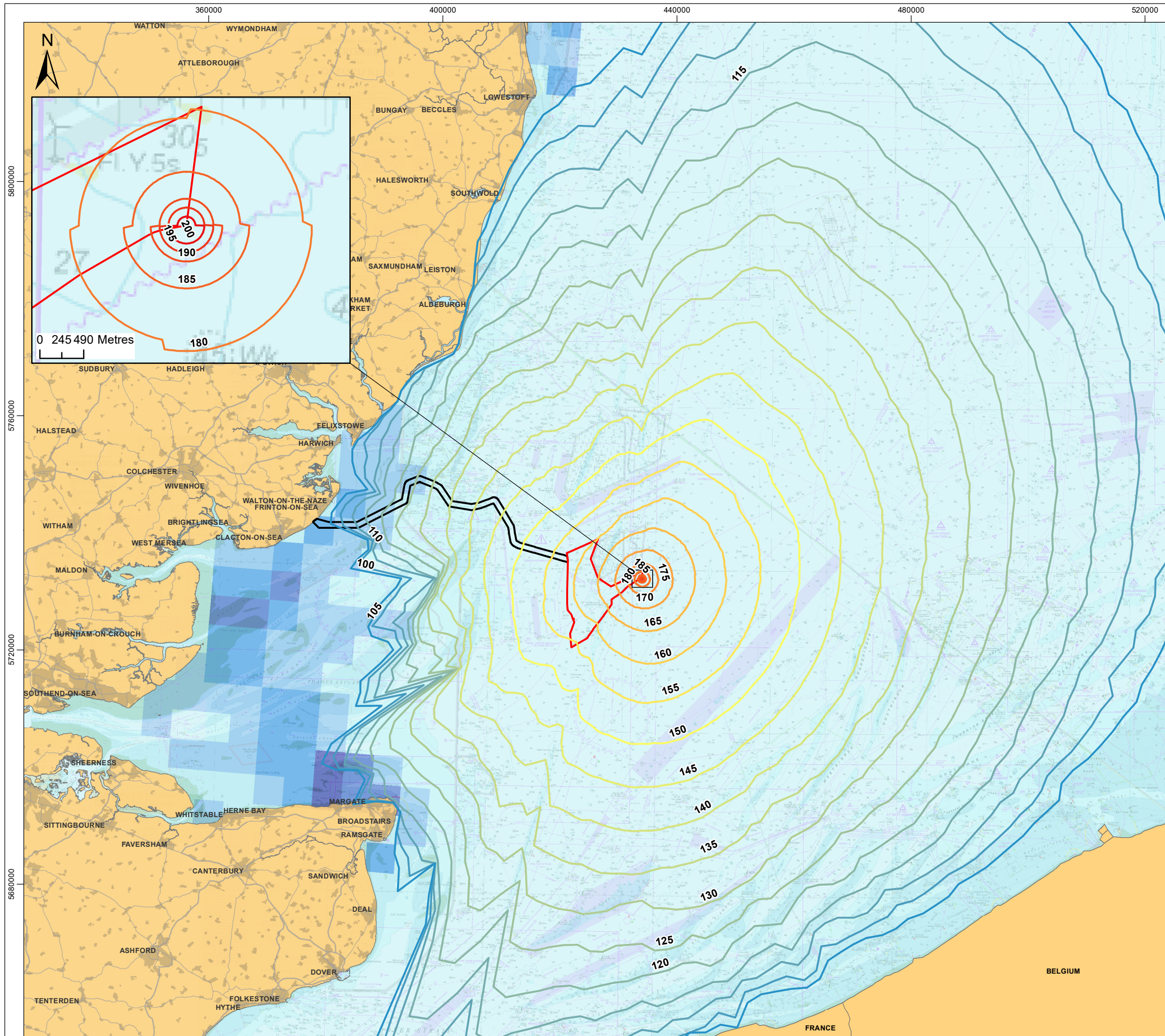
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Drawing Title
5dB Underwater Noise Contours for Jacket Pin Piles with Grey Seal Densities

Rev	Date	Remarks	Drwn	Chkd
01	05/02/2024	First issue	JH	SB

Drawing Number PB9244-RHD-ZZ-OF-DR-GS-0497	Figure Number 12.12
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Scale 1:650,000	Plot Size A3	Datum WGS84	Projection UTM31N
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Legend

- North Falls Array Area
- Offshore Cable Corridor

Mean Harbour Seal At-Sea Usage (% per 25km²)

- 0 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.5

Monopile SEL_{ss} dB Contour

- 100
- 105
- 110
- 115
- 120
- 125
- 130
- 135
- 140
- 145
- 150
- 155
- 160
- 165
- 170
- 175
- 180
- 185
- 190
- 195
- 200

0 5 10 20 nm
0 10 20 40 km

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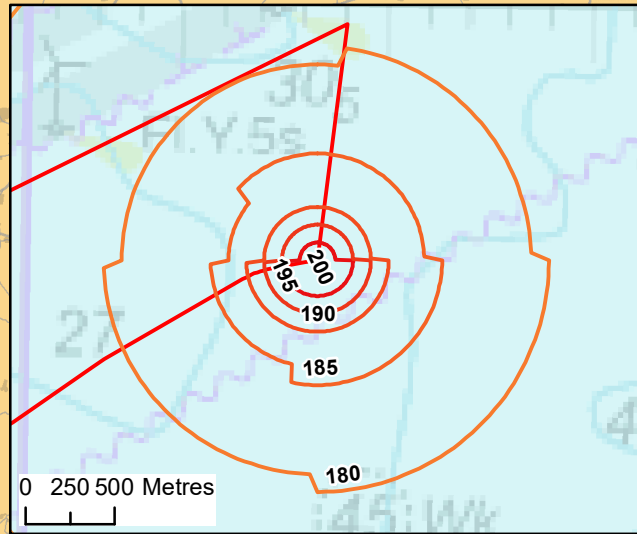
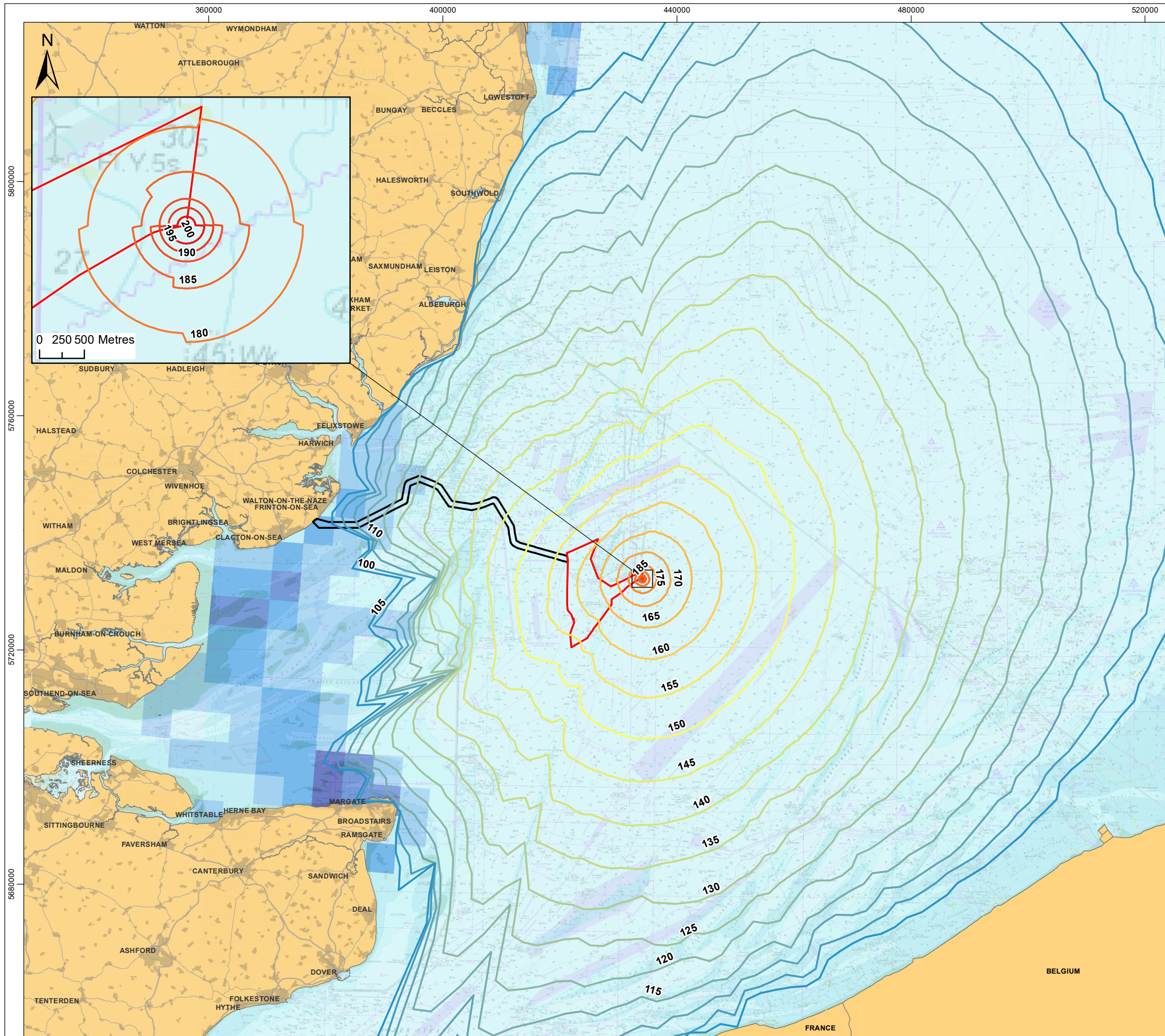
Drawing Title
5dB Underwater Noise Contours for Monopiles with Harbour Seal Densities

Rev	Date	Remarks	Drwn	Chkd
01	01/12/2022	First issue	JH	SB

Drawing Number: **PB9244-RHD-ZZ-OF-DR-GS-0498** Figure Number: **12.13**

Scale: 1:650,000 Plot Size: A3 Datum: WGS84 Projection: UTM31N





Legend

- North Falls Array Area
- Offshore Cable Corridor

Mean Harbour Seal At-Sea Usage (% per 25km²)

- 0 - 0.01
- 0.01 - 0.02
- 0.02 - 0.03
- 0.03 - 0.04
- 0.04 - 0.5

Jacket Pin Pile SEL_{ss} dB Contour

- 100
- 105
- 110
- 115
- 120
- 125
- 130
- 135
- 140
- 145
- 150
- 155
- 160
- 165
- 170
- 175
- 180
- 185
- 190
- 195
- 200

0 5 10 20 nm
0 10 20 40 km

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Drawing Title
5dB Underwater Noise Contours for Jacket Pin Piles with Harbour Seal Densities

Rev	Date	Remarks	Drwn	Chkd
01	05/02/2024	First issue	JH	SB

Drawing Number PB9244-RHD-ZZ-OF-DR-GS-0499	Figure Number 12.14
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Scale 1:650,000	Plot Size A3	Datum WGS84	Projection UTM31N
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NORTH FALLS

Offshore Wind Farm



RWE

HARNESSING THE POWER OF NORTH SEA WIND

North Falls Offshore Wind Farm Limited

A joint venture company owned equally by SSE Renewables and RWE.

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