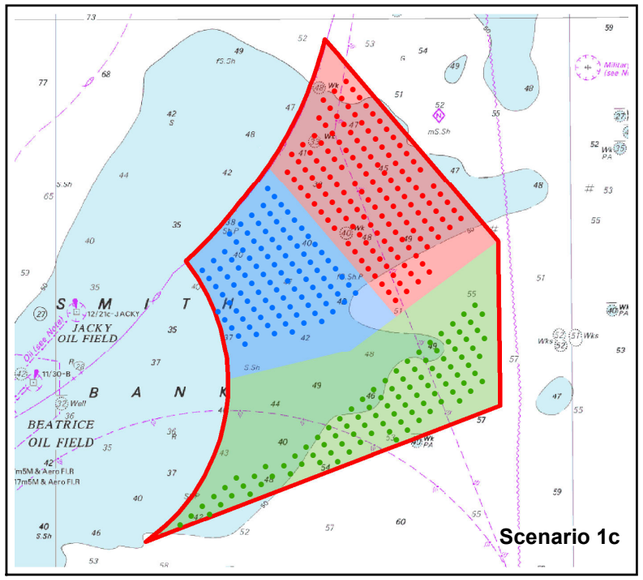

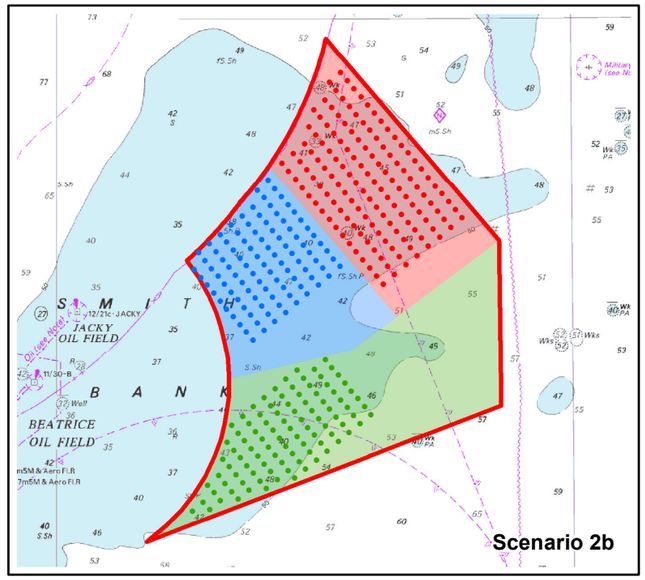

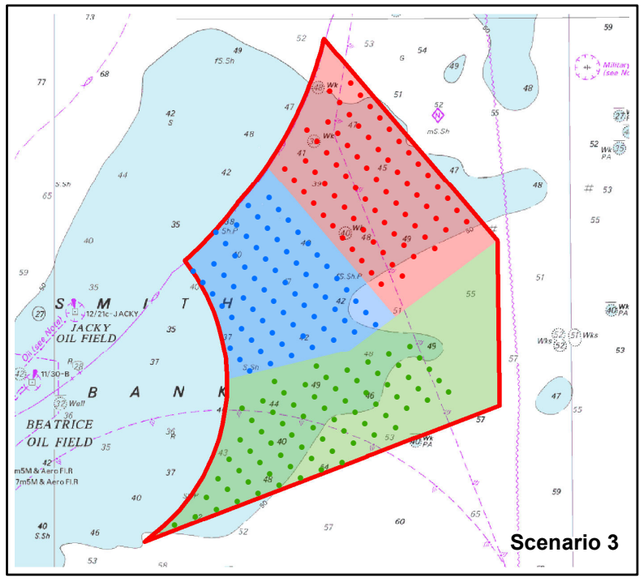

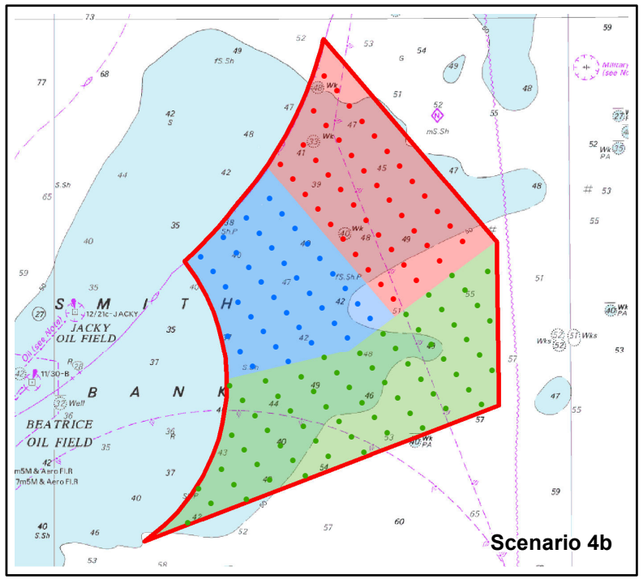

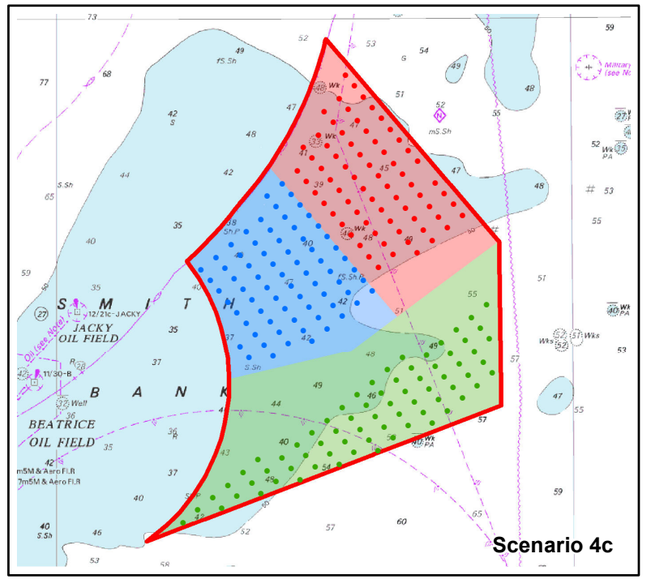

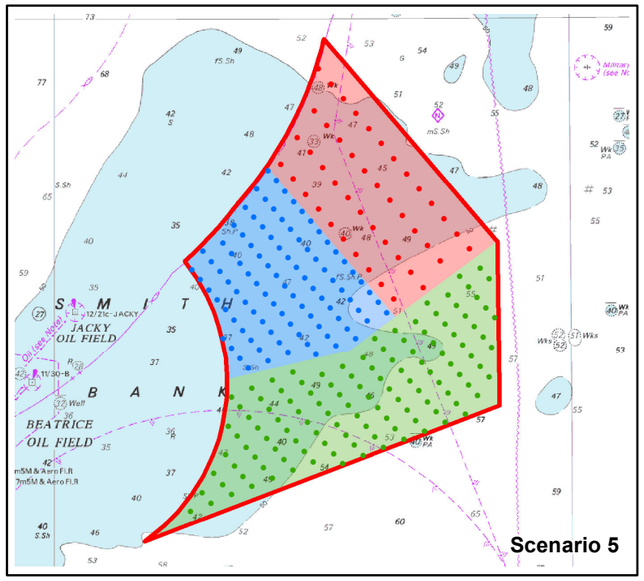

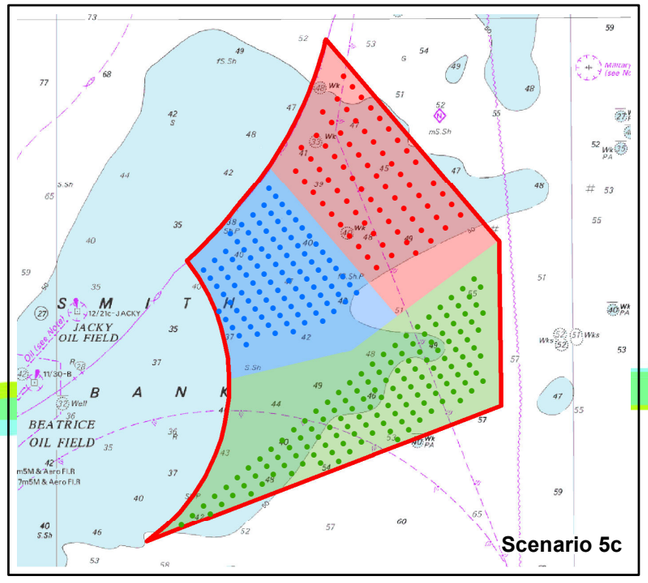

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KEY

Turbine Layout Scenarios

- Telford Layout
- Stevenson Layout
- MacColl Layout
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area

▶ **Scenario 1c (339 Turbines):**
Telford (139 Turbines) - 3.6MW;
Stevenson (100 Turbines) - 5MW;
MacColl (100 Turbines) - 5MW.
5D x 7D spacing with diamond layout.

▶ **Scenario 2b (339 Turbines):**
Telford (139 Turbines) - 3.6MW;
Stevenson (100 Turbines) - 5MW;
MacColl (100 Turbines) - 5MW.
5D x 7D spacing with grid layout.

▶ **Scenario 3 (211Turbines):**
Telford (72 Turbines) - 7MW;
Stevenson (67 Turbines) - 7MW;
MacColl (72 Turbines) - 7MW.
5D x 7D spacing with diamond layout.

▶ **Scenario 4b (145 Turbines):**
Telford (43 Turbines) - 7MW;
Stevenson (37 Turbines) - 7MW;
MacColl (65 Turbines) - 7MW.
6.5D x 10D spacing with grid layout.

▶ **Scenario 4c (216 Turbines):**
Telford (72 Turbines) - 7MW;
Stevenson (72 Turbines) - 7MW;
MacColl (72 Turbines) - 7MW.
5D x 7D spacing with grid layout.

▶ **Scenario 5 (259 Turbines):**
Telford (45 Turbines) - 7MW Array,
Stevenson (93 Turbines) - 5MW;
MacColl (121 Turbines) - 3.6MW.
6.5D x 10D spacing with diamond layout.

▶ **Scenario 5c (311 Turbines):**
Telford (72 Turbines) - 7MW Array,
Stevenson (100 Turbines) - 5MW;
MacColl (139 Turbines) - 3.6MW.
6.5D x 10D spacing with grid layout.

Horizontal Scale: 1:350,000 A3 Chart

0 5,000 10,000 Meters

N

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: TR Reviewed: SM Approved: SM	
Date: 09/07/2012	Revision: B
REF: 8460001-PPW0201-OPE-MAP-021	

Figure 8.4-1
Rochdale Envelope - SLVIA Layouts

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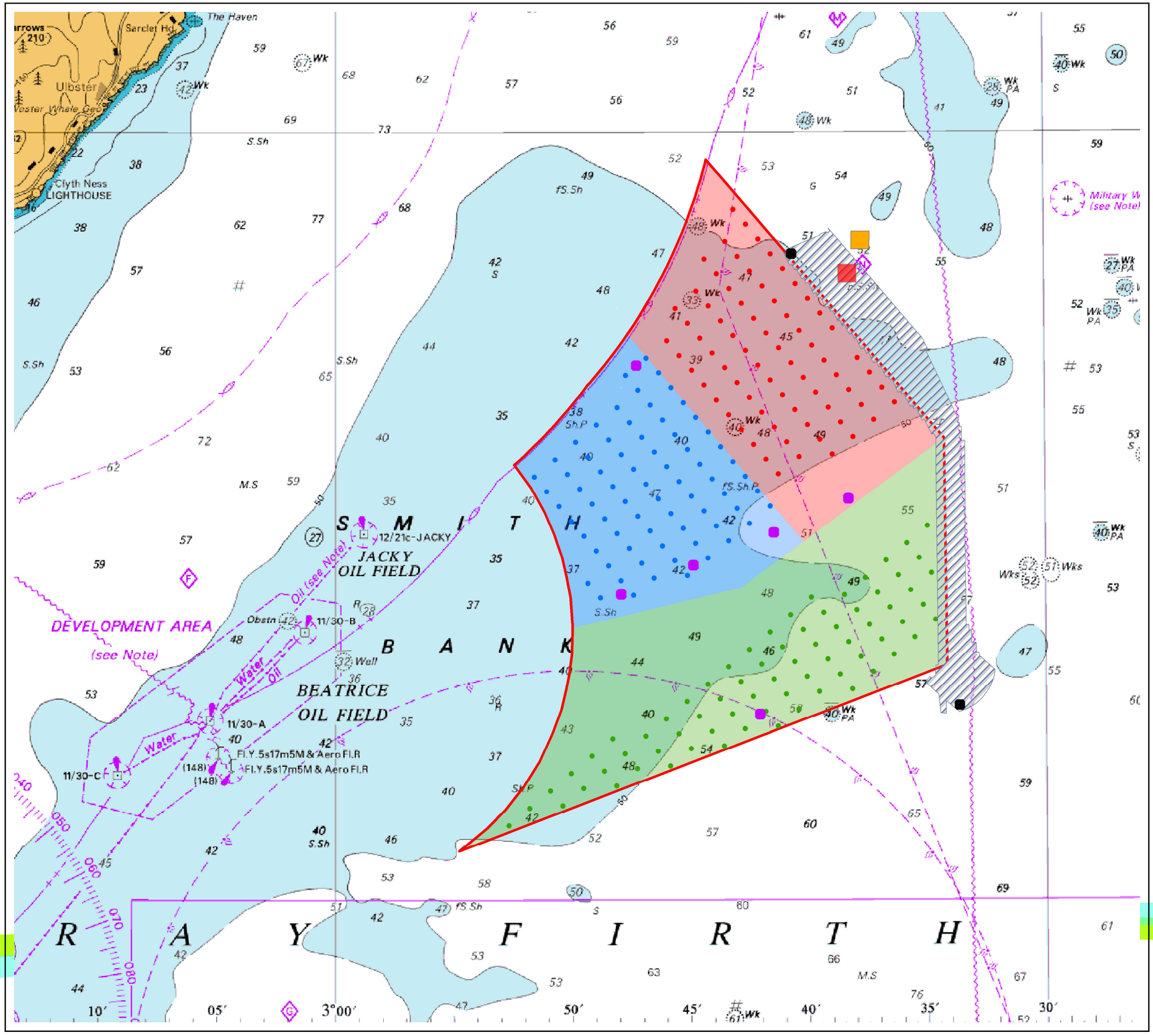

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KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- Hub 1 (Preferred)
- Hub 2 (Back-up)
- Fixed Offshore Substation Platform (OSP)
- Potential AC/DC Converter Station Outwith the Development
- AC/DC Converter Offshore Substation Platform (OSP)

Horizontal Scale: 1:150,000 — A3 Chart — N

0 2,500 5,000 Meters

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: LA Reviewed: SM Approved: SM	
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REF: 8460001-PPW0201-OPE-MAP-022	

Figure 8.4-2
Rochdale Envelope - Layout Scenario 4c

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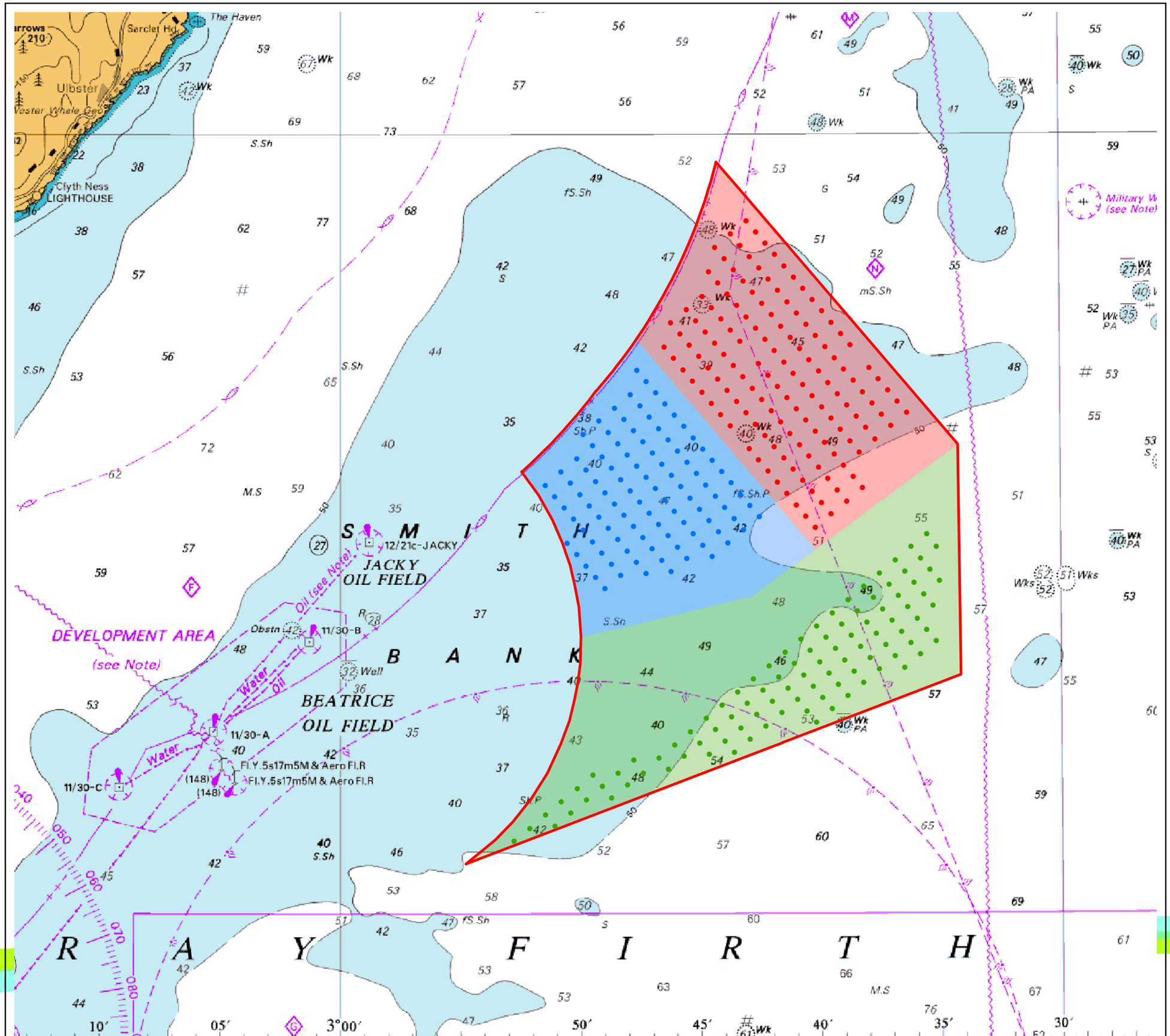

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KEY

Turbine Layout Scenario 1c:

- Telford 3.6MW Turbines (152m)
- Stevenson 5MW Turbines (148m)
- MacColl 5MW Turbines (148m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: LA Reviewed: SM Approved: SM	
Date: 09/07/2012	Revision: B
REF: 8460001-PPW0201-OPE-MAP-023	

Figure 8.4-3
Rochdale Envelope - Layout Scenario 1c

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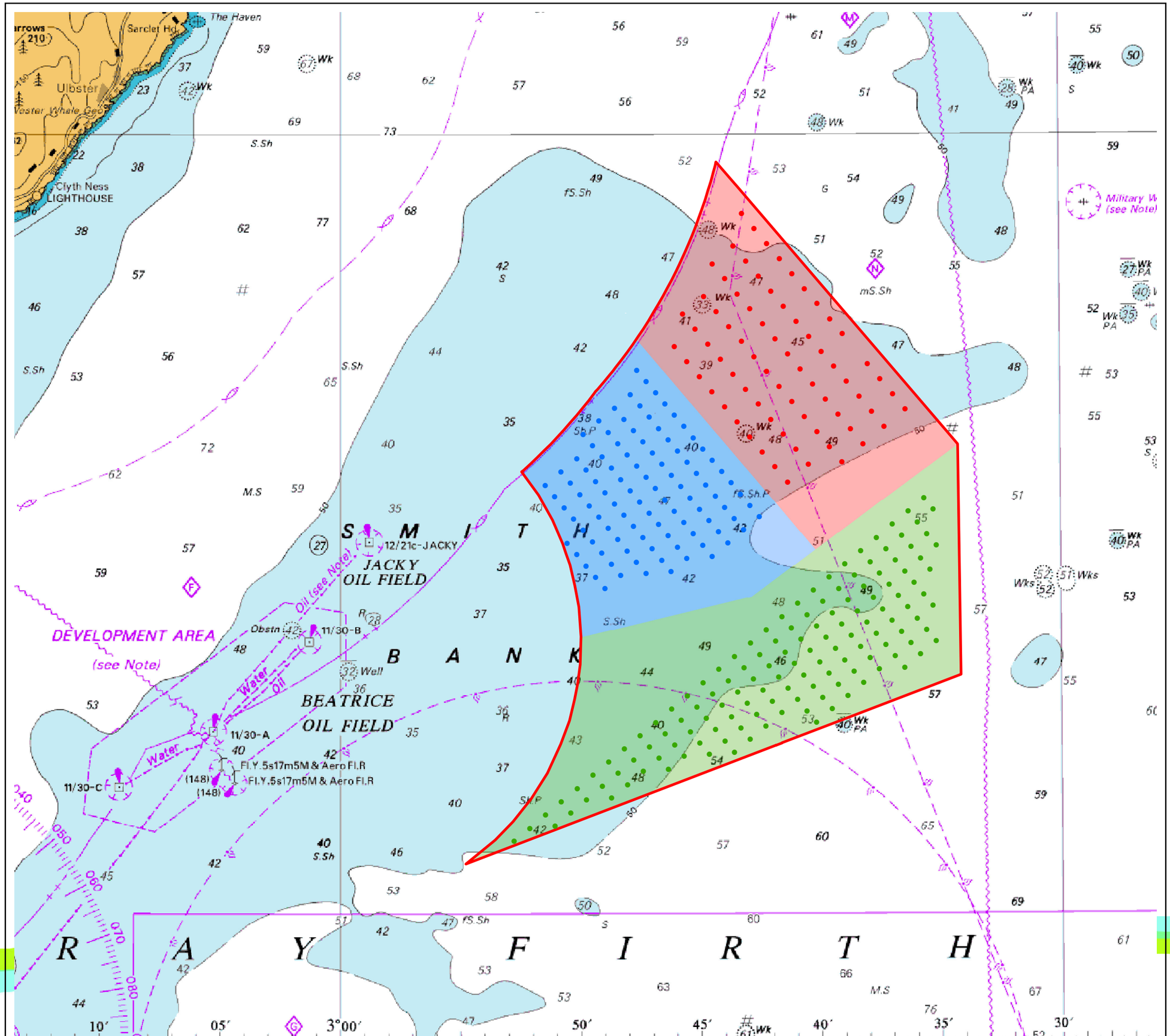

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KEY

Turbine Layout Scenario 5c:

- Telford 7MW Turbines (204m)
- Stevenson 5MW Turbines (148m)
- MacColl 3.6MW Turbines (152m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area

Horizontal Scale: 1:150,000 — A3 Chart — N

0 2,500 5,000 Meters

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: LA Reviewed: SM Approved: SM	
Date: 09/07/2012	Revision: B
REF: 8460001-PPW0201-OPE-MAP-024	

Figure 8.4-4
Rochdale Envelope - Layout Scenario 5c

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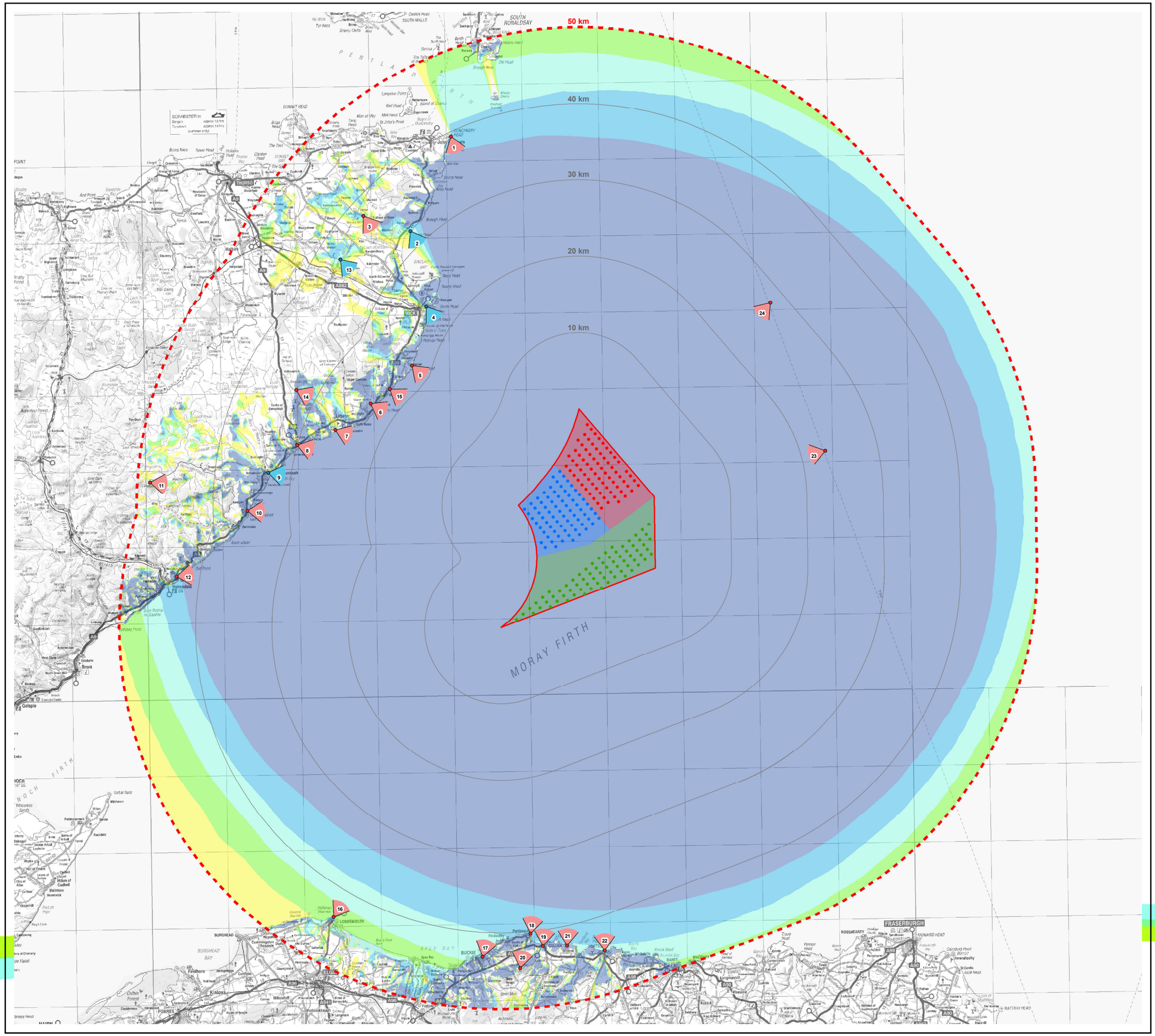

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KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary

Blade Tip ZTV (204m)
No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

- Viewpoint Location
- Key Viewpoint Location

1	Duncansby Head
2	Keiss Pier
3	Sortat
4	Wick Bay
5	Sarclet (Sarclet Haven Info Board)
6	Hill O' Many Stanes
7	Lybster (end of Main Street)
8	Latheron (A9)
9	Dunbeath (nr Heritage Centre)
10	Berriedale (A9)
11	Morven
12	Navidale
13	Catchory
14	Minor Rd
15	Whaligoe Steps
16	Lossiemouth Harbour
17	Buckie
18	Portnockie - Bow Fiddle Rock Info Point
19	Cullen
20	Bin Hill
21	Findlater Castle (Check height)
22	Portsoy
23	Ferry Route (Kirkwall to Aberdeen) 1
24	Ferry Route (Kirkwall to Aberdeen) 2

Horizontal Scale: 1:475,000 A3 Chart

0 10,000 20,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

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REF: 8460001-PPW0201-OPE-MAP-025

Figure 8.4-5
Blade Tip ZTV with Viewpoints (Scenario 4c)

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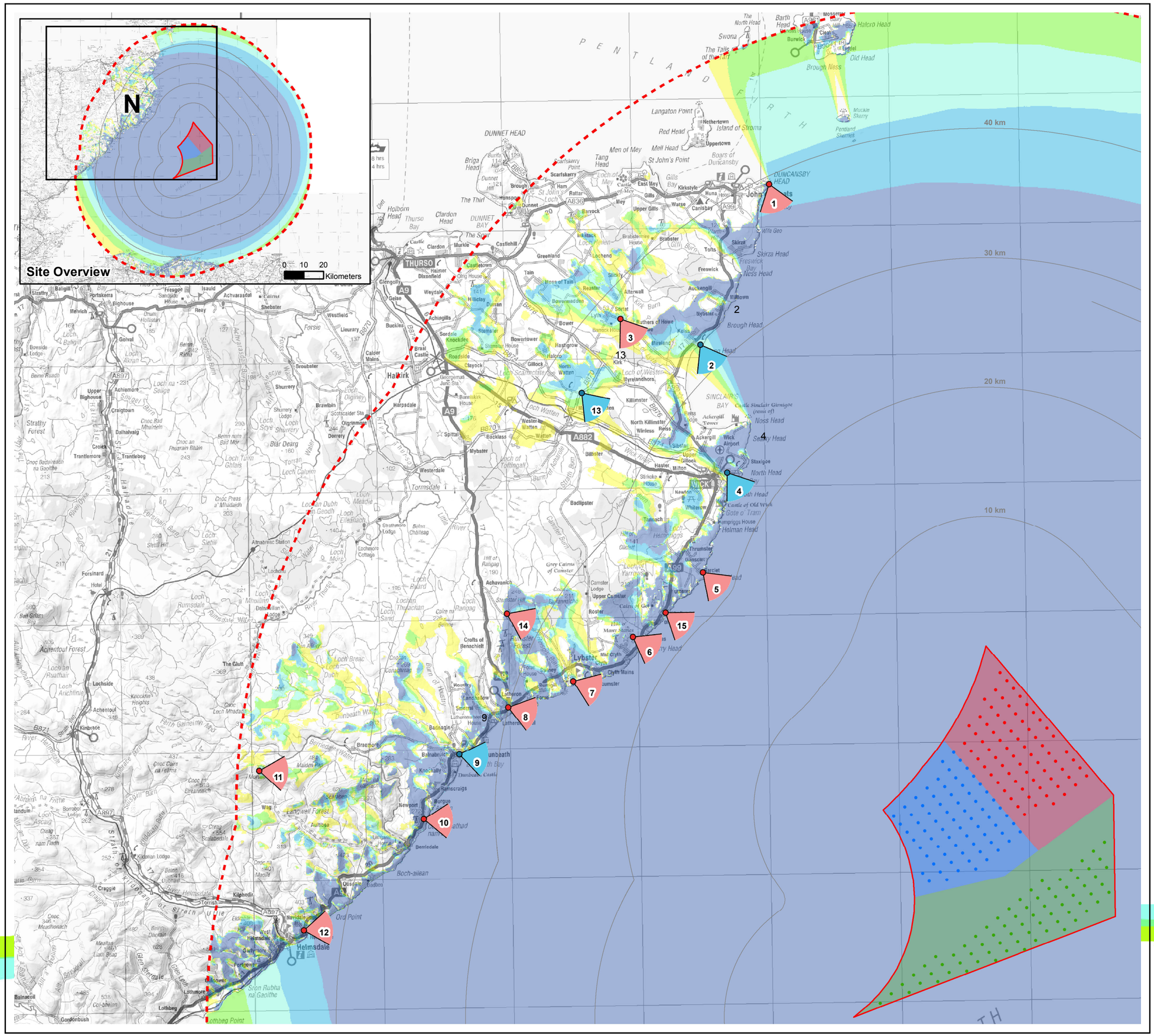

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KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary

Blade Tip ZTV (204m)
No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

- Viewpoint Location
- Key Viewpoint Location

1 Duncansby Head
2 Keiss Pier
3 Sortat
4 Wick Bay
5 Sarclet (Sarclet Haven Info Board)
6 Hill O' Many Stanes
7 Lybster (end of Main Street)
8 Latheron (A9)
9 Dunbeath (nr Heritage Centre)
10 Berriedale (A9)
11 Morven
12 Navidale
13 Catchory
14 Minor Rd
15 Whaligoe Steps
16 Lossiemouth Harbour
17 Buckie
18 Portnockie - Bow Fiddle Rock Info Point
19 Cullen
20 Bin Hill
21 Findlater Castle (Check height)
22 Portsoy
23 Ferry Route (Kirkwall to Aberdeen) 1
24 Ferry Route (Kirkwall to Aberdeen) 2

Horizontal Scale: 1:280,000 A3 Chart

0 5,000 10,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

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Figure 8.4-5a
Blade Tip ZTV with Viewpoints (Scenario 4c) - North

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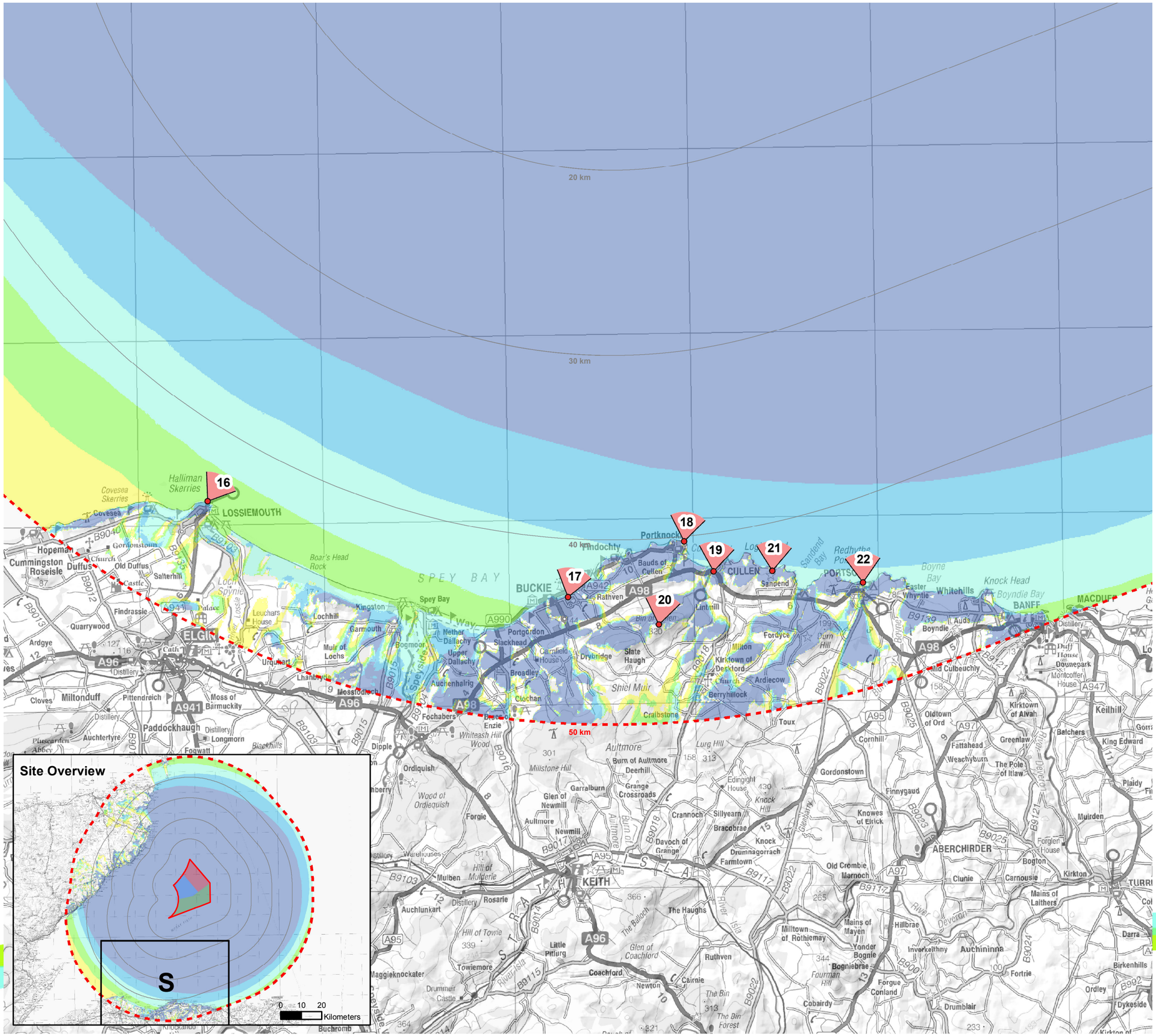

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KEY

- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary

Blade Tip ZTV (204m)
No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Viewpoint Location

1 Duncansby Head
2 Keiss Pier
3 Sortat
4 Wick Bay
5 Sarclet (Sarclet Haven Info Board)
6 Hill O' Many Stanes
7 Lybster (end of Main Street)
8 Latheron (A9)
9 Dunbeath (nr Heritage Centre)
10 Berriedale (A9)
11 Morven
12 Navidale
13 Catchory
14 Minor Rd
15 Whaligoe Steps
16 Lossiemouth Harbour
17 Buckie
18 Portnockie - Bow Fiddle Rock Info Point
19 Cullen
20 Bin Hill
21 Findlater Castle (Check height)
22 Portsoy
23 Ferry Route (Kirkwall to Aberdeen) 1
24 Ferry Route (Kirkwall to Aberdeen) 2

Horizontal Scale: 1:200,000 A3 Chart
0 5,000 10,000 Meters
N

Geodetic Parameters: WGS84 UTM Zone 30N

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Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-027

Figure 8.4-5b
Blade Tip ZTV with Viewpoints (Scenario 4c) - South

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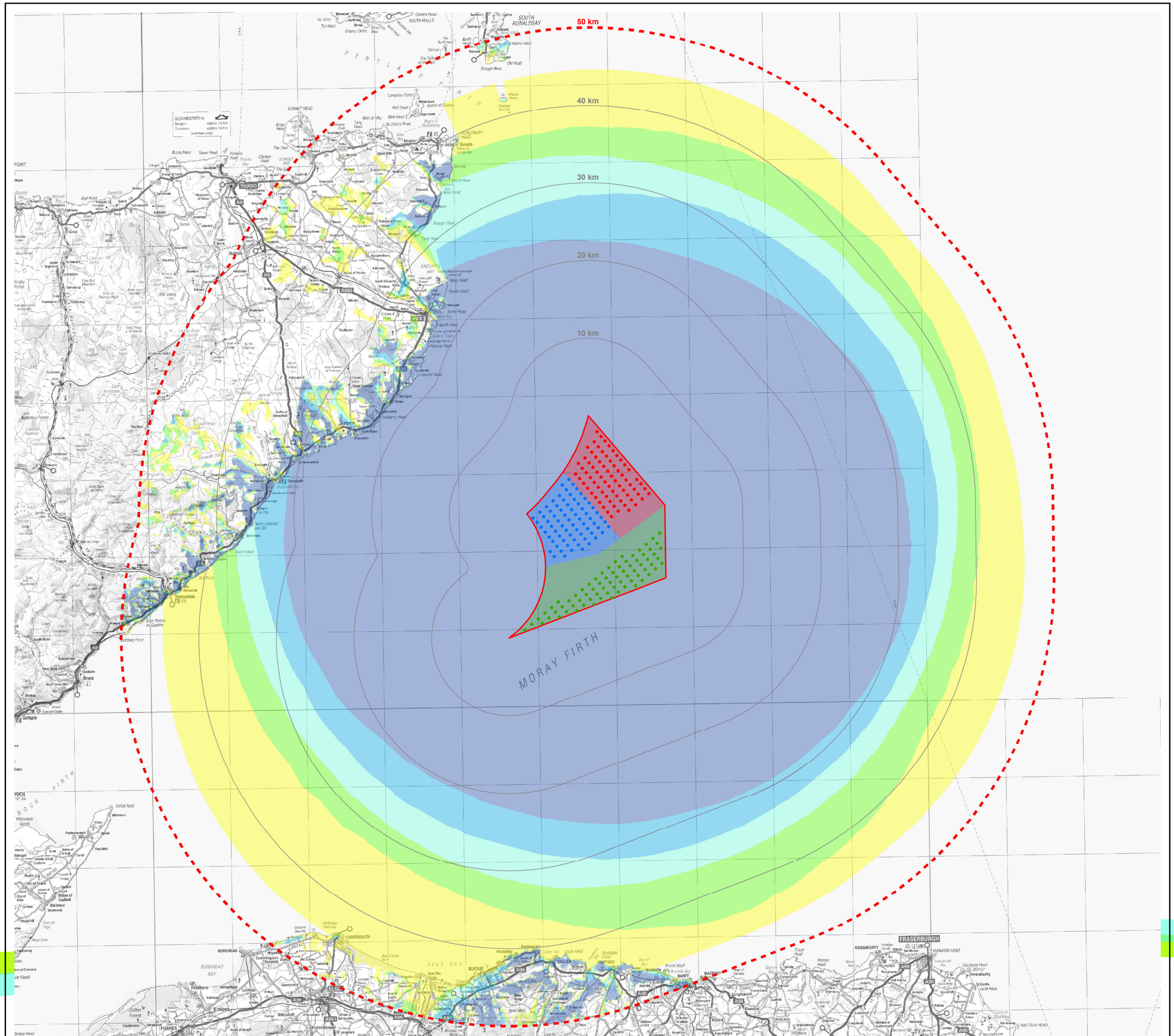

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KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary

Hub Height ZTV (118m)

No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Horizontal Scale: 1:475,000 A3 Chart

0 10,000 20,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

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REF: 8460001-PPW0201-OPE-MAP-028

Figure 8.4-6
Hub Height ZTV
(Scenario 4c)

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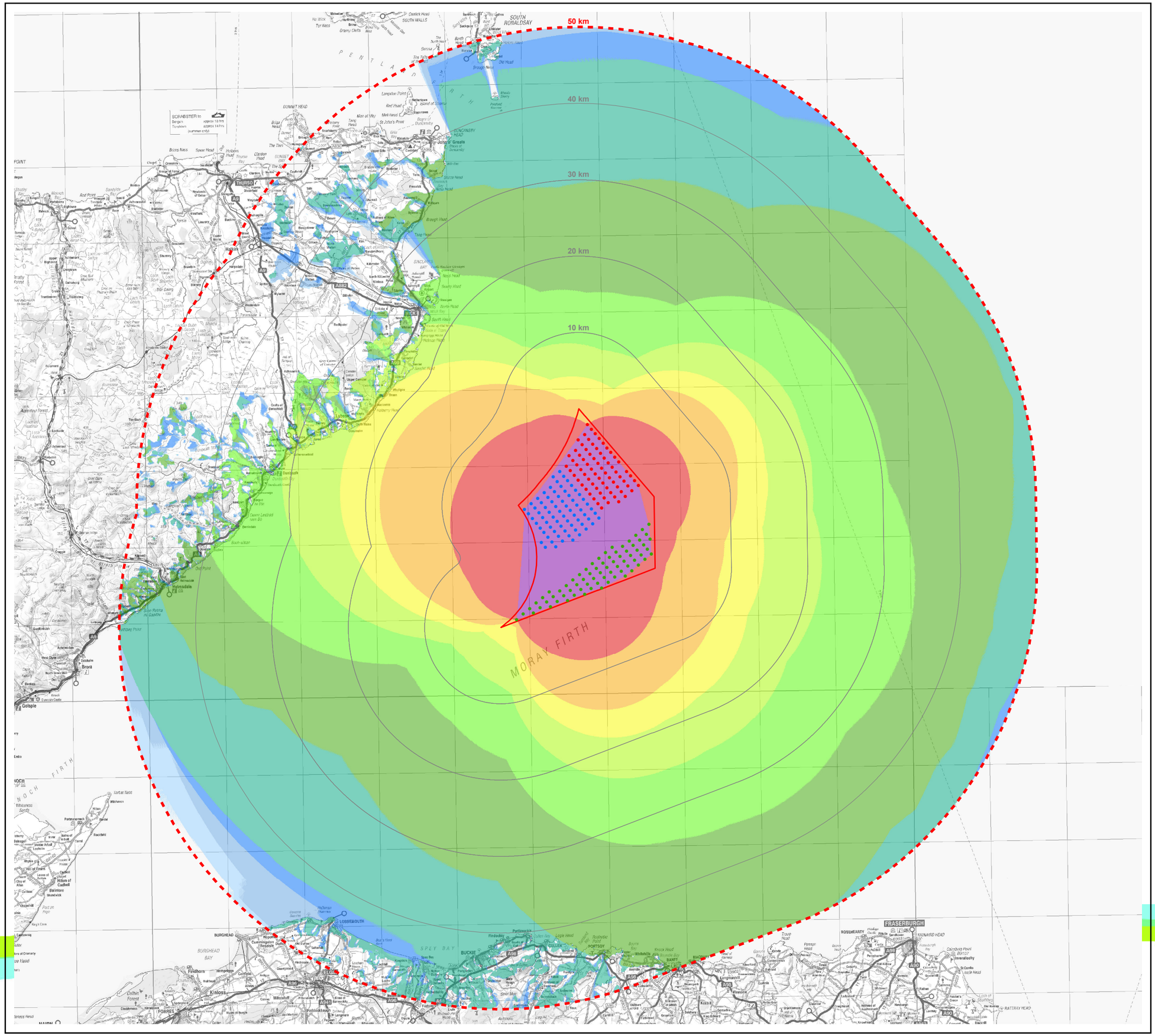

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KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary

Horizontal Angle ZTV *
Angle (Degrees)

- 0
- 0 - 1
- 1 - 5
- 5 - 10
- 10 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 - 60
- 60 - 90
- 90 - 180
- 180 - 360

** The horizontal angle ZTV measures how much of the horizontal field of view is occupied by the Development. It is calculated from a grid of receptors in the study area and measures the maximum angle from the furthest left to the furthest right extent of the Development*

Horizontal Scale: 1:475,000 A3 Chart

0 10,000 20,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

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REF: 8460001-PPW0201-OPE-MAP-029

Figure 8.4-7
Horizontal Angle ZTV (Scenario 4c)

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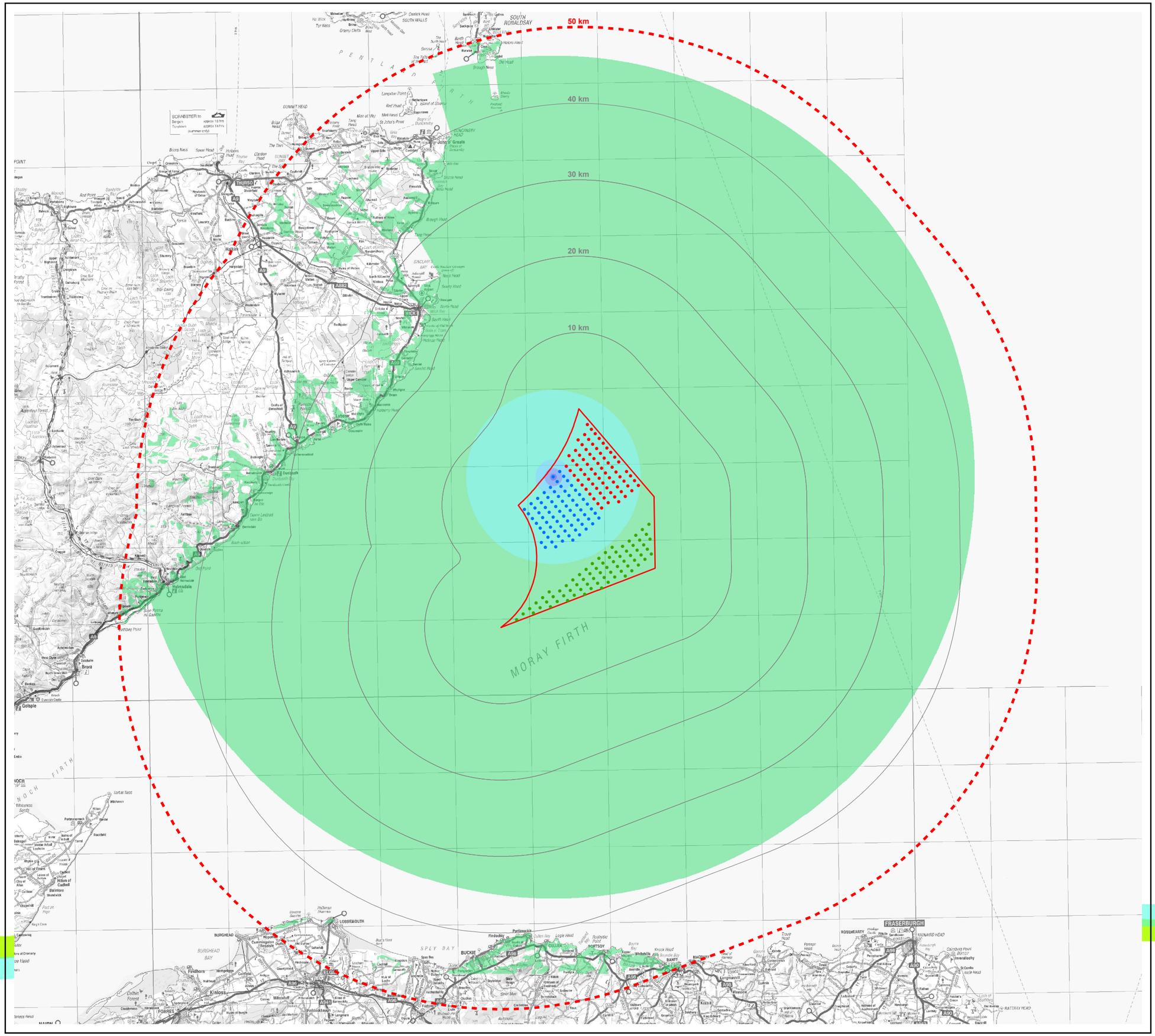

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KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary

Vertical Angle ZTV *
Angle (Degrees)

- 0
- 0 - 1
- 1 - 5
- 5 - 10
- 10 - 25
- >25

** The vertical angle ZTV measures how much of the verical field of view is occupied by the Development. It is calculated from a grid of receptors in the study area and measures the maximum angle between the lowest to the highest extent of the Development*

Horizontal Scale: 1:475,000 A3 Chart

0 10,000 20,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LA
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-030

Figure 8.4-8
Vertical Angle ZTV
(Scenario 4c)

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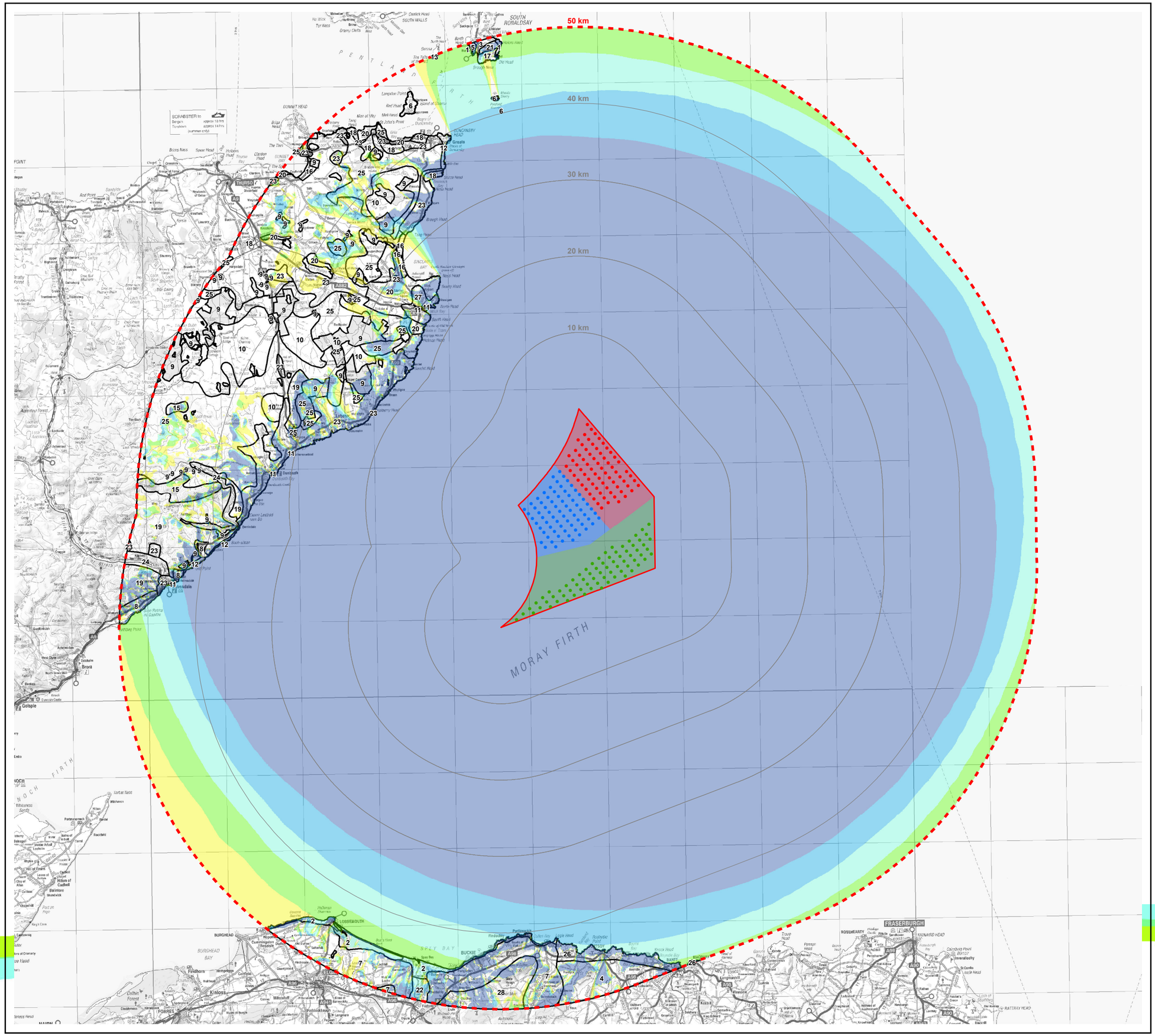

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KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- Landscape Character

1	Cliff Landscapes	14	Inland Lochs
2	Coastal	15	Lone Mountains
3	Coastal Basins	16	Long Beaches Dunes & Links
4	Coastal Farmland	17	Low Island Pastures
5	Coastal Hills & Heaths	18	Mixed Agriculture & Settlement
6	Coastal Island	19	Moorland Slopes & Hills
7	Coastal Lowlands	20	Open Intensive Farmland
8	Coastal Shelf	21	Plateau Heaths & Pasture
9	Coniferous Woodland Plantation	22	River Valleys
		23	Small Farms & Crofts
10	Flat Peatland	24	Strath
11	Harbour	25	Sweeping Moorland
12	High Cliffs & Sheltered Bays	26	The Coast
		27	Town
13	Holms	28	Uplands

Blade Tip ZTV (204m)

No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Horizontal Scale: 1:475,000 A3 Chart

0 10,000 20,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LA
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-031

Figure 8.4-9
Landscape Character with ZTV

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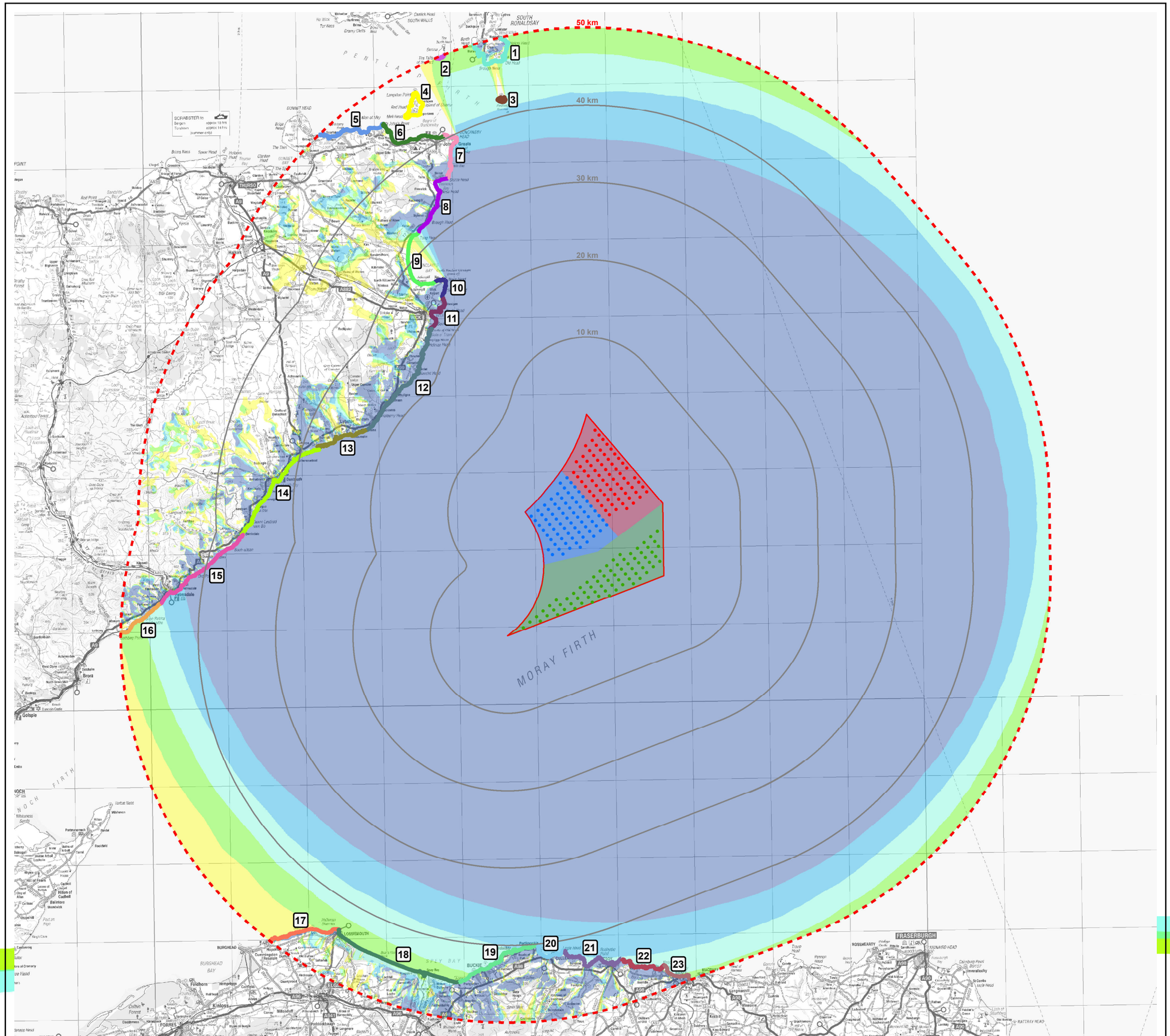

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KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary

Coastal Character Areas

1. South Ronaldsay
2. Swona Island
3. Pentland Skerries
4. Island of Stroma
5. Scarfskerry
6. Gills Bay & John O'Groats
7. Duncansby Head
8. Freswick Bay & Nybster Coast
9. Sinclair's Bay
10. Noss Head
11. Wick Bay
12. Sarclet Head
13. Lybster Bay
14. Dunbeath Bay
15. Helmsdale to Berriedale Coastal Shelf
16. Brora to Helmsdale Deposition Coast
17. Lossiemouth to Burghead Coast
18. Spey Bay
19. Portgordon to Portnockie Coast
20. Cullen Bay
21. Sandend Bay
22. Boyne Bay
23. Boyndie Bay

Blade Tip ZTV (204m)
No. of Visible Turbines

0	101 - 150
1 - 50	151 - 200
51 - 100	201 - 216

Horizontal Scale: 1:475,000 A3 Chart

0 10,000 20,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LA
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-032

Figure 8.4-10
Coastal Character Areas with ZTV

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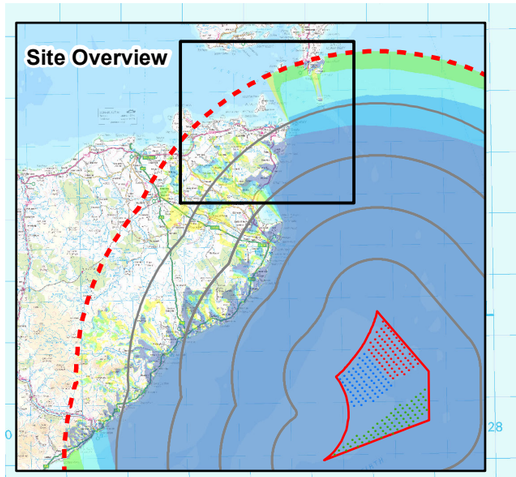

Coastal Character Area 1: South Ronaldsay

Coastal Character Area 2: Swona Island

Coastal Character Area 3: Pentland Skerries

Coastal Character Area 4: Island of Stroma

Coastal Character Area 5: Scarfskerry

Coastal Character Area 6: Gills Bay & John O'Groats

Coastal Character Area 7: Duncansby Head

Coastal Character Area 8: Freswick Bay & Nybster Coast

Coastal Character Area 9: Sinclair's Bay

50 km

40 km

30 km

Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- 1 Landscape Character *
- Viewpoint Location **

Coastal Character Areas

1. South Ronaldsay
2. Swona Island
3. Pentland Skerries
4. Island of Stroma
5. Scarfskerry
6. Gills Bay & John O'Groats
7. Duncansby Head
8. Freswick Bay & Nybster Coast
9. Sinclair's Bay

Blade Tip ZTV (204m)

No. of Visible Turbines

0	101 - 150
1 - 50	151 - 200
51 - 100	201 - 216

Note:
* Landscape types listed in Figure 5.4.2
** Viewpoint locations listed in Figure 5.4.7

Horizontal Scale: 1:100,000 A3 Chart

0 2,500 5,000 Meters

N

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: TR Reviewed: SM Approved: SM	
Date: 09/07/2012	Revision: B
REF: 8460001-PPW0201-OPE-MAP-033	

Figure 8.4-10a
Coastal Character Areas with ZTV (Caithness North)

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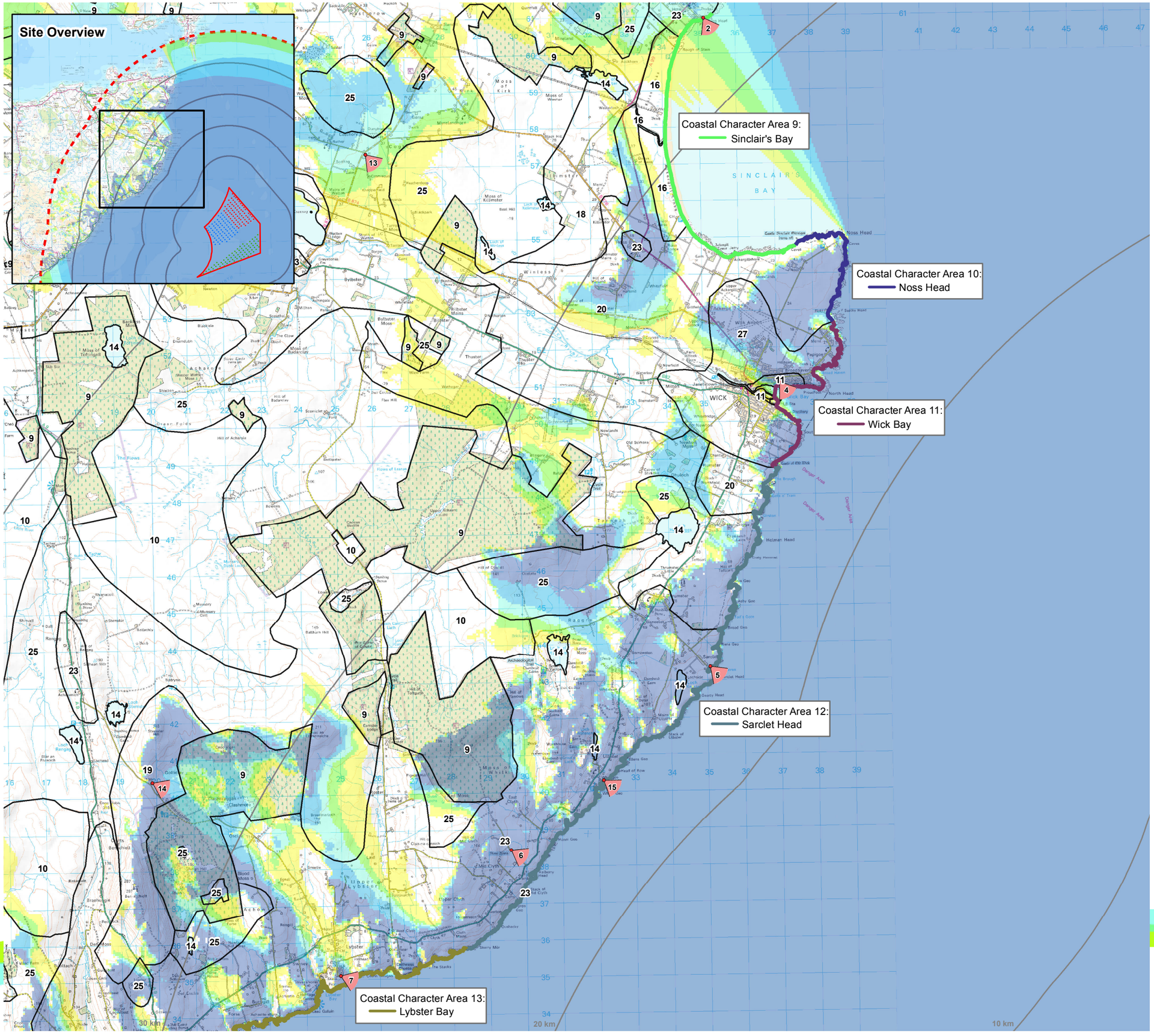

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KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- 1 Landscape Character *
- Viewpoint Location **

Coastal Character Areas

- 9 Sinclair's Bay
- 10 Noss Head
- 11 Wick Bay
- 12 Sarclet Head
- 13 Lybster Bay

Blade Tip ZTV (204m)
No. of Visible Turbines

0	101 - 150
1 - 50	151 - 200
51 - 100	201 - 216

Note:
* Landscape types listed in Figure 5.4.2
** Viewpoint locations listed in Figure 5.4.7

Horizontal Scale: 1:100,000 A3 Chart
0 2,500 5,000 Meters
N

Geodetic Parameters: WGS84 UTM Zone 30N

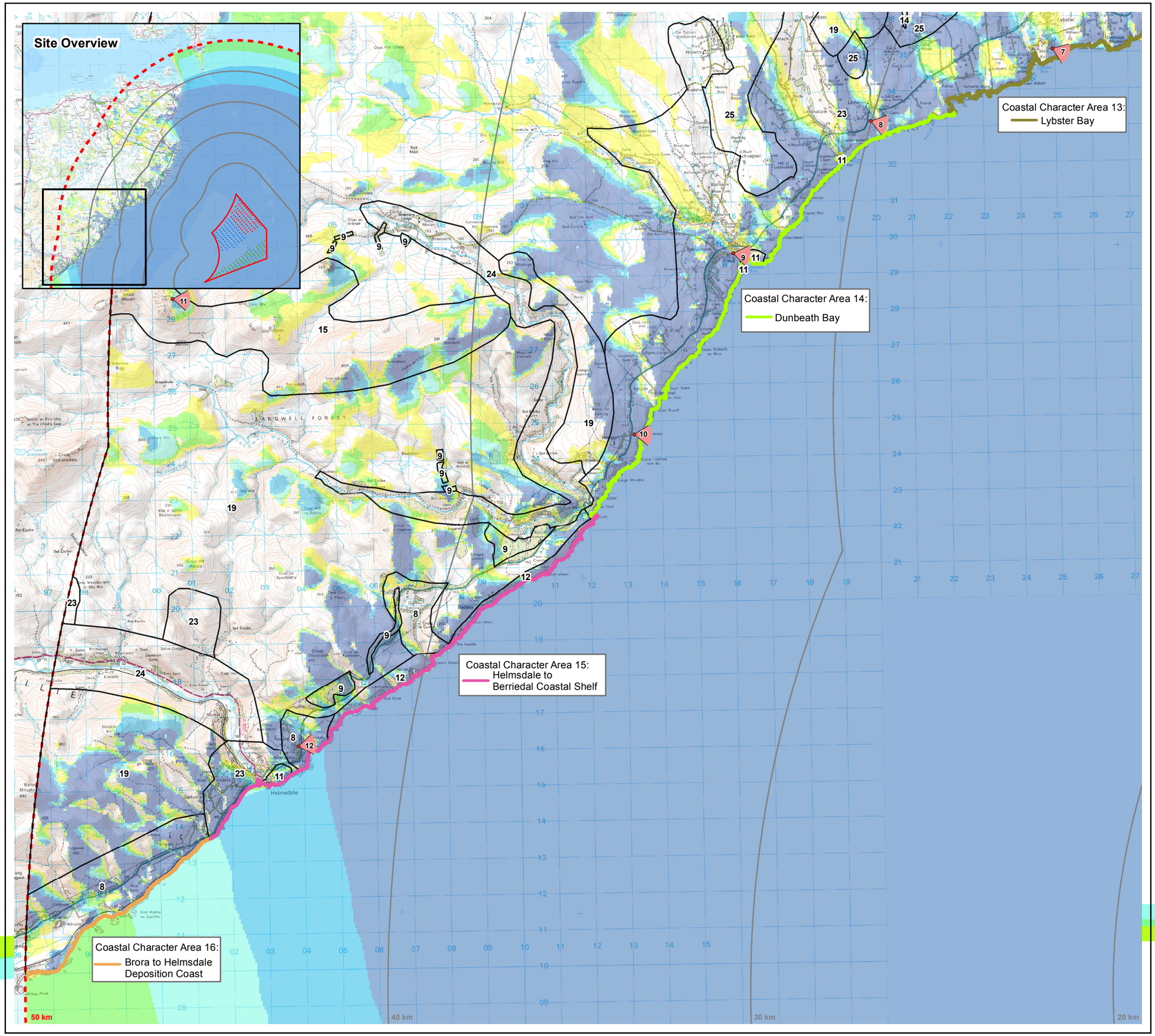
Produced: LA
Reviewed: SM
Approved: SM

Date: 09/07/2012 Revision: B

REF: 8460001-PPW0201-OPE-MAP-034

Figure 8.4-10b
Coastal Character Areas with ZTV (Caithness East)

Moray Offshore Renewables Ltd



Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- 1 Landscape Character *
- Viewpoint Location **

Coastal Character Areas

- 13 Lybster Bay
- 14 Dunbeath Bay
- 15 Helmsdale to Berriedale Coastal Shelf
- 16 Brora to Helmsdale Deposition Coast

Blade Tip ZTV (204m)

No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Note:
* Landscape types listed in Figure 5.4.2
** Viewpoint locations listed in Figure 5.4.7

Horizontal Scale: 1:100,000 A3 Chart

0 2,500 5,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

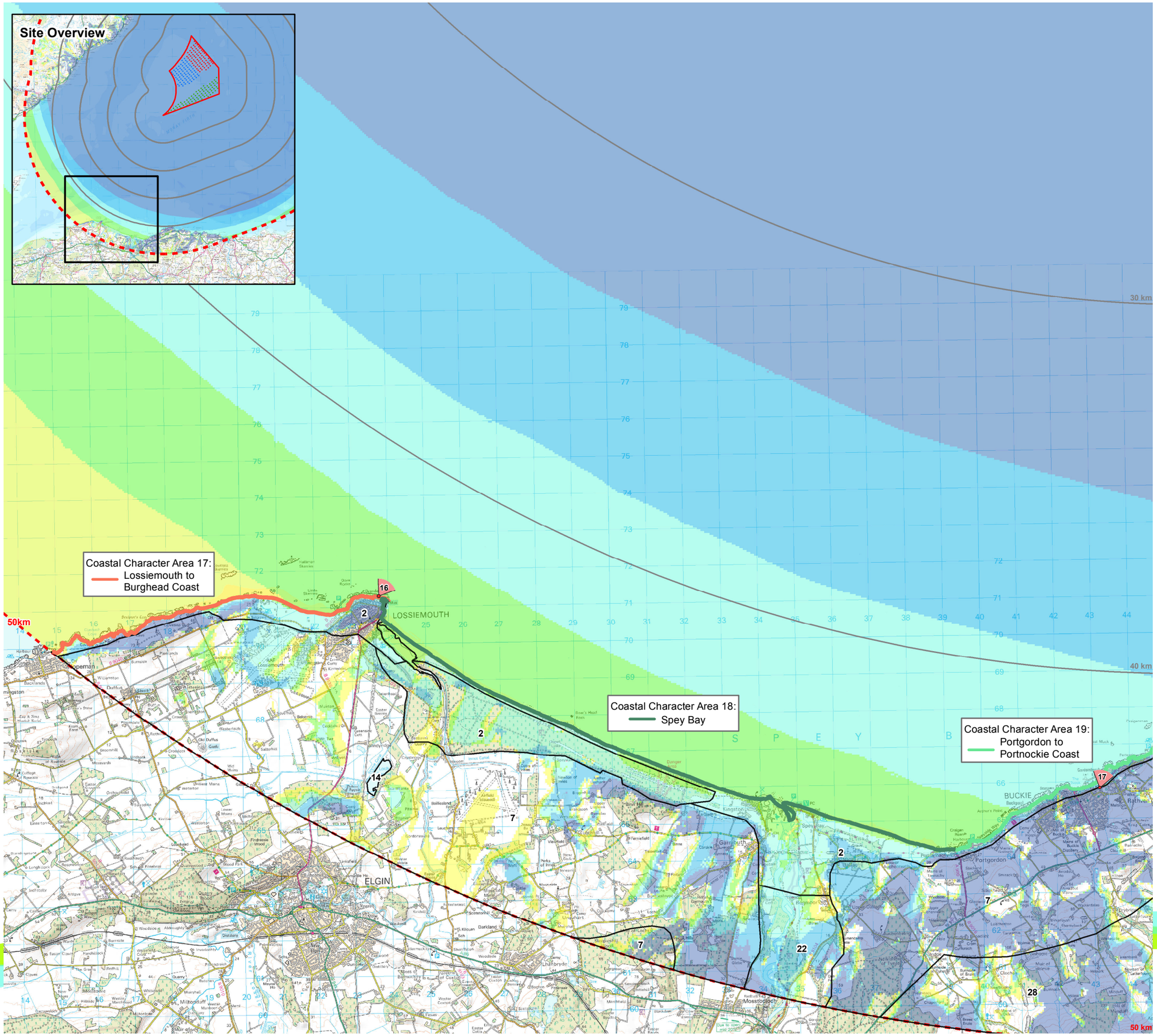
Produced: TR
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-035

Figure 8.4-10c
Coastal Character Areas with ZTV (Caithness South)

Moray Offshore Renewables Ltd



Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- 1 Landscape Character *
- Viewpoint Location **

Coastal Character Areas

- 17 Lossiemouth to Burghead Coast
- 18 Spey Bay
- 19 Portgordon to Portnockie Coast

Blade Tip ZTV (204m)

No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Note:
* Landscape types listed in Figure 5.4.2
** Viewpoint locations listed in Figure 5.4.7

Horizontal Scale: 1:100,000 A3 Chart

0 2,500 5,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

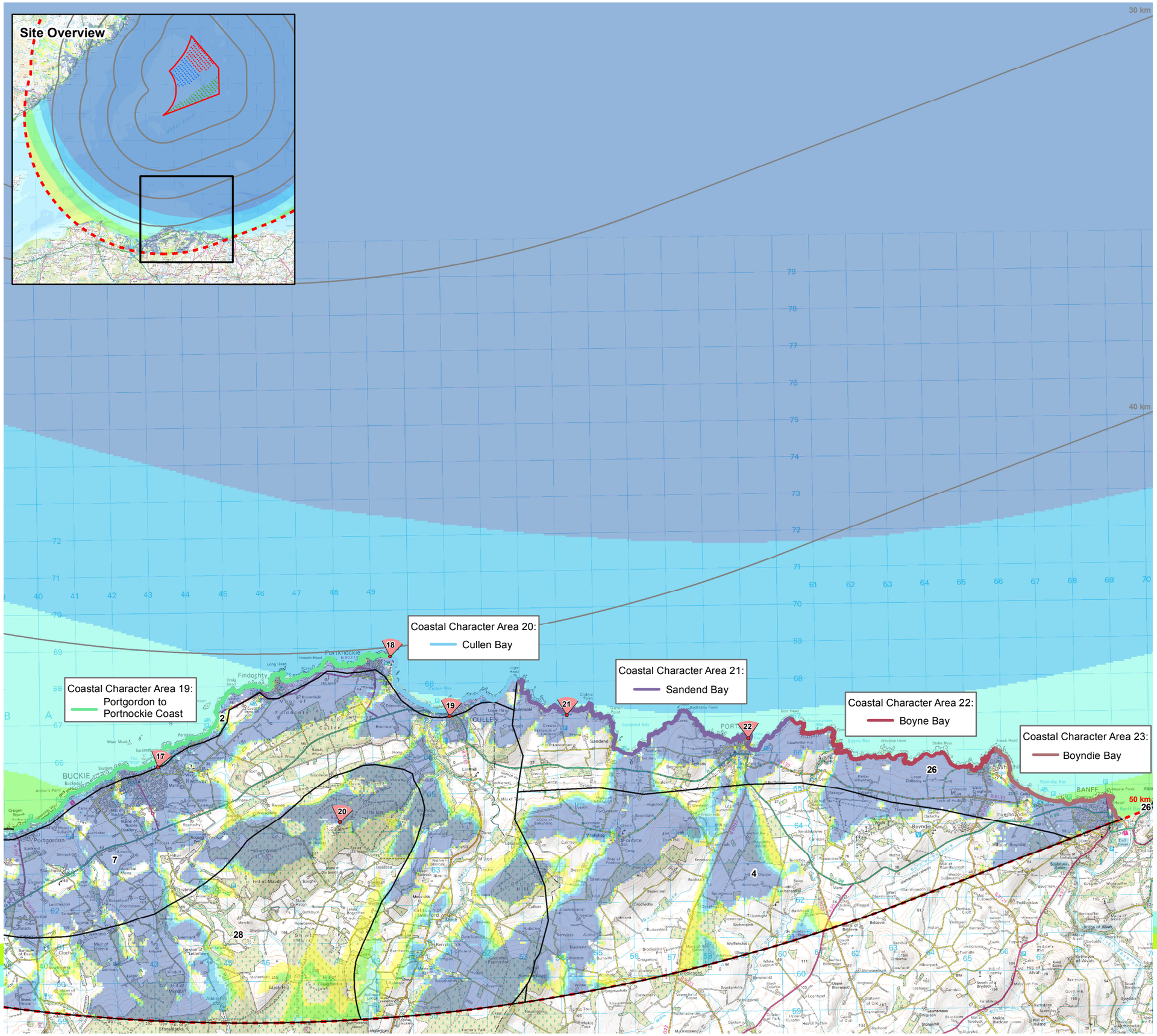
Produced: LA
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-036

Figure 8.4-10d
Coastal Character Areas with ZTV (Morayshire)

Moray Offshore Renewables Ltd



Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- 1 Landscape Character *
- Viewpoint Location **

Coastal Character Areas

- 19 Portgordon to Portnockie Coast
- 20 Cullen Bay
- 21 Sandend Bay
- 22 Boyne Bay
- 23 Boyndie Bay

Blade Tip ZTV (204m)
No. of Visible Turbines

0	101 - 150
1 - 50	151 - 200
51 - 100	201 - 216

Note:
* Landscape types listed in Figure 5.4.2
** Viewpoint locations listed in Figure 5.4.7

Horizontal Scale: 1:100,000 A3 Chart

0 2,500 5,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

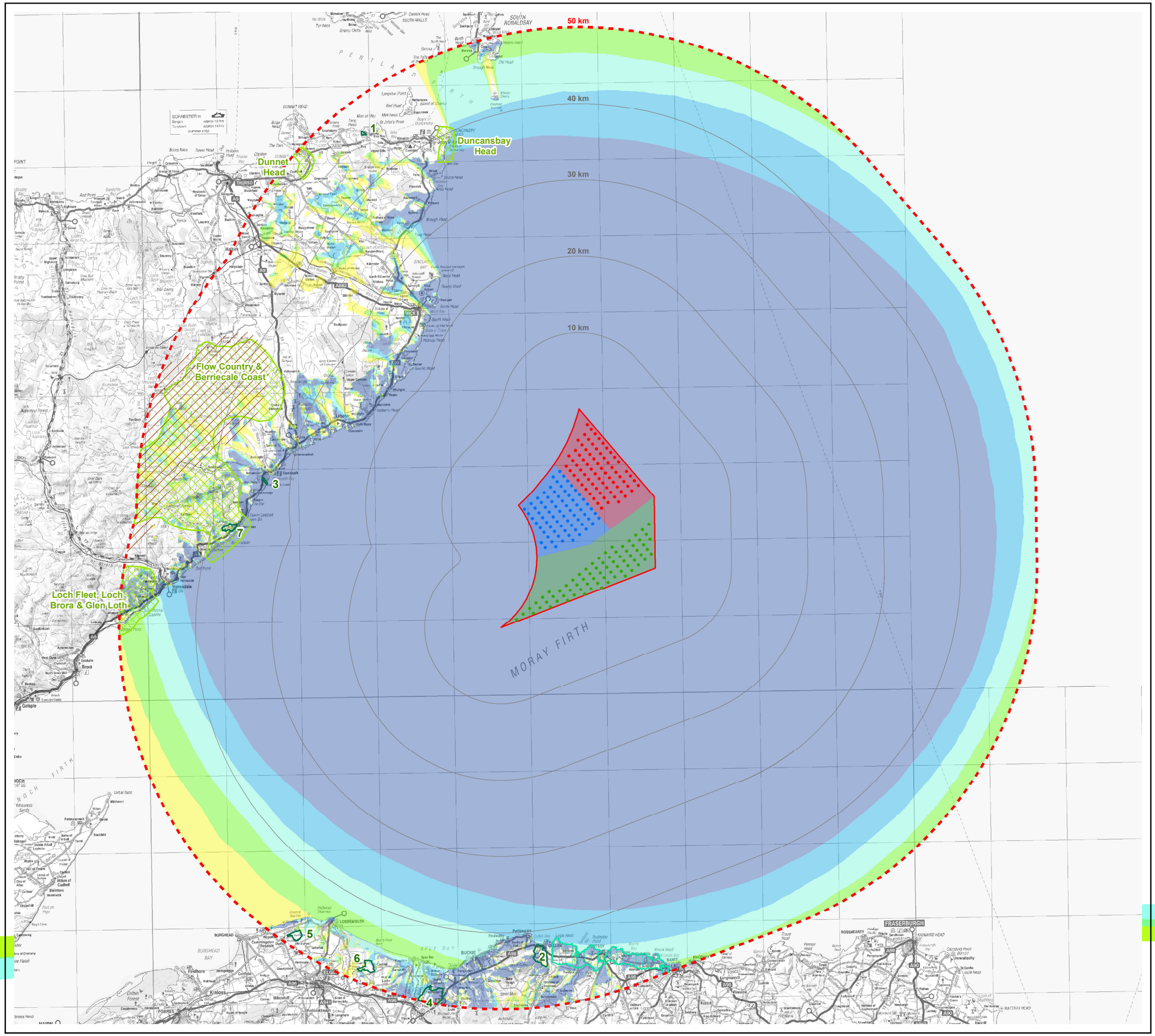
Produced: LA
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-037

Figure 8.4-10e
Coastal Character Areas with ZTV (Aberdeenshire)

Moray Offshore Renewables Ltd



edp renewables

REPSOL

Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary

Landscape Designations

- Search Area for Wild Land
- Coastal Protection Zone
- Area of Landscape Significance
- Special Landscape Area
- Garden & Designed Landscape
  1. Castle of Mey
  2. Cullen House
  3. Dunbeath Castle
  4. Gordon Castle
  5. Gordonstoun
  6. Innes House
  7. Melsetter House

Blade Tip ZTV (204m)

No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Horizontal Scale: 1:475,000 A3 Chart

0 10,000 20,000 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

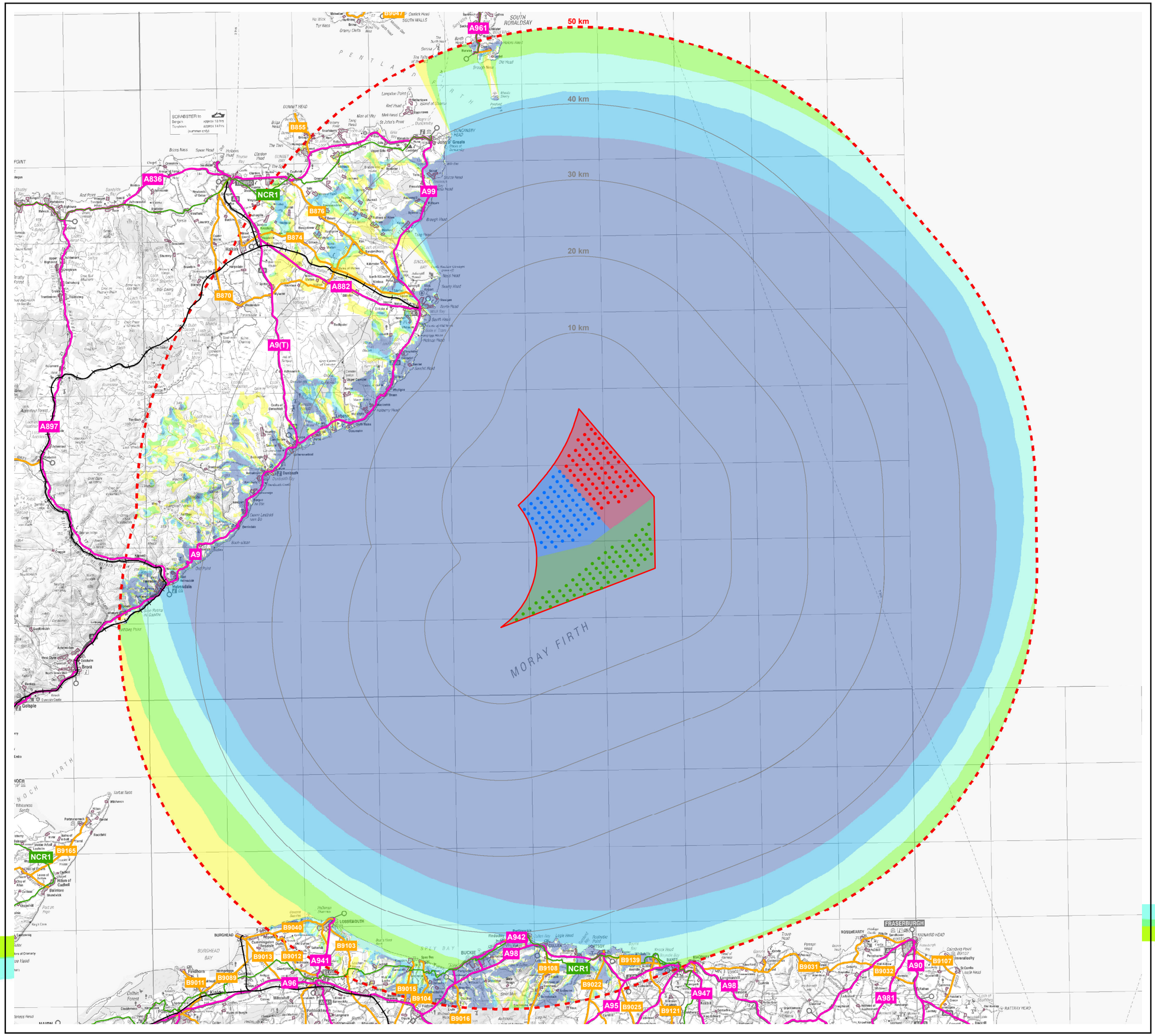
Produced: LA
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-038

Figure 8.4-11
Landscape Designations with ZTV

Moray Offshore Renewables Ltd



Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Zone
- 10km Distance Radii
- 50km Study Area Boundary

Principal Visual Receptors

- A Road
- B Road
- Railway
- National Cycle Route
- Urban Area

Blade Tip ZTV (204m)

No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Horizontal Scale: 1:475,000 A3 Chart

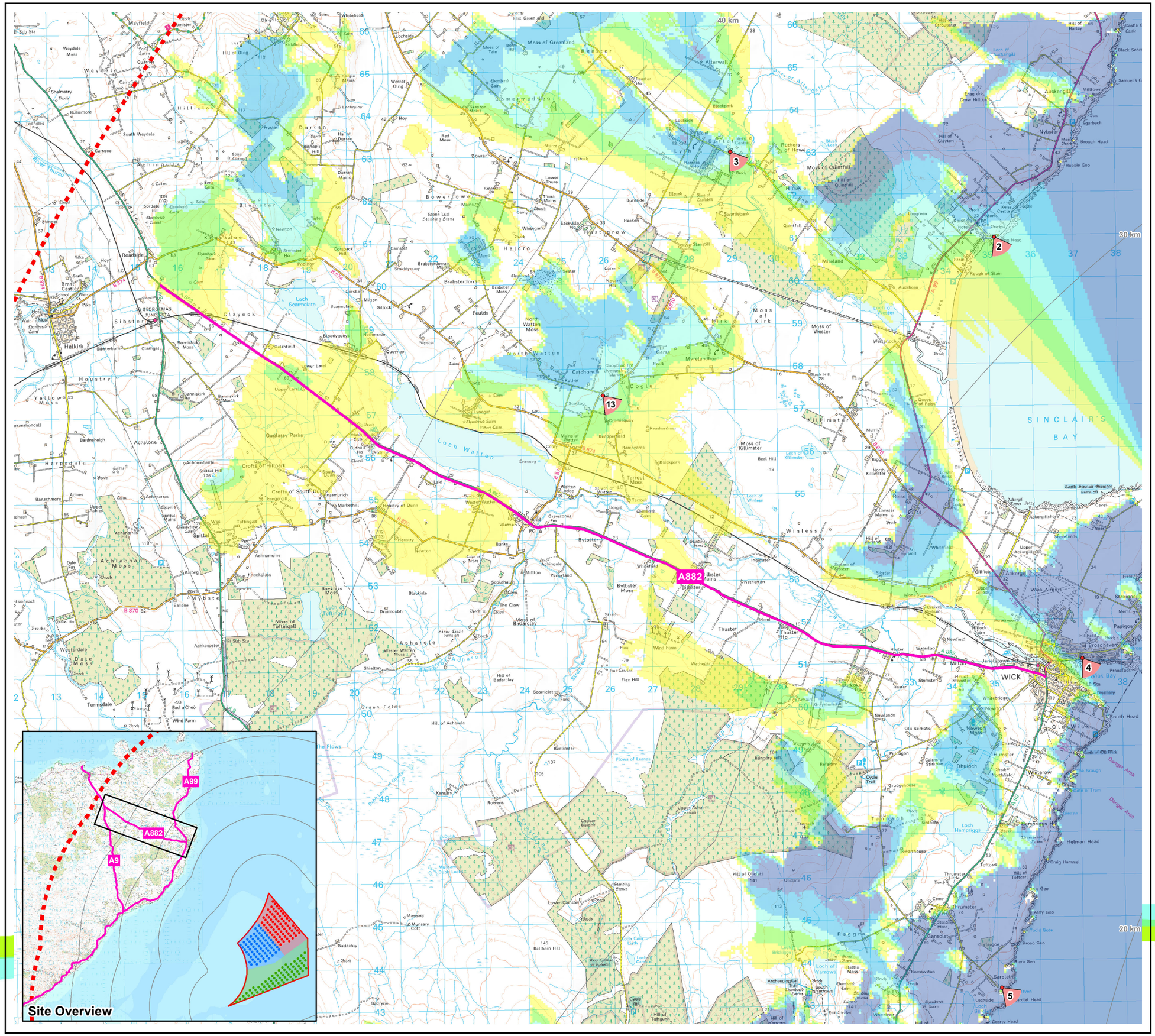
0 10,000 20,000 Meters

N

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: LA Reviewed: SM Approved: SM	
Date: 09/07/2012	Revision: B
REF: 8460001-PPW0201-OPE-MAP-039	

Figure 8.4-12
Visual Receptors with ZTV

Moray Offshore Renewables Ltd



edp renewables

REPSOL

Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- Viewpoint Location
- A882

Blade Tip ZTV (204m)

No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Horizontal Scale: 1:85,000 A3 Chart

0 1,750 3,500 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

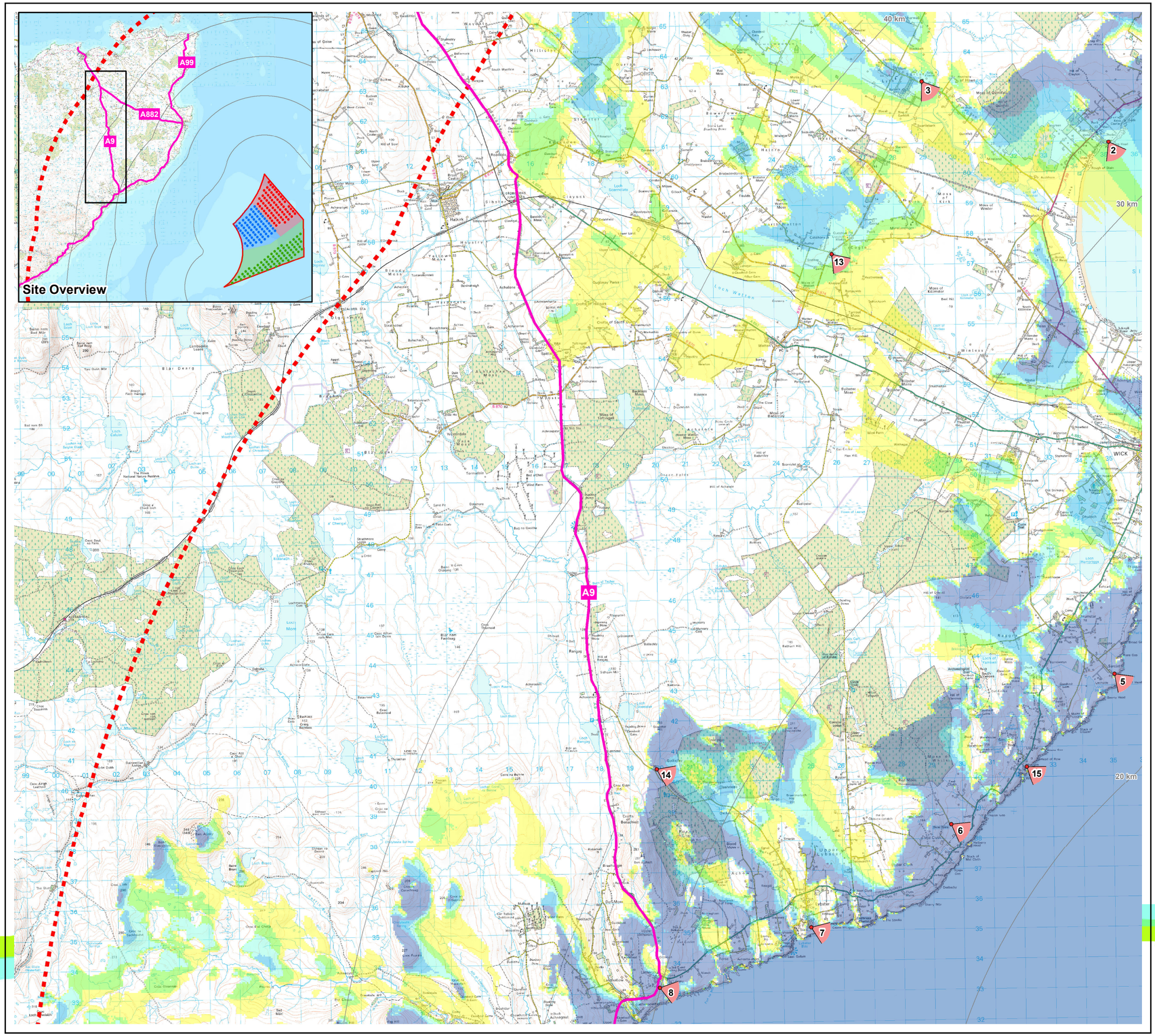
Produced: LA
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-040

Figure 8.4-12a
Visual Receptors with ZTV - A882

Moray Offshore Renewables Ltd



edp renewables

REPSOL

Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- Viewpoint Location
- A9

Blade Tip ZTV (204m)

No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Horizontal Scale: 1:120,000 A3 Chart

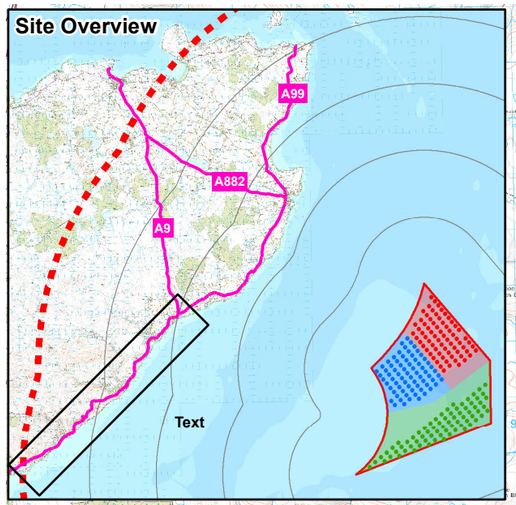
0 2,500 5,000 Meters

N

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: LA Reviewed: SM Approved: SM	
Date: 09/07/2012	Revision: B
REF: 8460001-PPW0201-OPE-MAP-041	

Figure 8.4-12b
Visual Receptors with ZTV
A9: Thurso to Latheron

Moray Offshore Renewables Ltd



edp renewables

REPSOL

Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- Viewpoint Location
- A9

Blade Tip ZTV (204m)

No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Horizontal Scale: 1:110,000 A3 Chart

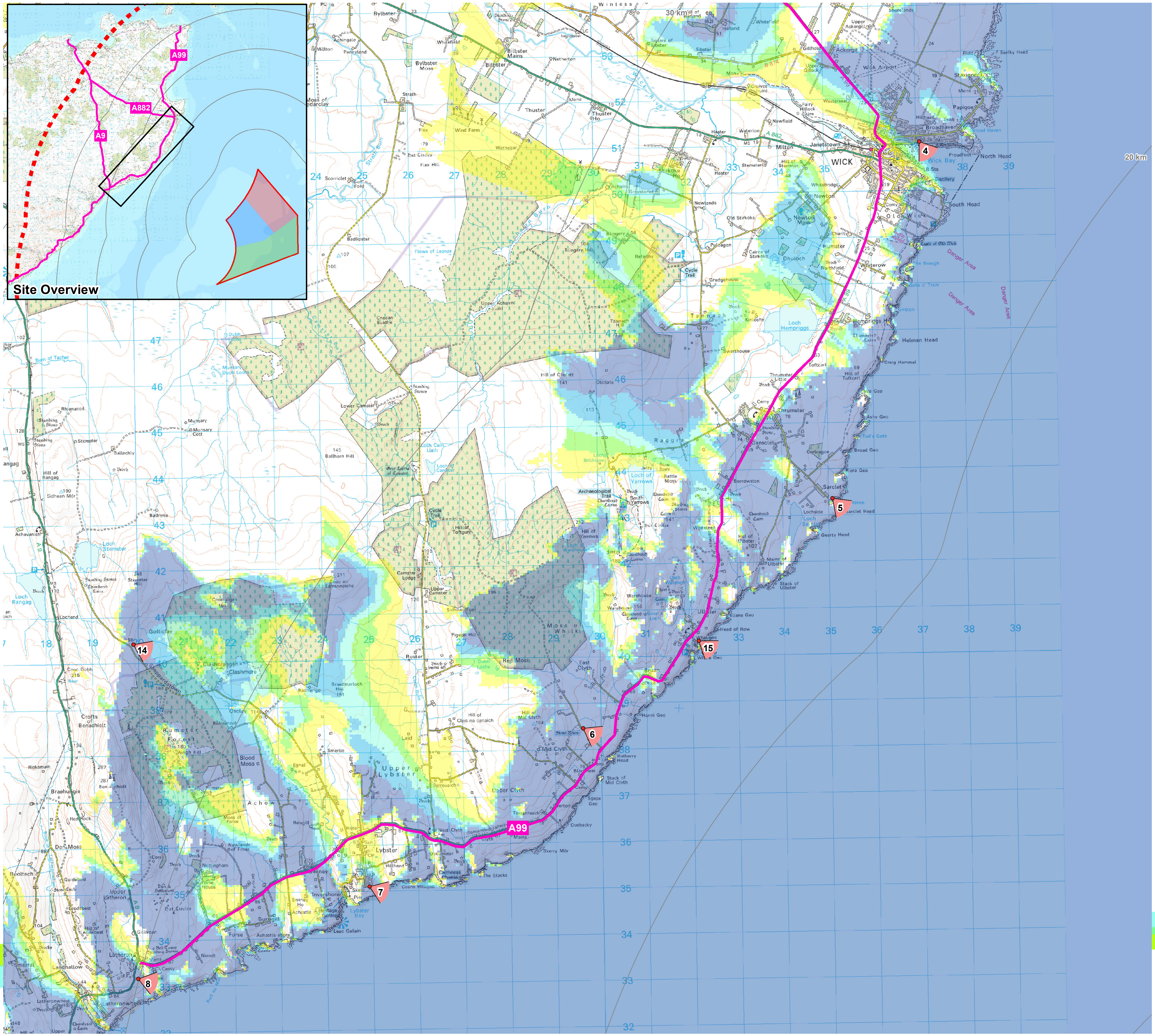
0 2,500 5,000 Meters

N

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: LA Reviewed: SM Approved: SM	
Date: 09/07/2012	Revision: B
REF: 8460001-PPW0201-OPE-MAP-042	

Figure 8.4-12c
Visual Receptors with ZTV
A9: Brora to Latheron

Moray Offshore Renewables Ltd



edp renewables
REPSOL
Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- Viewpoint Location
- A99

Blade Tip ZTV (204m)

No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Horizontal Scale: 1:80,000 A3 Chart

0 1,750 3,500 Meters

N

Geodetic Parameters: WGS84 UTM Zone 30N

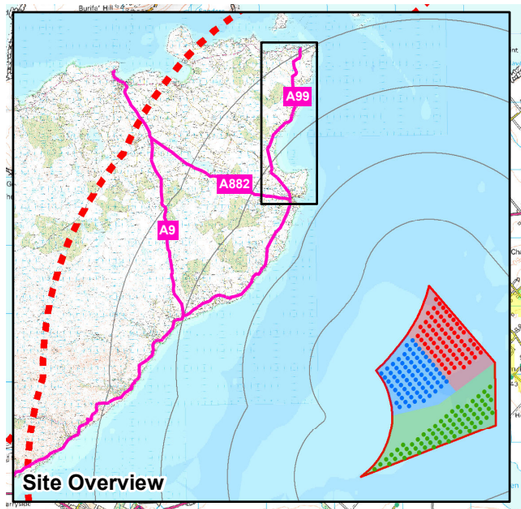
Produced: LA
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

REF: 8460001-PPW0201-OPE-MAP-043

Figure 8.4-12d
Visual Receptors with ZTV
A99: Latheron to Wick

Moray Offshore Renewables Ltd



Moray Offshore Renewables Ltd

KEY

Turbine Layout Scenario 4c:

- Telford 7MW Turbines (204m)
- Stevenson 7MW Turbines (204m)
- MacColl 7MW Turbines (204m)
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area
- 10km Distance Radii
- 50km Study Area Boundary
- Viewpoint Location
- A99

Blade Tip ZTV (204m)
No. of Visible Turbines

- 0
- 1 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 216

Horizontal Scale: 1:90,000 A3 Chart

0 1,750 3,500 Meters

N

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: LA Reviewed: SM Approved: SM	
Date: 09/07/2012	Revision: B
REF: 8460001-PPW0201-OPE-MAP-044	

Figure 8.4-12e
Visual Receptors with ZTV
A99: Wick to John O' Groats

Moray Offshore Renewables Ltd

methodology

Software Packages Used:-

- **Resoft Windfarm v.4.2.1.7**
- **Adobe Photoshop CS5.5 & Adobe Indesign CS5.5**
- **PTGUI v9.1.3 Pro**
- **ESRI ArcGIS v10**
- **AutoCAD Map 3D 2011**
- **Autodesk 3Ds Max 2013**

Photographic Details:

- **Photographers**
  Gray Caledonian Photography:- Sanais House • Croy • Inverness • IV2 5PN • Tel: 07771 776 577

- **Camera Information**
  Canon EOS 5D Mark II Digital SLR camera with a fixed 50mm lens.
  Camera set to RAW image format.
  Nodal Ninja panoramic head with Adjuste Leveller.
  Nodal Ninja panoramic head set to 20 degrees
  Tripod.
  Height to the centre of the camera lens above ground: 1.5m

Terrain Data Used:-

- Ordnance Survey 10-metre Landform Profile Digital Terrain Model Data. (DTM) along the coastal edge.
- Ordnance Survey 50-metre Landform Panorama Digital Terrain Model Data. (DTM) inland.
- (Note:- Ordnance Survey 5-metre Contour data is not available in this location.)

Turbine Model Information:-

Turbine dimensions are in accordance with those stated in the Environmental Statement:

- 7MW, Hub height @ LAT:- 118m , Blade Rotor Diameter :- 172m (Max Tip Height @ LAT - 204m)
- 3.6MW, Hub height @ LAT:- 97m , Blade Rotor Diameter :- 130m (Max Tip Height @ LAT - 162m)
- 5MW, Hub height @ LAT:- 99.5m , Blade Rotor Diameter :- 116m (Max Tip Height @ LAT - 167m)

Modelling Methodology:-

The viewpoint assessment comprises 24 viewpoints, the locations of which have been agreed with The Highland Council.

The viewpoint assessment is illustrated by a range of tools including photographs and photomontages. The photographs used to produce the photomontages have been taken in RAW format using a Canon EOS 5D Mark II Digital SLR camera with a fixed 50mm lens. This camera has a full-frame (35 mm negative size) CMOS sensor, therefore with a fixed 50mm lens, it provides a focal length that is commonly regarded as best practice, based on the 'Guidelines for the Assessment of Landscape and Visual Effects: Second Edition' and current best practice. The camera is mounted and levelled on a Nodal Ninja panoramic head at 1.5 metres above ground to the centre of the lens. The photographs are taken in landscape format at 20 degree intervals giving a 50% overlap between frames. These are all individually cylindrically projected and then digitally joined to create a fully cylindrically projected panorama using PTGUI software. The individual images are not cropped in any way during the process.

Tonal alterations are also made using Adobe Photoshop software to create an even range of exposure across the photographs so that the individual photographs are not apparent. This process of cylindrical projection avoids the wide-angle effect that would result should these frames be arranged in a perspective projection, whereby the image is not faceted to allow for the cylindrical nature of the full 360-degree view but appears essentially as a flat plane. For this reason the most representative image of the appearance of the Development is obtained by curving the images or by viewing all parts of the panoramic images at a constant distance in order to maintain the correct viewing distance for all parts of the view.

The majority of the viewpoint photographs were taken in clear visibility with blue skies and scattered cloud, however some of the photographs show a higher level of cloud cover.

Wireline representations that illustrate the Development model, set within a computer-generated image of the landform are used in the assessment to predict the theoretical appearance of the turbines. These are produced and generated with Resoft Windfarm software using Ordnance Survey 10 metre Landform Profile DTM data.

The viewpoints are based on theoretical visibility from 1.5 metres above ground level. There are limitations in these theoretical productions, and these should be borne in mind in the consideration and use of the wireline Images. Firstly, the wireline illustrates the 'bare ground' situation, not taking into account the screening effects of vegetation, buildings, or other local features that may prevent or reduce visibility. Secondly, the wireline is based on a terrain data with 10 metre contour intervals, so there may therefore be local, small-scale landform that is not reflected in the wireline but may alter the real visibility of the Development, either by screening theoretical visibility or revealing parts of the Development that are not theoretically visible. Where descriptions within the assessment identify the numbers of turbines visible this refers to the theoretical illustrations generated and therefore the reality may differ to a degree from these impressions.

methodology

Photomontages have been produced for a number of the views, again using Resoft Windfarm software, to provide a more realistic image of how the Development might look. In all views the photomontages include the turbines.

Photographs, wirelines and, where relevant, photomontages, are shown with a 72 degree field of view, which accords with SNH and Landscape Institute guidance.

When reproduced at a size of 395mm x 144mm as is the case in this assessment, the 72-degree panoramic photographs, wirelines and photomontages should be viewed with one eye from a distance of around 314 mm in order to gain as accurate an impression as possible of the real effect on the views.

The calculation for the viewing distance is as follows: **d =** (180 x **w**) ÷ π**A**

d is the correct viewing distance in mm,
w is the width of the image in mm,
A is the horizontal field of view in degrees
π has its usual geometrical meaning.

Additionally, single frame photomontages have been included. The photographs used for these are taken at the standard focal length of 50mm and conform to the 39.6 degree horizontal field of view (HFOV) x 27 degree vertical field of view (VFOV) of the Development. The photographs are centred on the centre point of the Rochdale Envelope.

The 39.6 degree HFOV single frame photomontages, when reproduced at a size of 360mm x 240mm, as is the case in this assessment, should be viewed with both eyes from an approximate distance of 500mm in order to gain as accurate an impression as possible of the real effect on the views. This viewing distance is based on Highland Council Visualisation Standards for Wind Energy Developments (January 2010) which states that 'when viewed with both eyes, the viewing distance shall be approximately the diagonal of the page, regardless of focal length'.

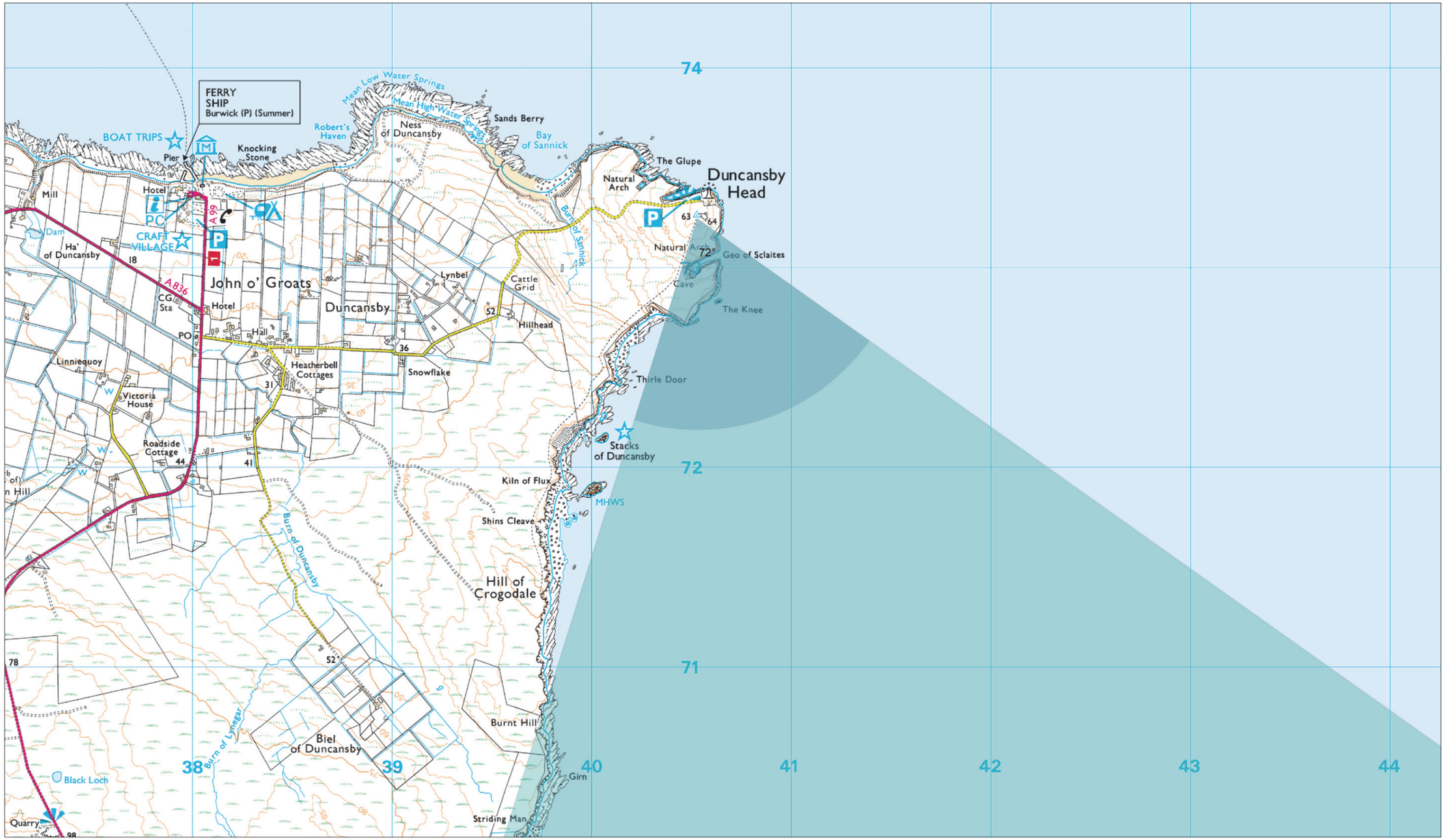
A set of single frame photomontages with a 75mm focal length are also included. These images are extracted from the 50mm master photomontage and conform to a 27-degree HFOV x 18 degree VFOV of the Development. When reproduced at a size of 360mm x 240mm, as is the case in this assessment, these should be viewed from an approximate distance of 500mm in order to gain as accurate an impression as possible of the real effect on the views. This viewing distance is based on Highland Council Visualisation Standards for Wind Energy Developments (January 2010) which states that 'when viewed with both eyes, the viewing distance shall be approximately the diagonal of the page, regardless of focal length.'

In the wirelines, the turbines are shown with the central turbines facing the viewer directly, with the full rotor diameter visible at its tallest extent. In the photomontages, the wind turbine rotors are shown with a random appearance with the blades facing the viewer.

Night time views have been included to illustrate the possible effect of lighting of the proposed turbines and the Offshore Substation Platforms (OSPs). Lighting has been simulated using 3Ds Max Software by selecting photometric lights with a lighting intensity of 2000 candela. Lights with a red filter and 2000 candela simulation have been placed on the nacelle of the perimeter turbines of each wind farm site - Telford, Stevenson and MacColl, with additional lights located in the middle of each wind farm site. Lights with a yellow filter and 2000 candela simulation have been placed at each corner of the Offshore Substation Platforms (OSPs). In the photomontages, the wind turbine rotors are shown with a random appearance with the blades facing a south west direction.

The photographs and other graphic material such as wirelines and photomontages used in this assessment are for illustrative purposes only and, whilst useful tools in the assessment, are not considered to be completely representative of what will be apparent to the human eye.

The assessments are carried out from observations in the field and therefore may include elements that are not visible in the photographs.



Viewpoint 1: Duncansby Head OSGB Grid Reference: 340528 E 973247 N Distance to nearest turbine: 41.75 km AOD: c 62 m

View from trig point near car parking area, accessed from footpath to south of Lighthouse

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

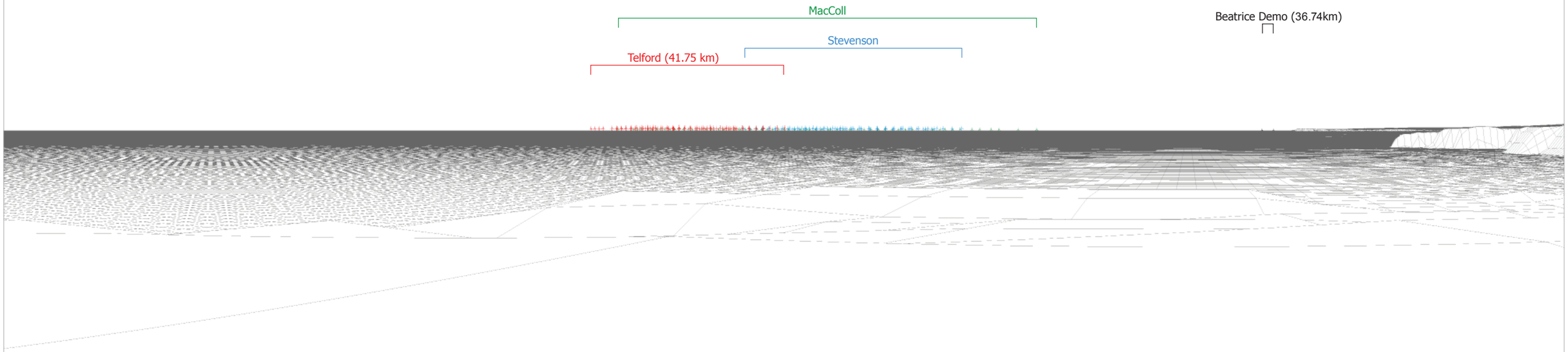
Date: 09/07/2012 | Revision: B

Ref: 8460001-PPW0201-OPE-MAP-046

Figure 8.4-13 (page 1 of 2)
Viewpoint 1: Duncansby Head Location

Moray Offshore Renewables Ltd

Existing view from Duncansby Head | Distance to nearest turbine: 41.75 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 02/09/11 | Time: 12:20



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

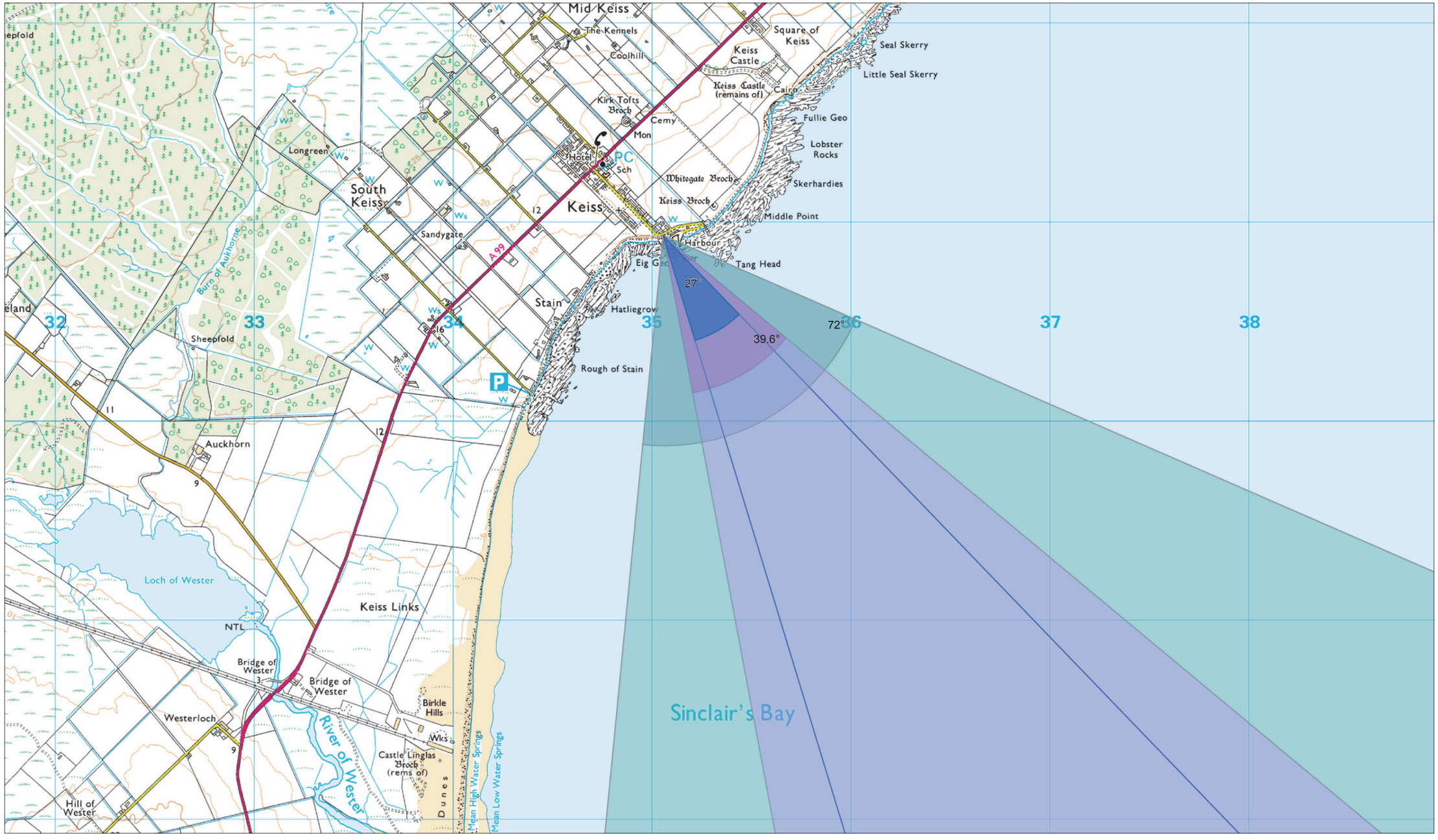
Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-13 (page 2 of 2)
Viewpoint 1: Duncansby Head

Photograph and Wireframe

Layout Scenario 4c



Viewpoint 2: Keiss Pier OSGB Grid Reference: 335055 E 960934 N Distance to nearest turbine: 34.33 km AOD: c 13 m

View from land above Keiss Harbour

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

Date: 09/07/2012 | Revision: B

Ref: 8460001-PPW0201-OPE-MAP-047

Figure 8.4-14 (page 1 of 5)
Viewpoint 2: Keiss Pier Location

Moray Offshore Renewables Ltd

Existing view from Keiss Pier | Distance to nearest turbine : 34.33 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 08/09/12 | Time: 16:12

Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-14 (page 2 of 5)
Viewpoint 2: Keiss Pier

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development | Distance to nearest turbine : 34.33 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 08/09/12 | Time: 16:12

Important Viewing Instructions

This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-14 (page 3 of 5)
Viewpoint 2: Keiss Pier

Photomontage

Layout Scenario 4c

Photomontage view from Keiss Pier | Distance to nearest turbine: 34.33 km (Telford) | Camera: Canon EOS 5D Mark II | Focal length: 50 mm | Horizontal Field of View : 39.6 degrees | Camera Height: 1.5 m | Date: 08/09/12 | Time: 16:12

This image should be viewed with both eyes from a distance of approximately 500mm*

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Figure 8.4-14 (page 4 of 5)
Viewpoint 2: Keiss Pier

Photomontage
(The Highland Council Visualisation Standards, 50 mm)
Layout Scenario 4c

Photomontage view from Keiss Pier | Distance to nearest turbine: 34.33 km (Telford) | Camera: Canon EOS 5D Mark II | Focal length: 75 mm | Horizontal Field of View : 27 degrees | Camera Height: 1.5 m | Date: 08/09/12 | Time: 16:12

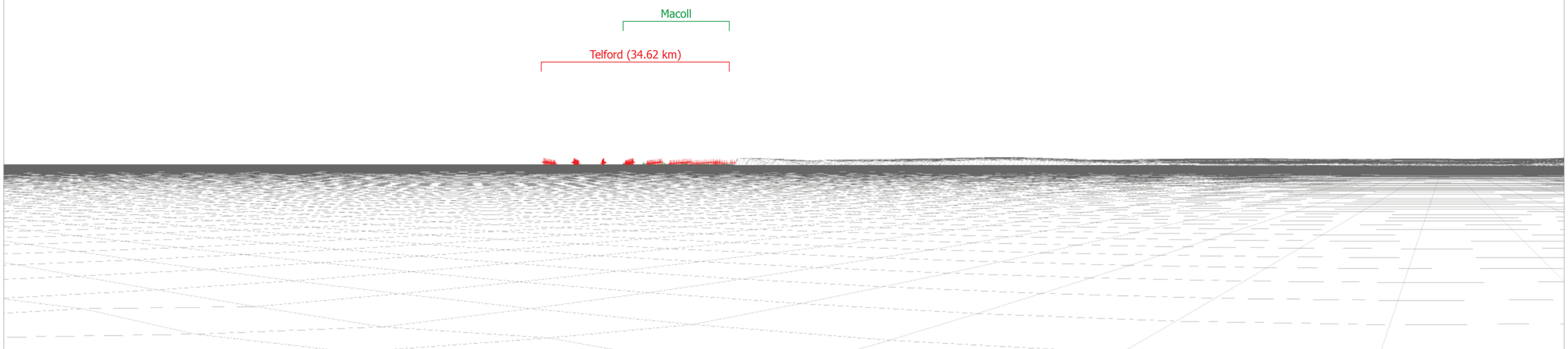
This image should be viewed with both eyes from a distance of approximately 500mm*

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Figure 8.4-14 (page 5 of 5)
Viewpoint 2: Keiss Pier

Photomontage
(The Highland Council Visualisation Standards, 75 mm)
Layout Scenario 4c

Existing view from Keiss Pier | Distance to nearest turbine: 34.62 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 08/09/12 | Time: 16:12



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

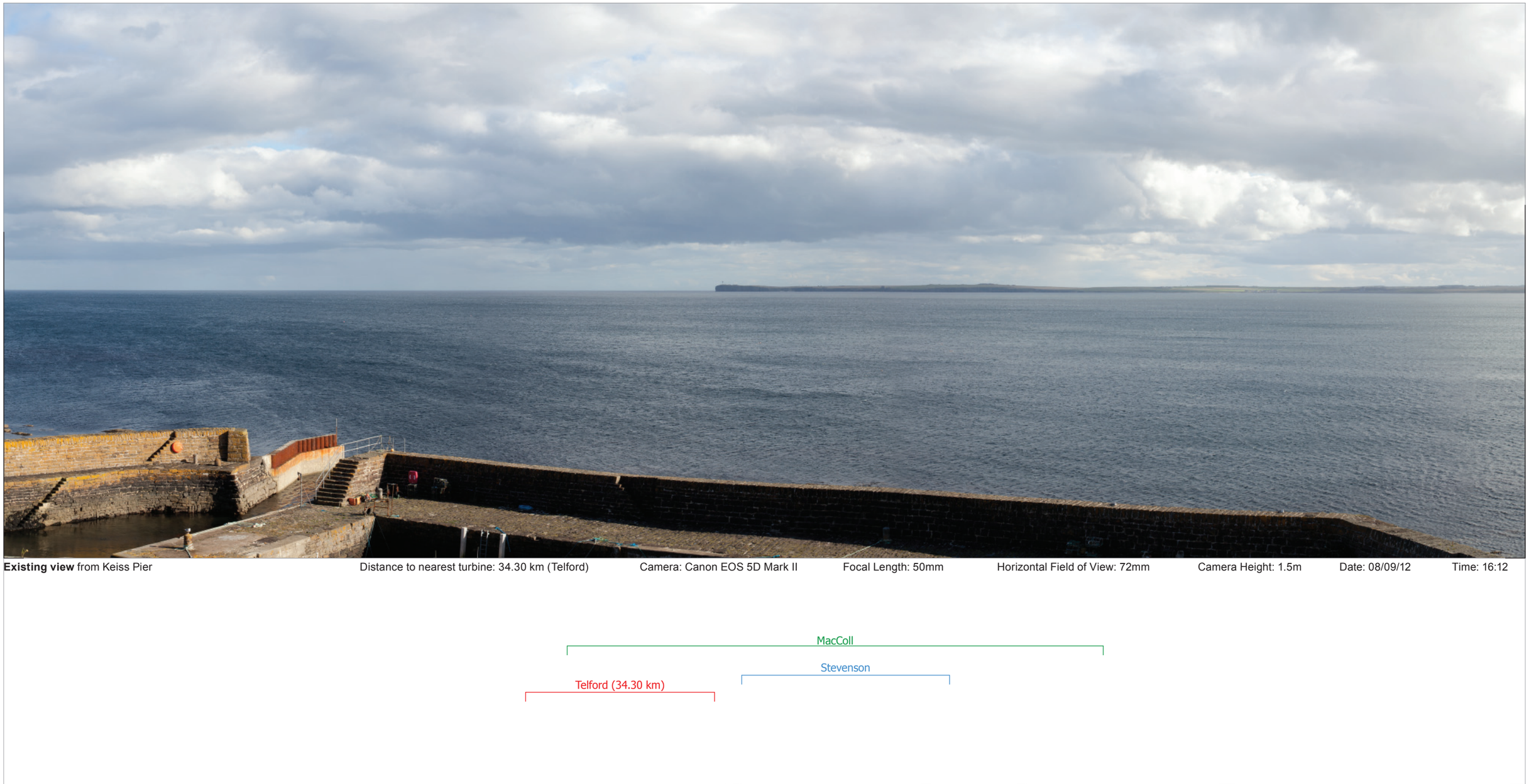
The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-048	

Figure 8.4-14a
Viewpoint 2: Keiss Pier

Photograph and Wireframe

Layout Scenario 1c



Existing view from Keiss Pier | Distance to nearest turbine: 34.30 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 08/09/12 | Time: 16:12

Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

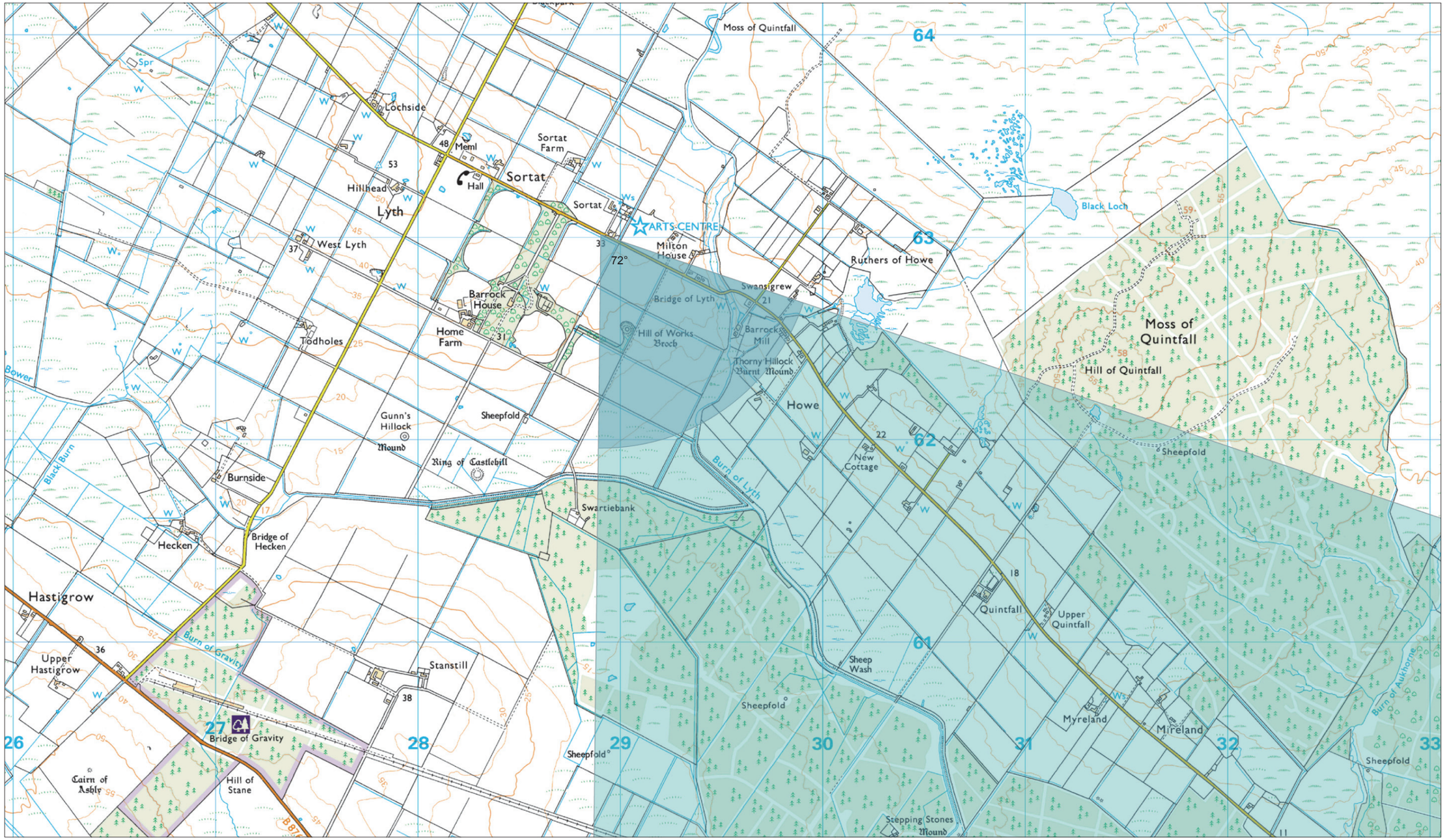
The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-049	

Figure 8.4-14b
Viewpoint 2: Keiss Pier

Photograph and Wireframe

Layout Scenario 5c



Viewpoint 3: Sortat OSGB Grid Reference: 328903 E 963016 N Distance to nearest turbine: 40.11 km AOD: c 34 m

View from near Lyth Arts Centre in Sortat on side of minor road that provides access and links across north-eastern part of Caithness.

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Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

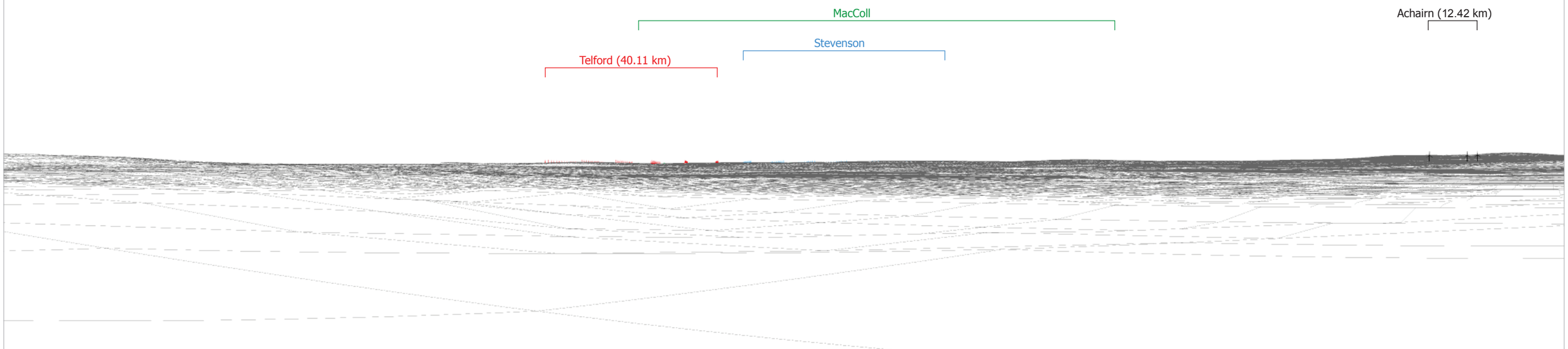
Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-050

Figure 8.4-15 (page 1 of 2)
Viewpoint 3: Sortat Location

Moray Offshore Renewables Ltd

Existing view from Sortat | Distance to nearest turbine: 40.11 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 02/09/11 | Time: 13:55



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

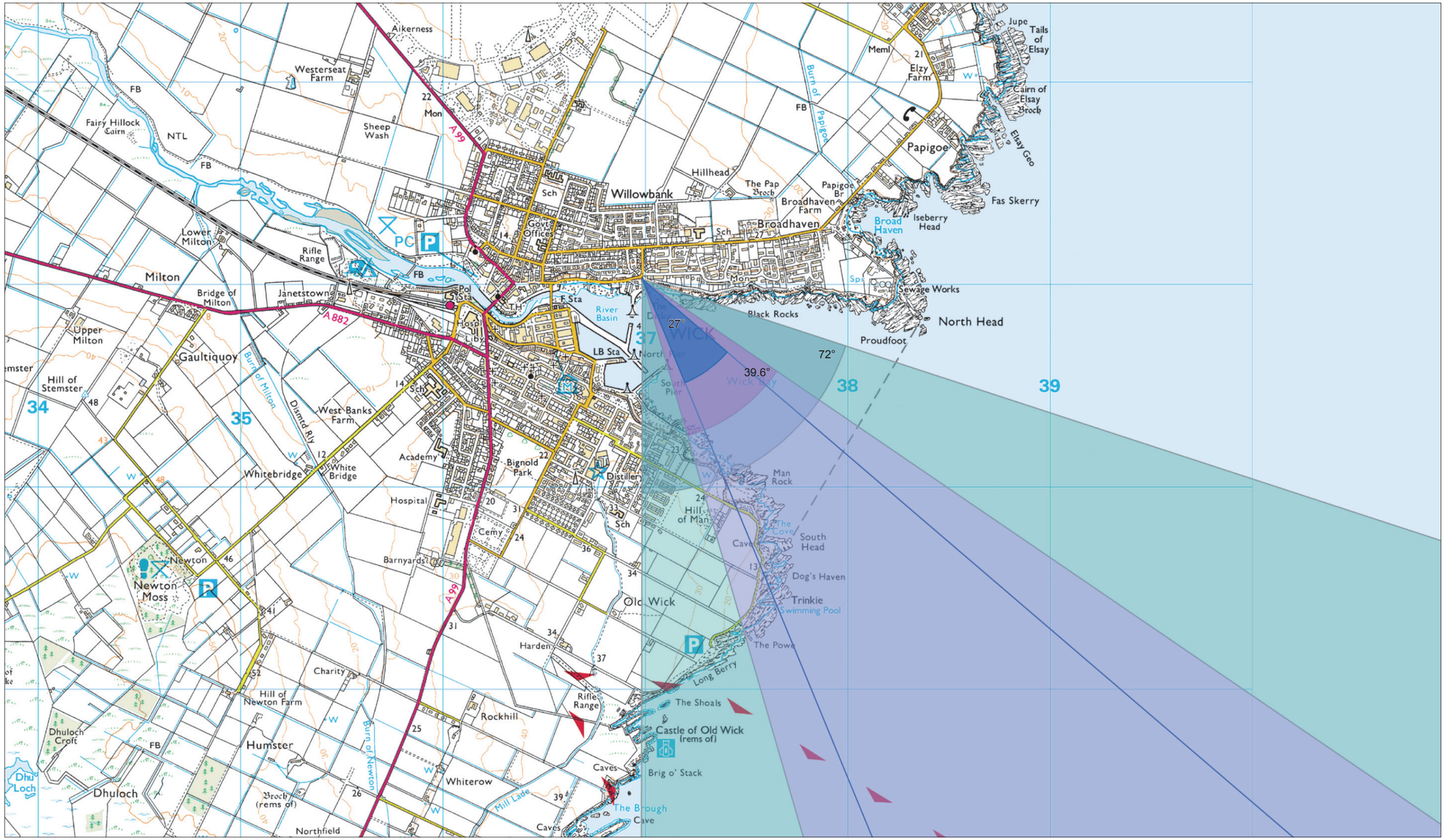
Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-15 (page 2 of 2)
Viewpoint 3: Sortat

Photograph and Wireframe

Layout Scenario 4c



Viewpoint 4: Wick Bay OSGB Grid Reference: 336985 E 951027 N Distance to nearest turbine: 26.16 km AOD: c 12 m

View from northern edge of Wick Bay, on Scalesburn Road pavement.

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

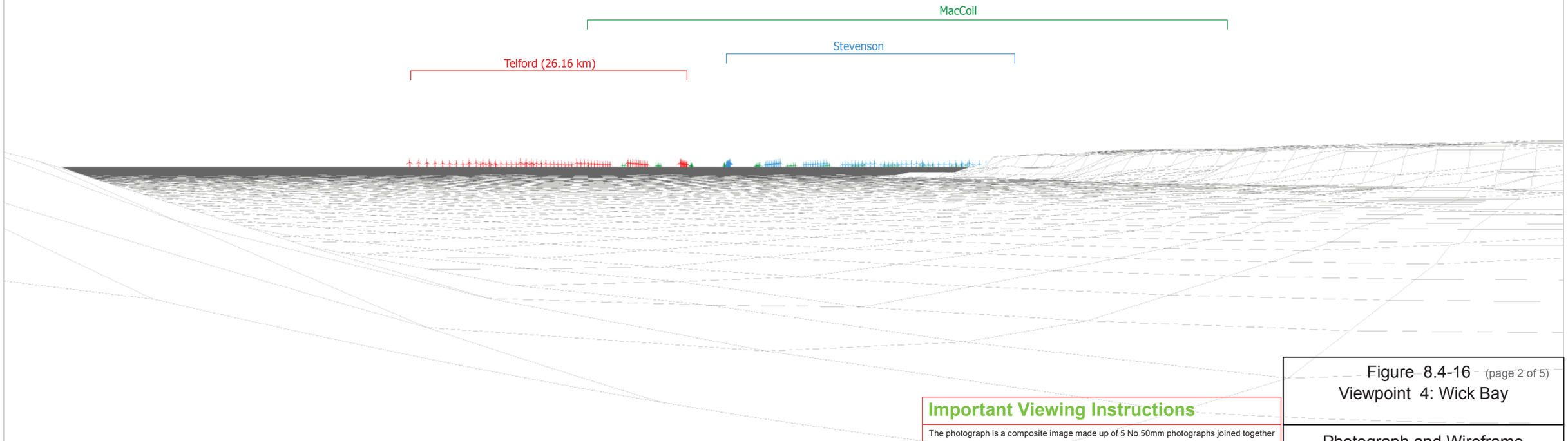
Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-051

Figure 8.4-16 (page 1 of 5)
Viewpoint 4: Wick Bay Location

Moray Offshore Renewables Ltd

Existing view from Wick Bay | Distance to nearest turbine: 26.16 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 08/09/12 | Time: 16:30



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-16 (page 2 of 5)
Viewpoint 4: Wick Bay

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development	Distance to nearest turbine: 26.16 km (Telford)	Camera: Canon EOS 5D Mark II	Focal Length: 50mm	Horizontal Field of View: 72 degrees	Camera Height: 1.5m	Date: 08/09/12	Time: 16:30

Important Viewing Instructions

This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-16 (page 3 of 5)
Viewpoint 4: Wick Bay

Photomontage

Layout Scenario 4c

Photomontage view from Wick Bay | Distance to nearest turbine: 26.16 km (Telford) | Camera: Canon EOS 5D Mark II | Focal length: 50 mm | Horizontal Field of View : 39.6 degrees | Camera Height: 1.5 m | Date: 08/09/12 | Time: 16:30

This image should be viewed with both eyes from a distance of approximately 500mm*

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Figure 8.4-16 (page 4 of 5)
Viewpoint 4: Wick Bay

Photomontage
(The Highland Council Visualisation Standards, 50 mm)
Layout Scenario 4c

Photomontage view from Wick Bay | Distance to nearest turbine: 26.16 km (Telford) | Camera: Canon EOS 5D Mark II | Focal length: 75 mm | Horizontal Field of View : 27 degrees | Camera Height: 1.5 m | Date: 08/09/12 | Time: 16:30

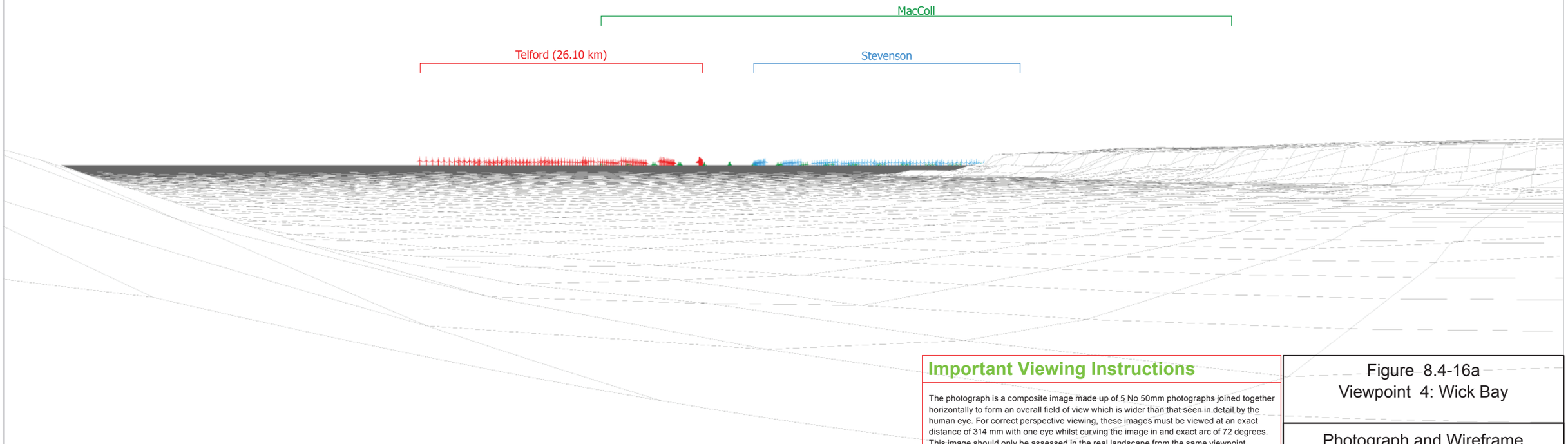
This image should be viewed with both eyes from a distance of approximately 500mm*

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Figure 8.4-16 (page 5 of 5)
Viewpoint 4: Wick Bay

Photomontage
(The Highland Council Visualisation Standards, 75 mm)
Layout Scenario 4c

Existing view from Wick Bay | Distance to nearest turbine: 26.10 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 08/09/12 | Time: 16:12



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

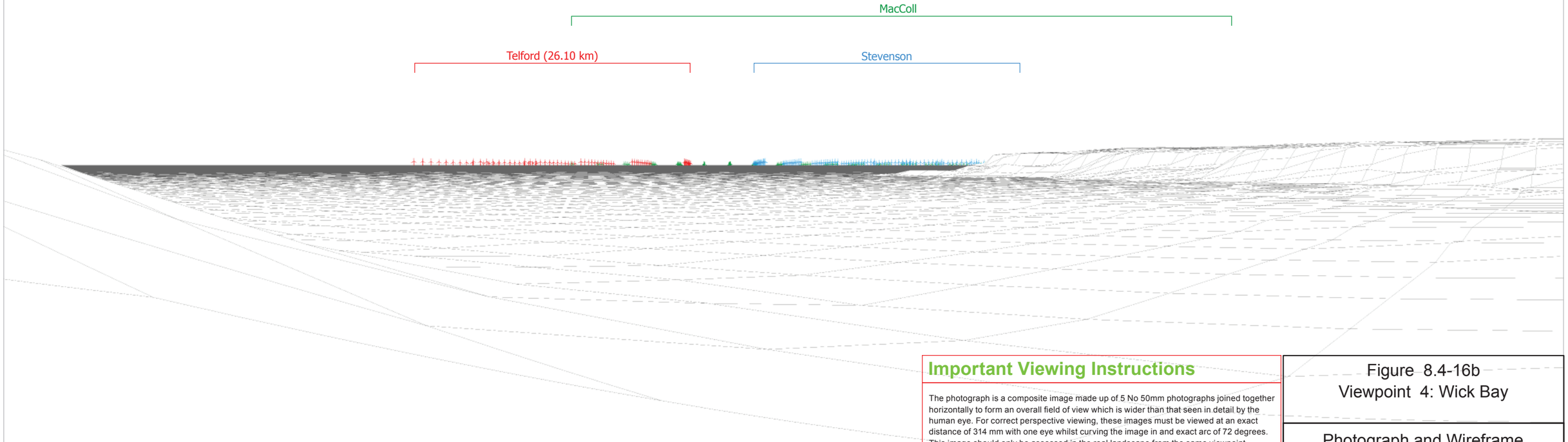
Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-052	

Figure 8.4-16a
Viewpoint 4: Wick Bay

Photograph and Wireframe

Layout Scenario 1c

Existing view from Wick Bay | Distance to nearest turbine: 26.10 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 08/09/12 | Time: 16:12



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-053	

Figure 8.4-16b
Viewpoint 4: Wick Bay

Photograph and Wireframe

Layout Scenario 5c

Existing night time view from Wick Bay | Distance to nearest turbine: 26.10 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 09/05/12 | Time: 22:31

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-054	

Figure 8.4-16c
Viewpoint 4: Wick Bay
(Night time view)

Photograph

Layout Scenario 4c

Distance to nearest turbine: 26.16 km (Telford) Camera: Canon EOS 5D Mark II Focal length: 50 mm Horizontal Field of View : 39.6 degrees Camera Height: 1.5 m Date: 09/05/12 Time: 22:31

This image should be viewed with both eyes from a distance of approximately 500mm*

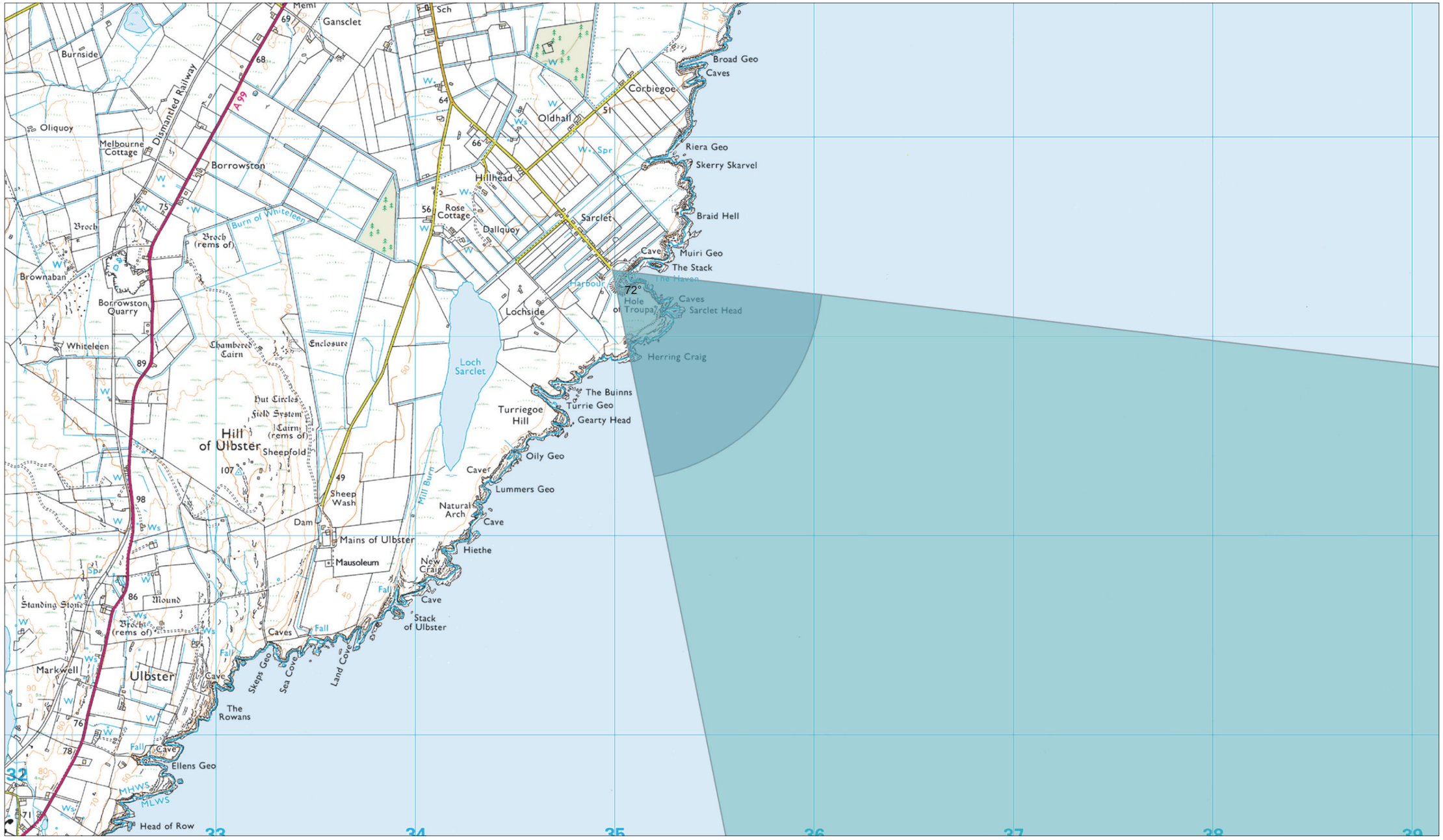
Computer generated visual representation showing possible effect of night time lighting of the Telford, Stevenson and MacColl Wind Farm sites and Offshore Substation Platforms from Wick Bay

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-055	

Figure 8.4-16d
Viewpoint 4: Wick Bay
(Night time view)

Photomontage
(The Highland Council Visualisation Standards, 50 mm)
Layout Scenario 4c



Viewpoint 5: Sarclet (Sarclet Haven Info Board) OSGB Grid Reference: 334989 E 943334 N Distance to nearest turbine: 23.59 km AOD: c 40 m

View from end of minor road leading to informal footpath to Sarclet Haven.

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

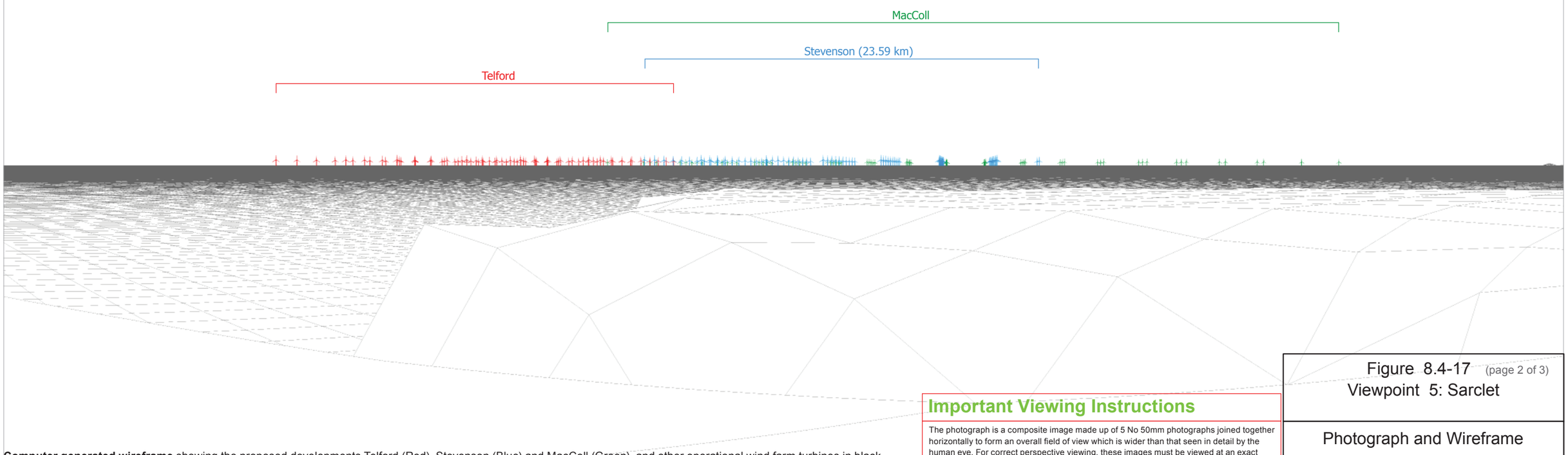
Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-056

Figure 8.4-17 (page 1 of 3)
Viewpoint 5: Sarclet Location

Moray Offshore Renewables Ltd

Existing view from Sarclet (Sarclet Haven Info Board) | Distance to nearest turbine: 23.59 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 03/09/11 | Time: 13:07



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-17
Viewpoint 5: Sarclet

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development | Distance to nearest turbine: 23.59 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 03/09/11 | Time: 13:07

Important Viewing Instructions

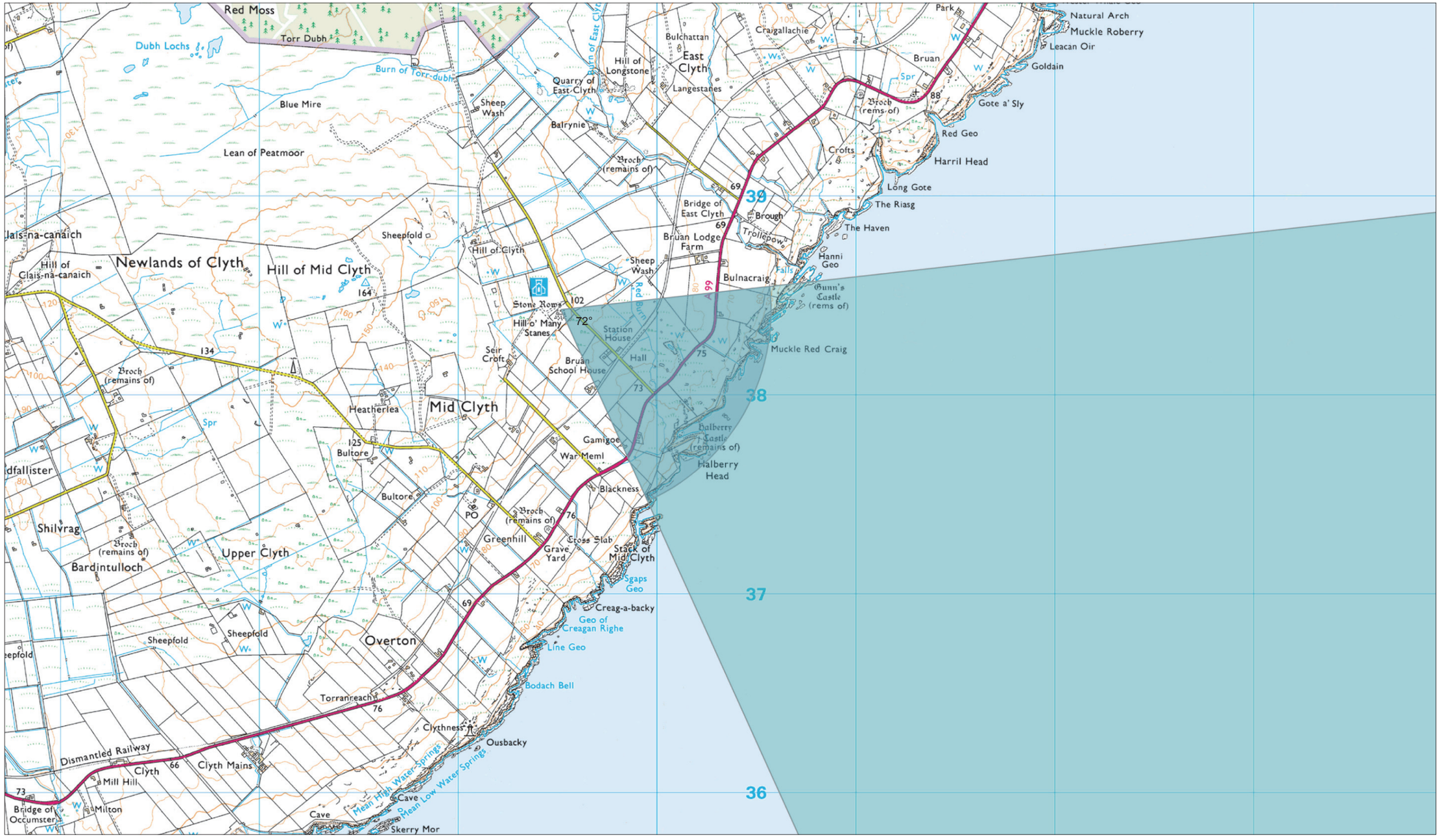
This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-17 (page 3 of 3)
Viewpoint 5: Sarclet

Photomontage

Layout Scenario 4c



Viewpoint 6: Hill O' Many Stanes OSGB Grid Reference: 329516 E 938430 N Distance to nearest turbine: 24.44 km AOD: c 103 m

View from footpath at Hill O' Many Stanes

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

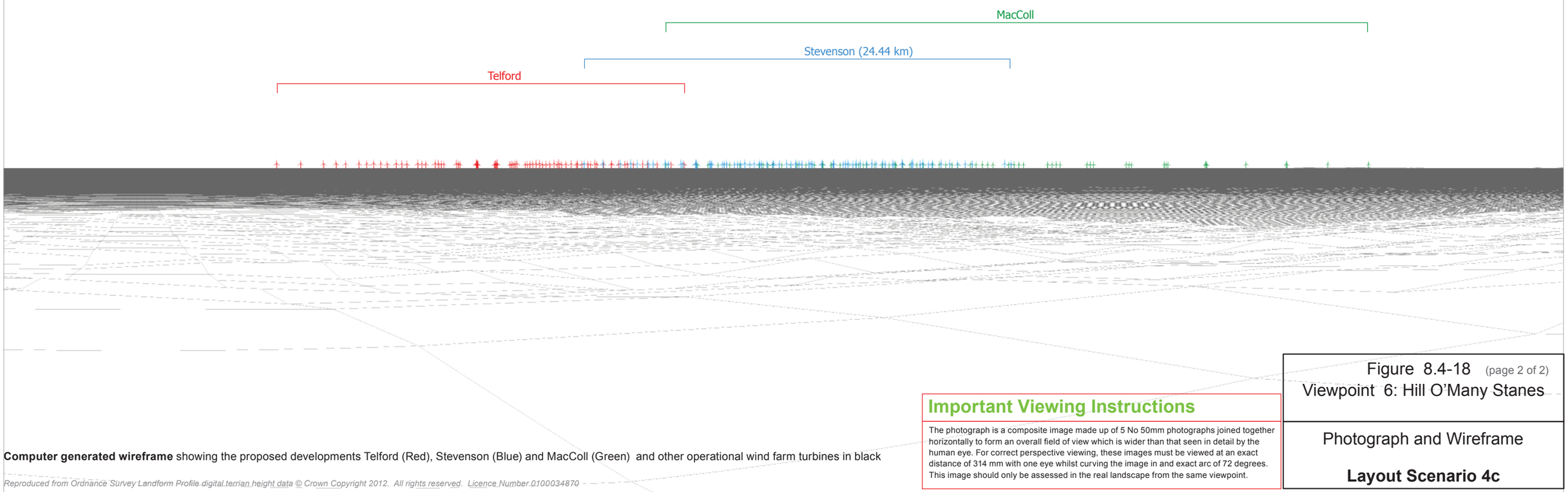
Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-057

Figure 8.4-18 (page 1 of 2)
Viewpoint 6: Hill O'Many Stanes

Moray Offshore Renewables Ltd

Existing view from Hill O' Many Stanes | Distance to nearest turbine: 24.44 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 03/09/11 | Time: 15:04



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-18 (page 2 of 2)
Viewpoint 6: Hill O'Many Stanes

Photograph and Wireframe

Layout Scenario 4c

Viewpoint 7: Lybster (end of Main Street) OSGB Grid Reference: 324843 E 935082 N Distance to nearest turbine: 26.88 km AOD: c 54 m

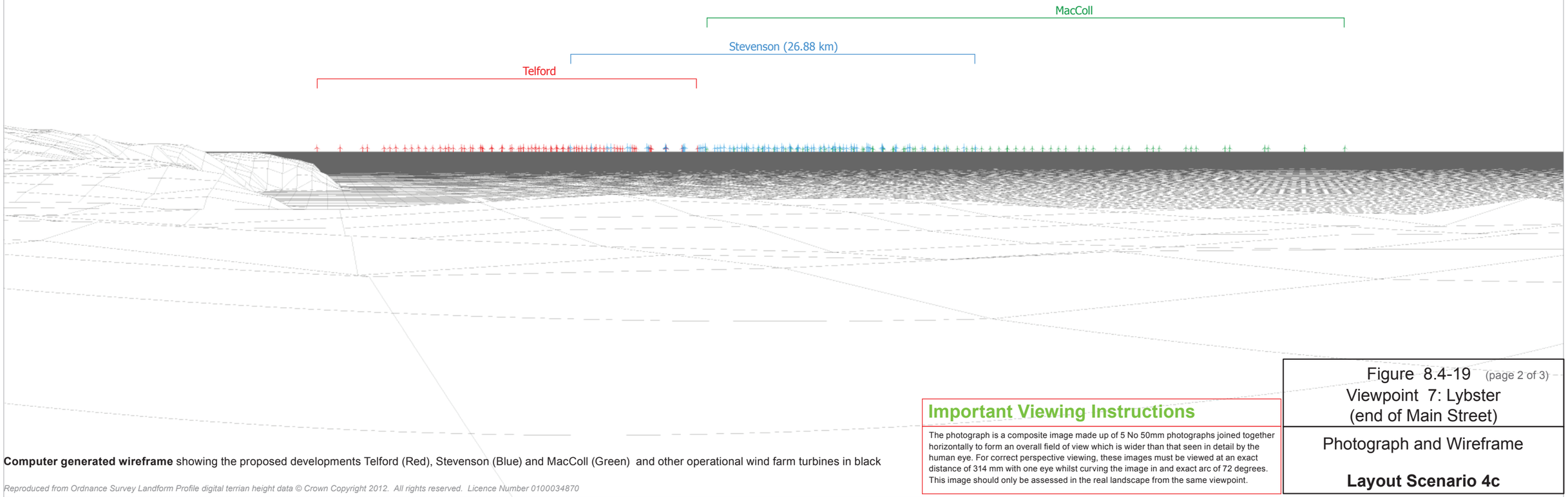
View from end of Main Street in Lybster

edp renewables / REPSOL **Moray Offshore Renewables Ltd**		Scale in metres: 1: 20,000 (0, 250, 500m) Geodetic Parameters: WGS84 UTM Zone 30N Produced: LT Reviewed: SM Approved: SM N Date: 09/07/2012 Revision: B Ref: 8460001-PPW0201-OPE-MAP-058

Figure 8.4-19 (page 1 of 3)
Viewpoint 7: Lybster (end of Main Street) Location

Moray Offshore Renewables Ltd

Existing view from Lybster (end of Main Street) | Distance to nearest turbine: 26.88 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 08/09/11 | Time: 16:56



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-19
Viewpoint 7: Lybster
(end of Main Street)

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development | Distance to nearest turbine: 26.88 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 08/09/11 | Time: 16:56

Important Viewing Instructions

This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-19 (page 3 of 3)
Viewpoint 7: Lybster
(end of Main Street)

Photomontage

Layout Scenario 4c

Viewpoint 8: Latheron (A9) OSGB Grid Reference: 319803 E 933152 N Distance to nearest turbine: 30.95 km AOD: c 80 m

View from just inside stone enclosure, close to layby on A9 to south of Latheron

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

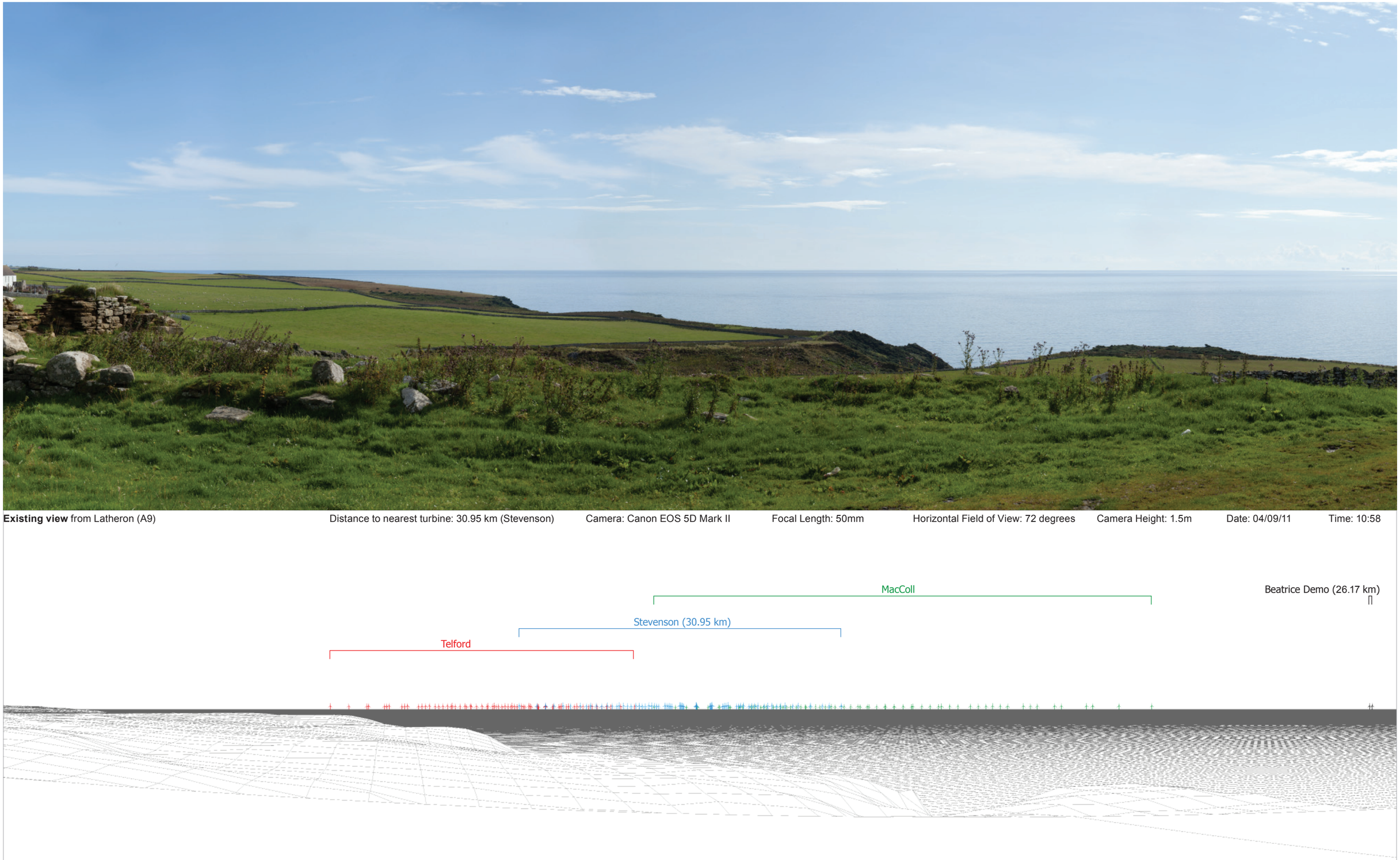
Produced: LT
Reviewed: SM
Approved: SM

Date: 09/07/2012 | Revision: B

Ref: 8460001-PPW0201-OPE-MAP-059

Figure 8.4-20 (page 1 of 3)
Viewpoint 8: Latheron (A9)

Moray Offshore Renewables Ltd



Existing view from Latheron (A9) | Distance to nearest turbine: 30.95 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 04/09/11 | Time: 10:58

Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-20
Viewpoint 8: Latheron (A9)

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development	Distance to nearest turbine: 30.95 km (Stevenson)	Camera: Canon EOS 5D Mark II	Focal Length: 50mm	Horizontal Field of View: 72 degrees	Camera Height: 1.5m	Date: 04/09/11	Time: 10:58

Important Viewing Instructions

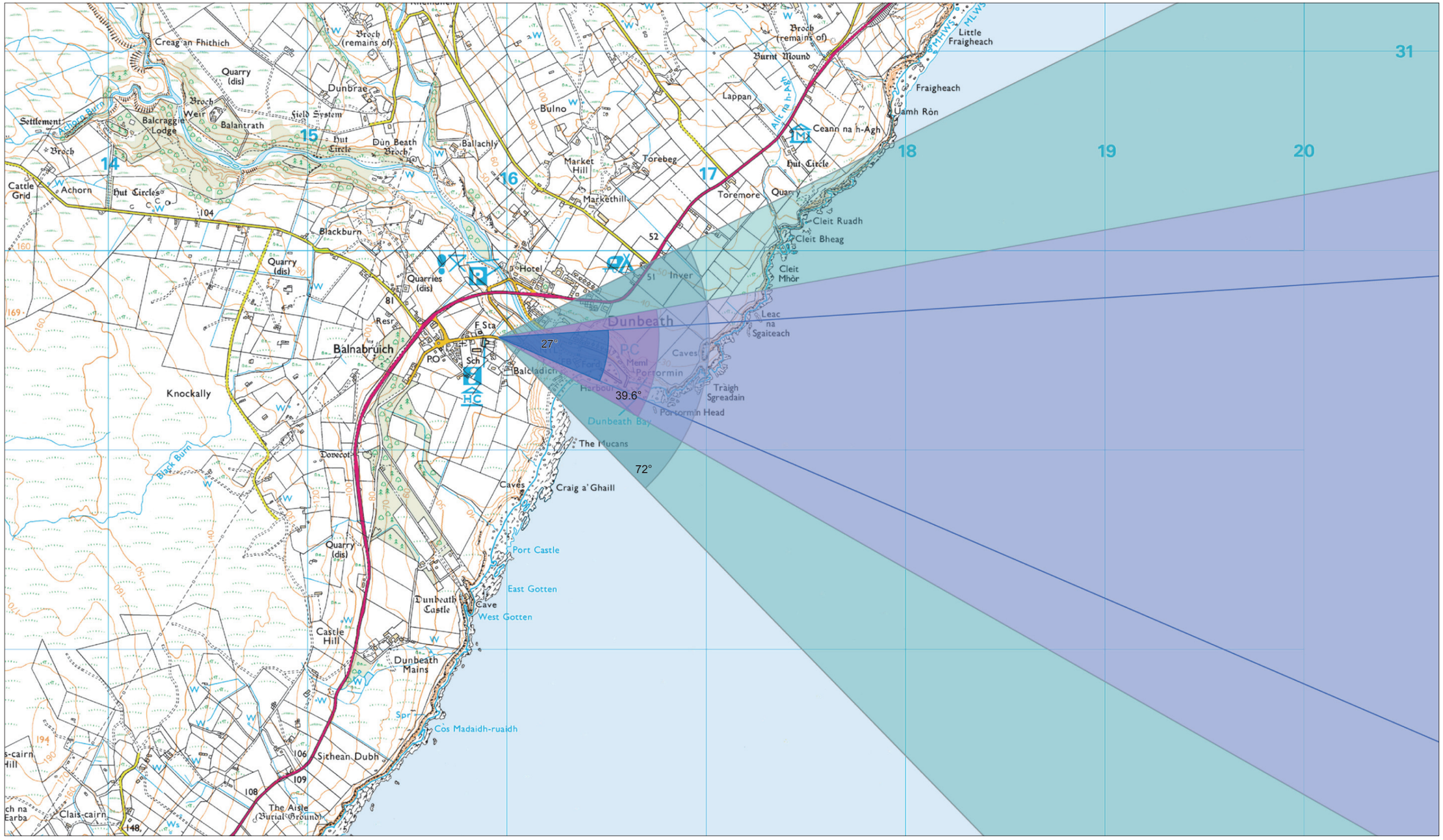
This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-20 (page 3 of 3)
Viewpoint 8: Latheron (A9)

Photomontage

Layout Scenario 4c

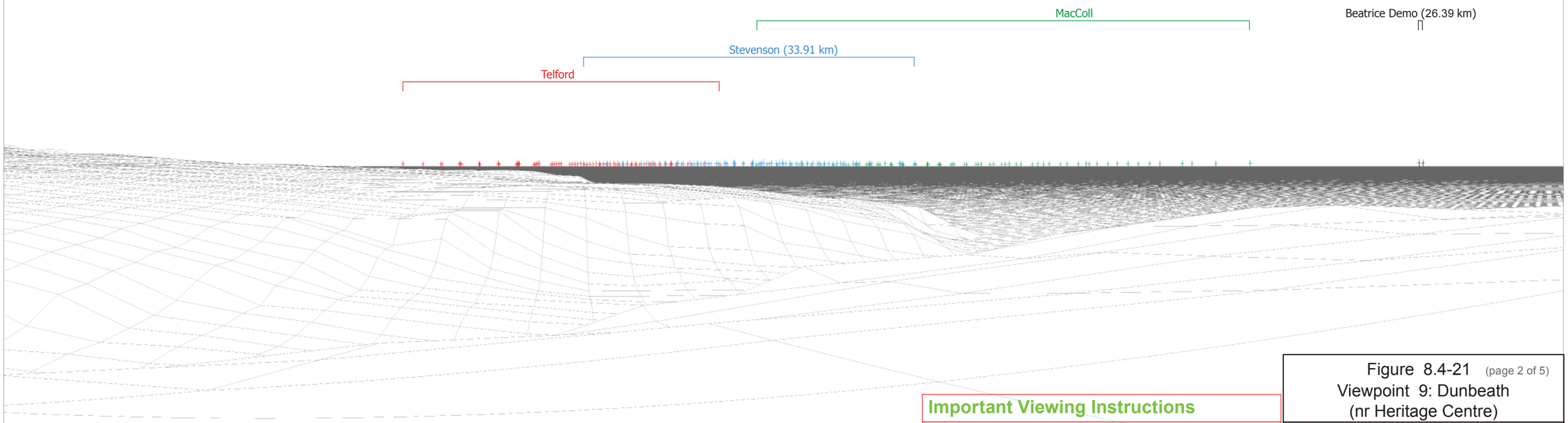


Viewpoint 9: Dunbeath (nr Heritage Centre) OSGB Grid Reference: 315957 E 929567 N Distance to nearest turbine: 33.91 km AOD: c 51 m

View from minor road near Dunbeath Heritage Centre

Moray Offshore Renewables Ltd	Scale in metres: 1: 20,000 (0, 250, 500m)	Figure 8.4-21 (page 1 of 5) Viewpoint 9: Dunbeath (nr Heritage Centre) Location
	Geodetic Parameters: WGS84 UTM Zone 30N	
	Produced: LT Reviewed: SM Approved: SM N	Moray Offshore Renewables Ltd
	Date: 09/07/2012 Revision: B	
	Ref: 8460001-PPW0201-OPE-MAP-060	

Existing view from Dunbeath (nr Heritage Centre) | Distance to nearest turbine: 33.91 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 04/09/12 | Time: 11:47



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-21
Viewpoint 9: Dunbeath
(nr Heritage Centre)

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development | Distance to nearest turbine: 33.91 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 04/09/12 | Time: 11:47

Important Viewing Instructions

This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-21 (page 3 of 5)
Viewpoint 9: Dunbeath
(nr Heritage Centre)

Photomontage

Layout Scenario 4c

Photomontage view from Dunbeath (nr Heritage Centre) | Distance to nearest turbine: 33.91 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal length: 50 mm | Horizontal Field of View : 39.6 degrees | Camera Height: 1.5 m | Date: 04/09/12 | Time: 11:47

This image should be viewed with both eyes from a distance of approximately 500mm*

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Figure 8.4-21 (page 4 of 5)
Viewpoint 9: Dunbeath
(nr Heritage Centre)

Photomontage
(The Highland Council Visualisation Standards, 50 mm)
Layout Scenario 4c

Photomontage view from Dunbeath (nr Heritage Centre) | Distance to nearest turbine: 33.91 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal length: 75 mm | Horizontal Field of View : 27 degrees | Camera Height: 1.5 m | Date: 04/09/12 | Time: 11:47

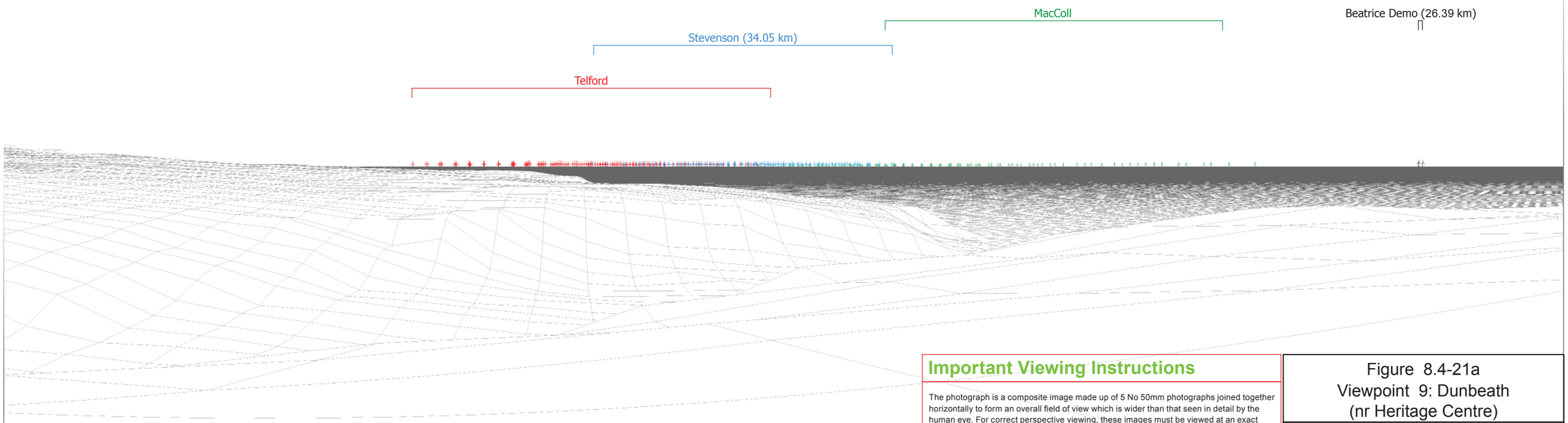
This image should be viewed with both eyes from a distance of approximately 500mm*

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Figure 8.4-21 (page 5 of 5)
Viewpoint 9: Dunbeath
(nr Heritage Centre)

Photomontage
(The Highland Council Visualisation Standards, 75 mm)
Layout Scenario 4c

Existing view from Dunbeath (nr Heritage Centre) | Distance to nearest turbine: 34.05 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 04/09/12 | Time: 11:47



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-061	

Figure 8.4-21a
Viewpoint 9: Dunbeath
(nr Heritage Centre)

Photograph and Wireframe

Layout Scenario 1c

Existing view from Dunbeath (nr Heritage Centre) | Distance to nearest turbine: 34.05 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 04/09/12 | Time: 11:47

Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-062	

Figure 8.4-21b
Viewpoint 9: Dunbeath
(nr Heritage Centre)

Photograph and Wireframe

Layout Scenario 5c

Existing night time view from Dunbeath (nr Heritage Centre) | Distance to nearest turbine: 33.91 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 09/05/12 | Time: 21:47

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-063	

Figure 8.4-21c
Viewpoint 9: Dunbeath
(Night time view)

Photograph

Layout Scenario 4c

Distance to nearest turbine: 33.91 km (Stevenson) Camera: Canon EOS 5D Mark II Focal length: 50 mm Horizontal Field of View : 39.6 degrees Camera Height: 1.5 m Date: 09/05/12 Time: 21:47

This image should be viewed with both eyes from a distance of approximately 500mm*

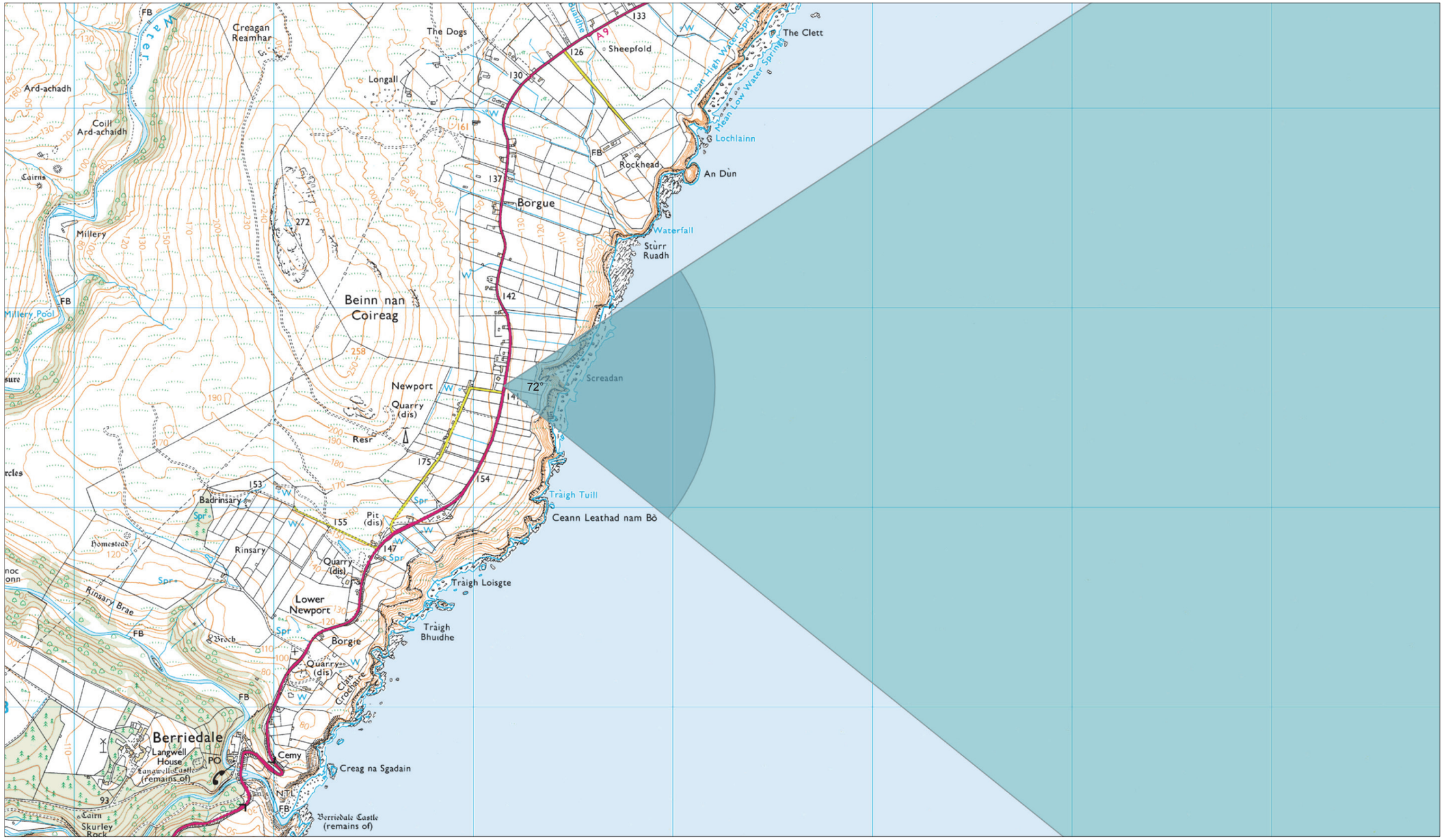
Computer generated visual representation showing possible effect of night time lighting of the Telford, Stevenson and MacColl Wind Farm sites and Offshore Substation Platforms from Dunbeath (nr Heritage Centre)

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-064	

Figure 8.4-21d
Viewpoint 9: Dunbeath
(Night time view)

Photomontage
(The Highland Council Visualisation Standards, 50 mm)
Layout Scenario 4c



Viewpoint 10: Berriedale (A9) OSGB Grid Reference: 313153 E 924611 N Distance to nearest turbine: 36.31 km AOD: c 143 m

Viewpoint taken at junction with minor road off A9 at Newport on stretch of A9 between Berriedale and Borgue.

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0 250 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

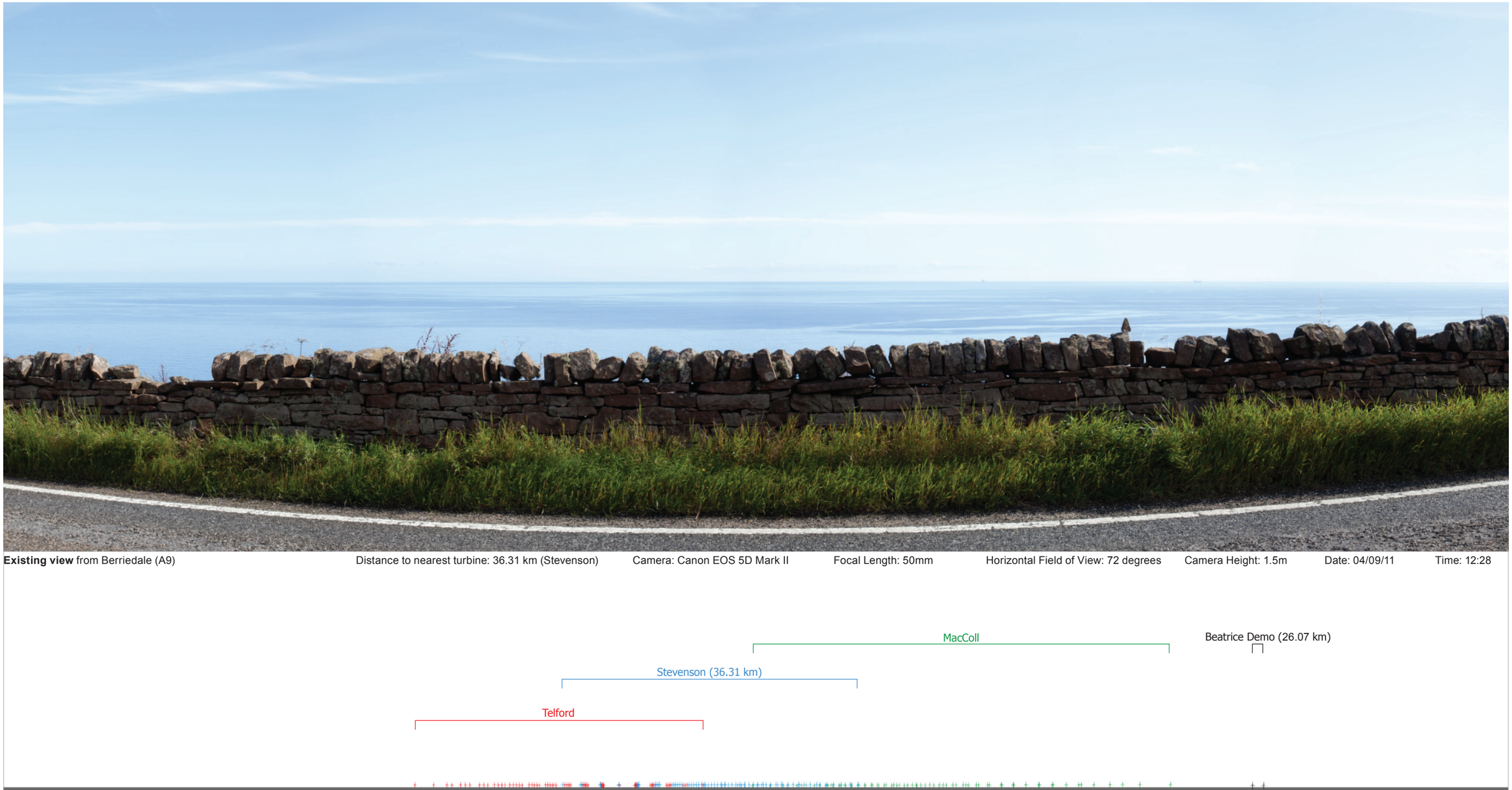
N

Date: 09/07/2012 Revision: B

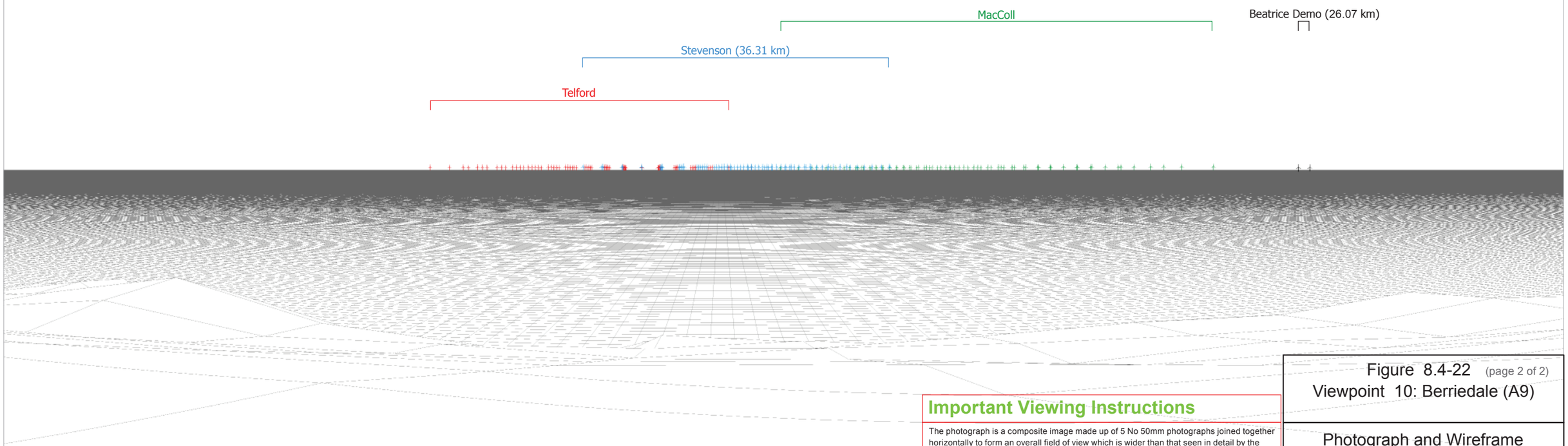
Ref: 8460001-PPW0201-OPE-MAP-065

Figure 8.4-22 (page 1 of 2)
Viewpoint 10: Berriedale (A9) Location

Moray Offshore Renewables Ltd



Existing view from Berriedale (A9) | Distance to nearest turbine: 36.31 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 04/09/11 | Time: 12:28



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

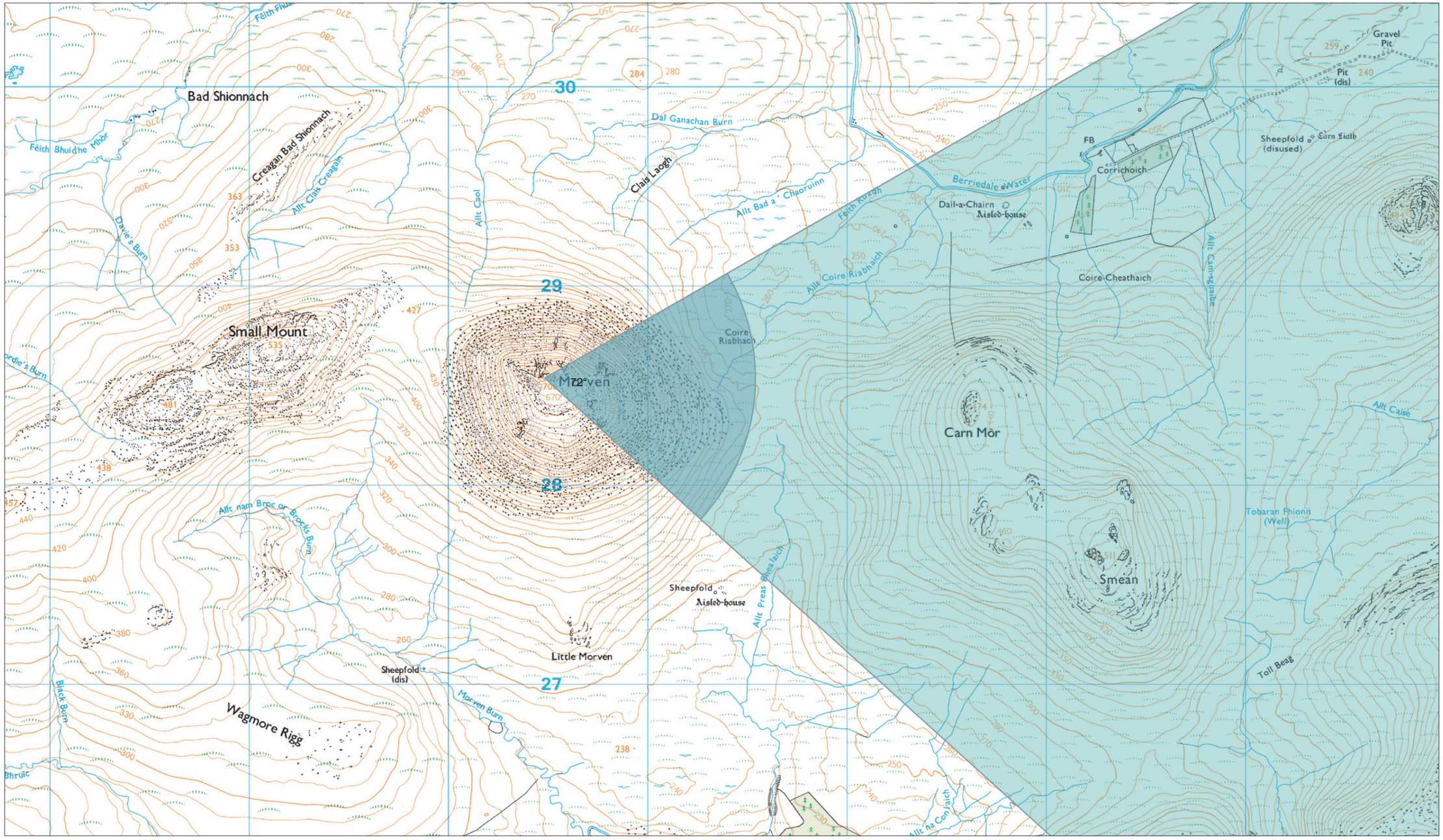
Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-22 (page 2 of 2)
Viewpoint 10: Berriedale (A9)

Photograph and Wireframe

Layout Scenario 4c



Viewpoint 11: Morven OSGB Grid Reference: 300482 E 928539 N Distance to nearest turbine: 49.16 km AOD: c 704 m

Viewpoint taken from rocky summit of Morven (706m AOD)

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-066

Figure 8.4-23 (page 1 of 2)
Viewpoint 11: Morven Location

Moray Offshore Renewables Ltd

Existing view from Morven | Distance to nearest turbine: 49.16 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 05/09/11 | Time: 13:06

Buolfruich (16.63 km)

MacColl

Beatrice Demo (39.22 km)

Stevenson (49.16 km)

Telford

Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

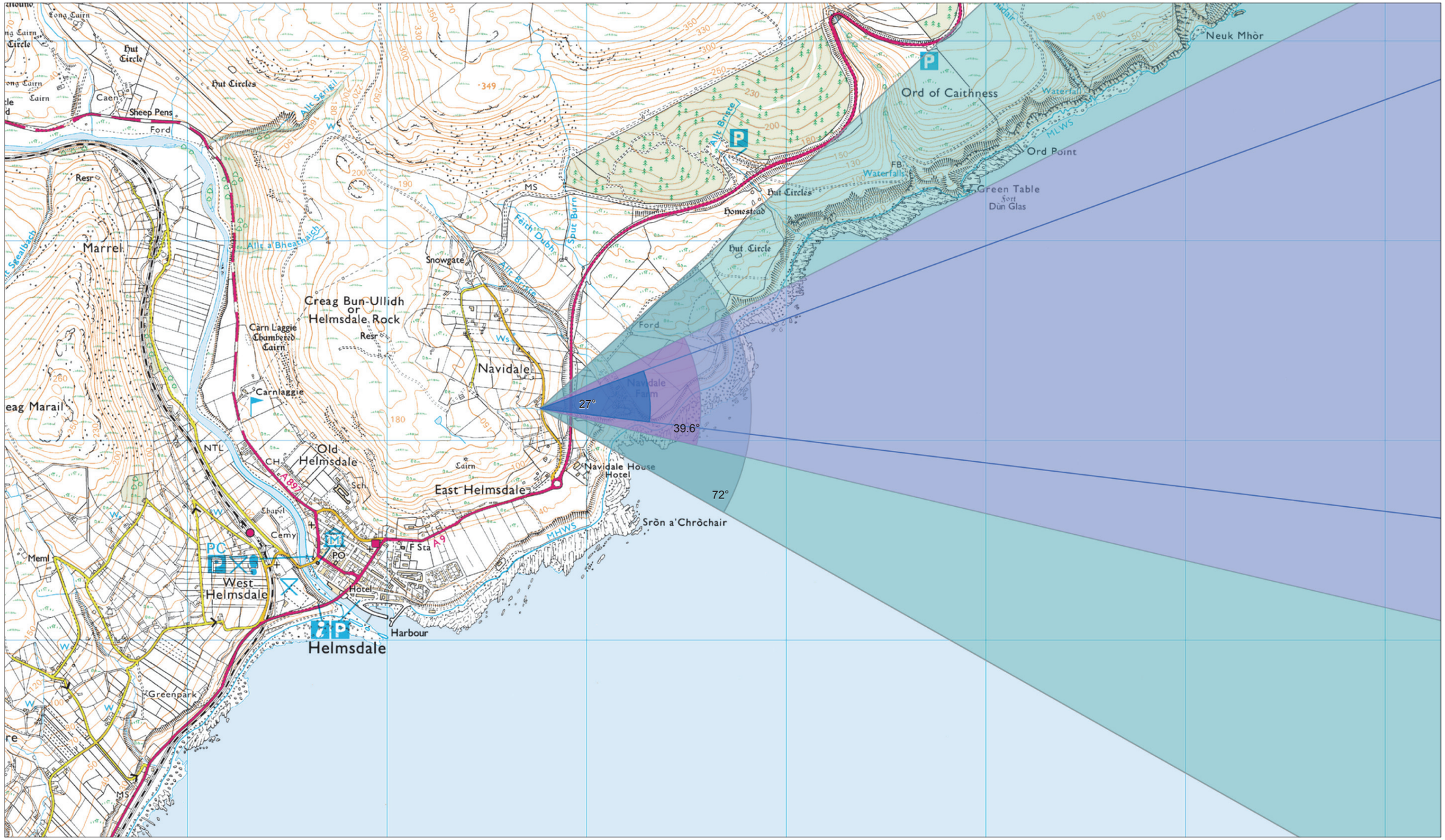
Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-23
Viewpoint 11: Morven

Photograph and Wireframe

Layout Scenario 4c



Viewpoint 12: Navidale OSGB Grid Reference: 303766 E 916161 N Distance to nearest turbine: 44.89 km AOD: c 81 m

View from minor road to Navidale off East Helmsdale roundabout

edp renewables REPSOL

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

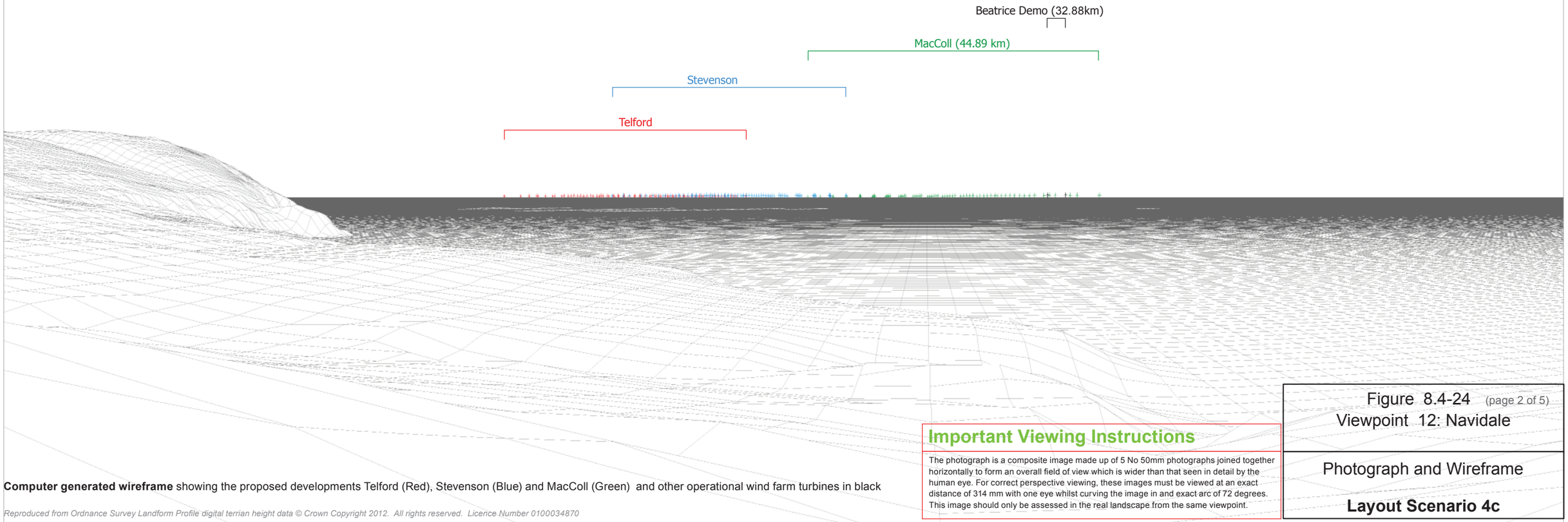
Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-067

Figure 8.4-24 (page 1 of 5)
Viewpoint 12: Navidale Location

Moray Offshore Renewables Ltd

Existing view from Navidale | Distance to nearest turbine: 44.89 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 04/09/12 | Time: 13:02



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-24 (page 2 of 5)
Viewpoint 12: Navidale

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development | Distance to nearest turbine: 44.89 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 04/09/12 | Time: 13:02

Important Viewing Instructions

This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-24 (page 3 of 5)
Viewpoint 12: Navidale

Photomontage

Layout Scenario 4c

Photomontage view from Navidale | Distance to nearest turbine: 44.89 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal length: 50 mm | Horizontal Field of View : 39.6 degrees | Camera Height: 1.5 m | Date: 04/09/12 | Time: 12:59

This image should be viewed with both eyes from a distance of approximately 500mm*

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Figure 8.4-24 (page 4 of 5)
Viewpoint 12: Navidale

Photomontage
(The Highland Council Visualisation Standards, 50 mm)
Layout Scenario 4c

Photomontage view from Navidale | Distance to nearest turbine: 44.89 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal length: 75 mm | Horizontal Field of View : 27 degrees | Camera Height: 1.5 m | Date: 04/09/12 | Time: 12:59

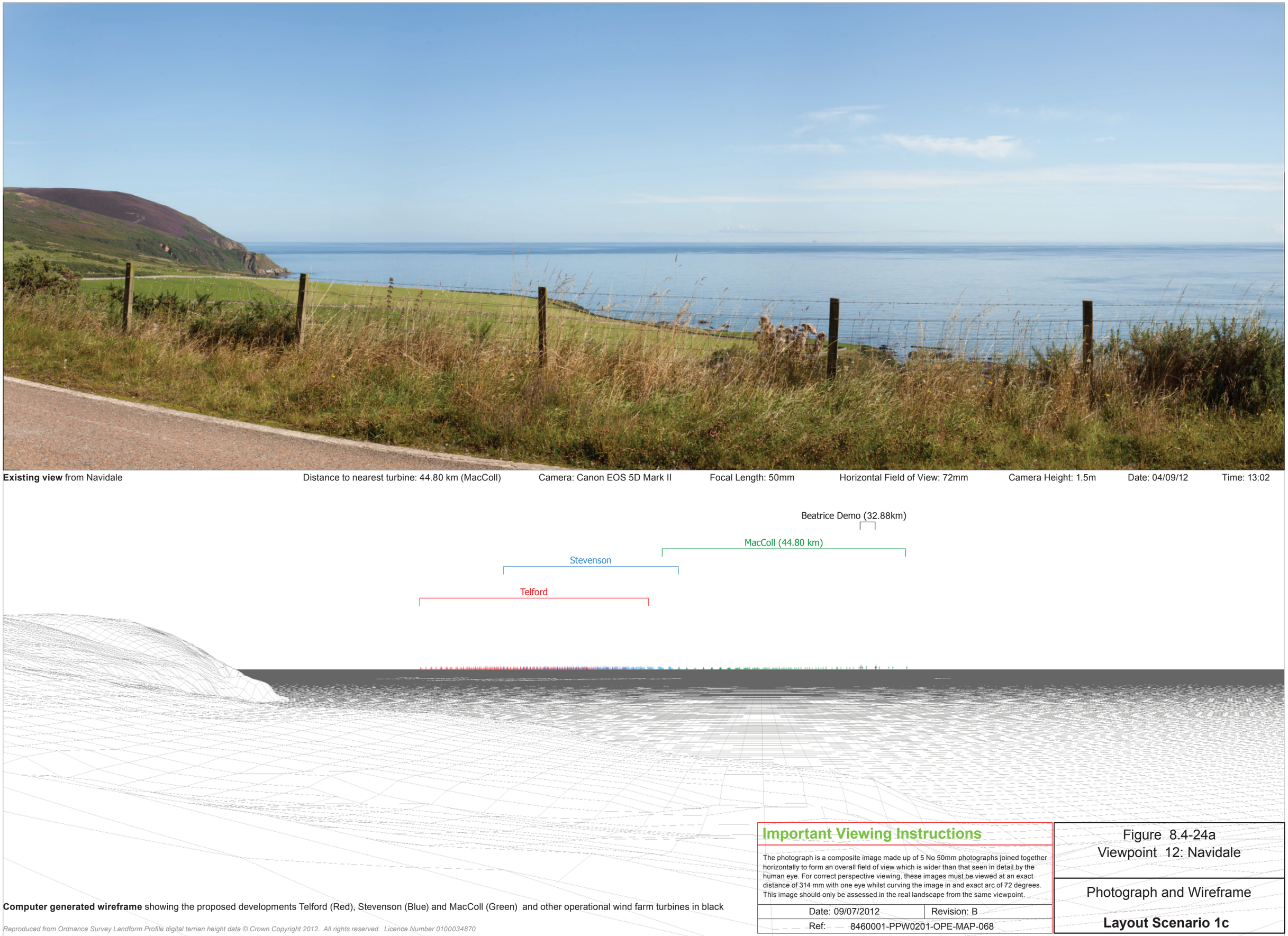
This image should be viewed with both eyes from a distance of approximately 500mm*

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Figure 8.4-24 (page 5 of 5)
Viewpoint 12: Navidale

Photomontage
(The Highland Council Visualisation Standards, 75 mm)
Layout Scenario 4c

Existing view from Navidale | Distance to nearest turbine: 44.80 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 04/09/12 | Time: 13:02



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

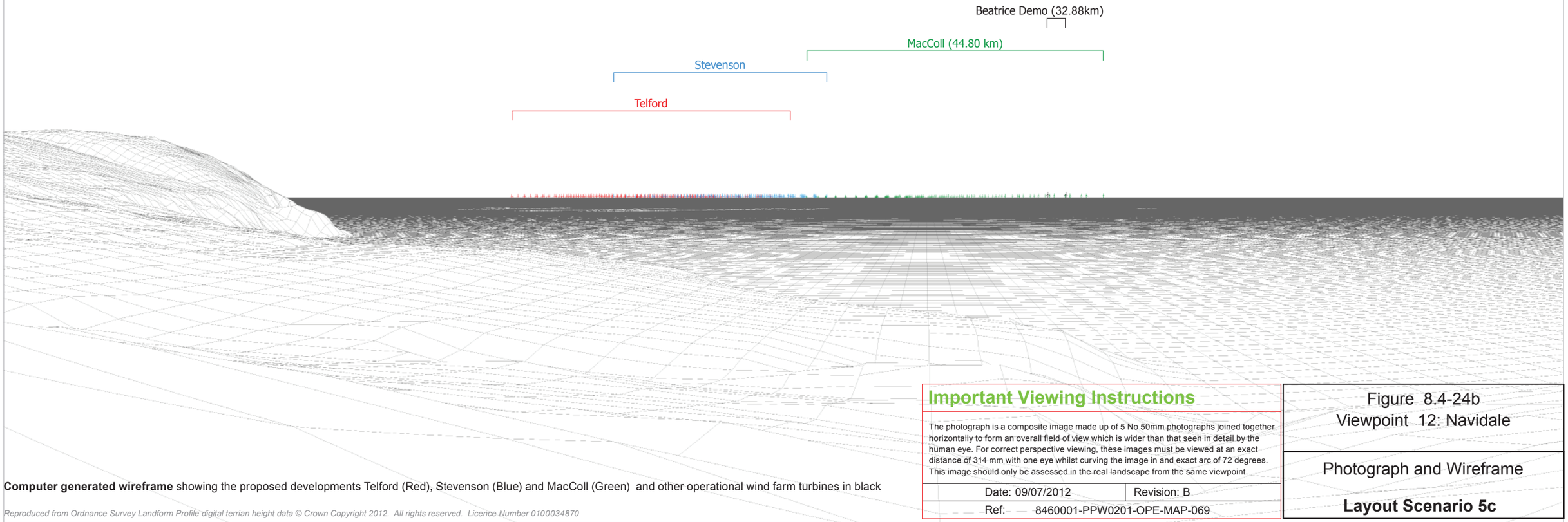
Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-068	

Figure 8.4-24a
Viewpoint 12: Navidale

Photograph and Wireframe

Layout Scenario 1c

Existing view from Navidale | Distance to nearest turbine: 44.80 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: xx/09/12 | Time: xx:xx



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

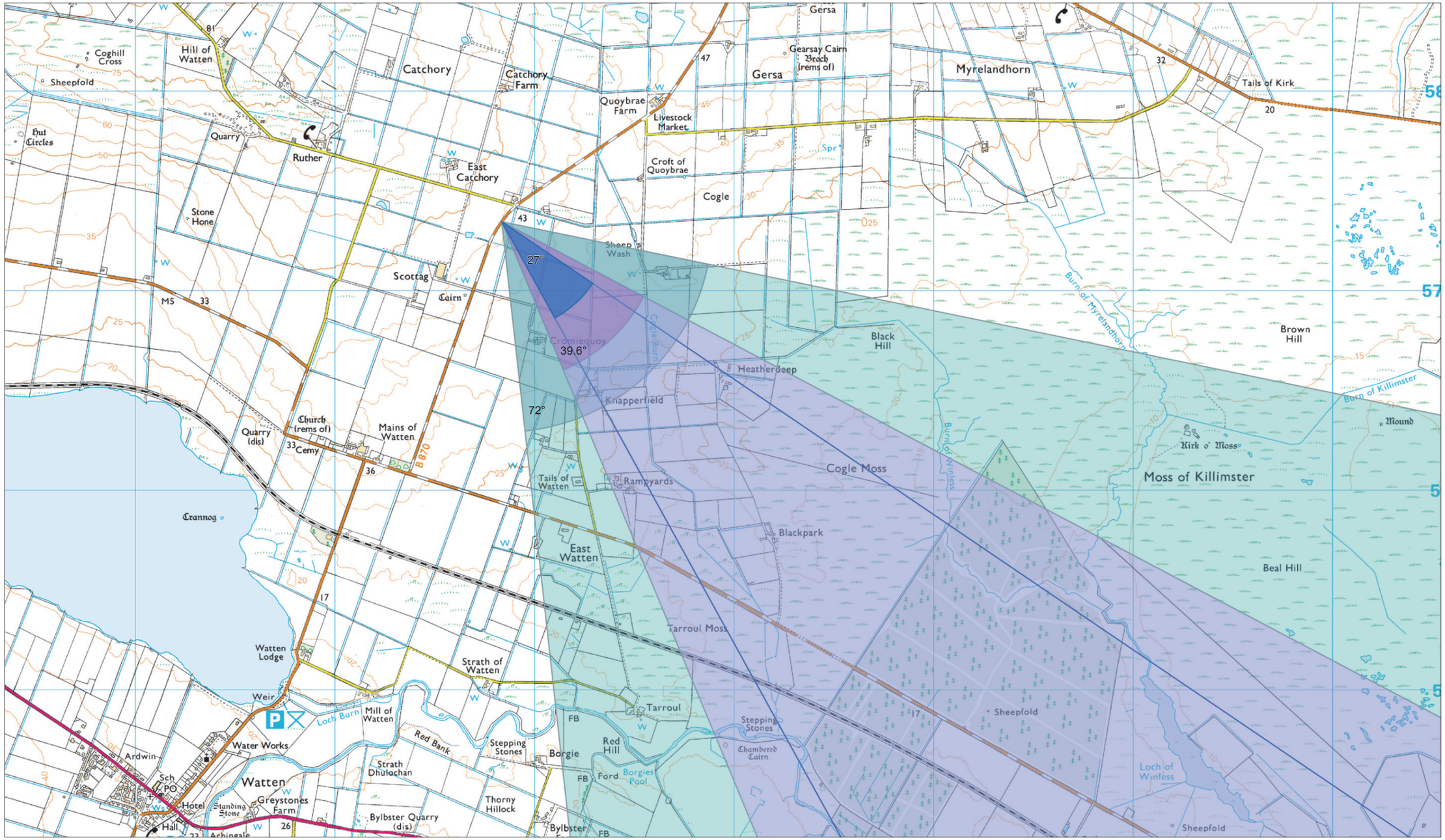
The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-069	

Figure 8.4-24b
Viewpoint 12: Navidale

Photograph and Wireframe

Layout Scenario 5c



Viewpoint 13: Catchory OSGB Grid Reference: 325836 E 957348 N Distance to nearest turbine: 38.90 km AOD: c 46 m

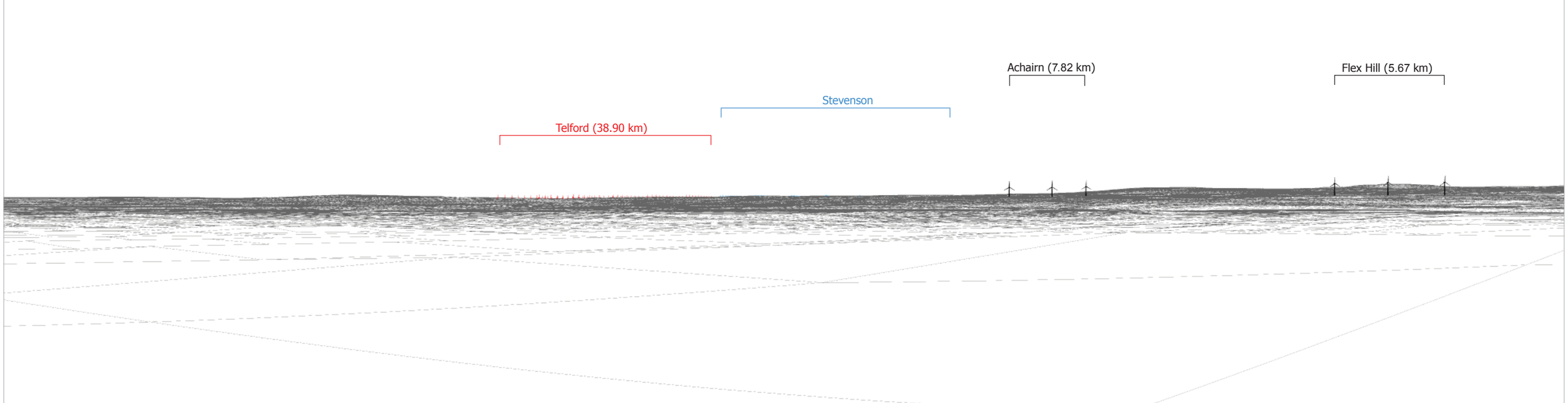
View from B870 near East Catchory

edp renewables REPSOL **Moray Offshore Renewables Ltd**		Scale in metres: 1: 20,000 (0, 250, 500m) Geodetic Parameters: WGS84 UTM Zone 30N Produced: LT Reviewed: SM Approved: SM N Date: 09/07/2012 Revision: B Ref: 8460001-PPW0201-OPE-MAP-070

Figure 8.4-25 (page 1 of 5)
Viewpoint 13: Catchory Location

Moray Offshore Renewables Ltd

Existing view from Catchory | Distance to nearest turbine: 38.90 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 02/09/12 | Time: 14:45



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-25 (page 2 of 5)
Viewpoint 13: Catchory

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development | Distance to nearest turbine: 38.90 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 02/09/12 | Time: 14:45

Important Viewing Instructions

This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-25 (page 3 of 5)
Viewpoint 13: Catchory

Photomontage

Layout Scenario 4c

Photomontage view from Catchory | Distance to nearest turbine: 38.90 km (Telford) | Camera: Canon EOS 5D Mark II | Focal length: 50 mm | Horizontal Field of View : 39.6 degrees | Camera Height: 1.5 m | Date: 02/09/12 | Time: 14:43

This image should be viewed with both eyes from a distance of approximately 500mm*

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Figure 8.4-25 (page 4 of 5)
Viewpoint 13: Catchory

Photomontage
(The Highland Council Visualisation Standards, 50 mm)
Layout Scenario 4c

Photomontage view from Catchory | Distance to nearest turbine: 38.90 km (Telford) | Camera: Canon EOS 5D Mark II | Focal length: 75 mm | Horizontal Field of View : 27 degrees | Camera Height: 1.5 m | Date: 02/09/12 | Time: 14:43

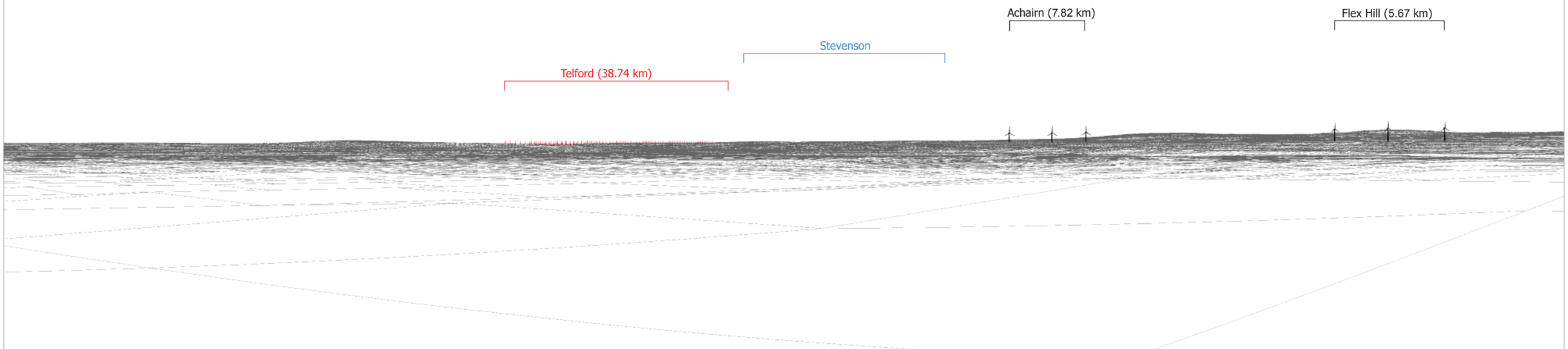
This image should be viewed with both eyes from a distance of approximately 500mm*

**Calculation of viewing distance from The Highland Council ''Visualisation Standards for Wind Energy Developments (January 2010)''.*

Figure 8.4-25 (page 5 of 5)
Viewpoint 13: Catchory

Photomontage
(The Highland Council Visualisation Standards, 75 mm)
Layout Scenario 4c

Existing view from Catchory | Distance to nearest turbine: 38.74 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 02/09/12 | Time: 14:45



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

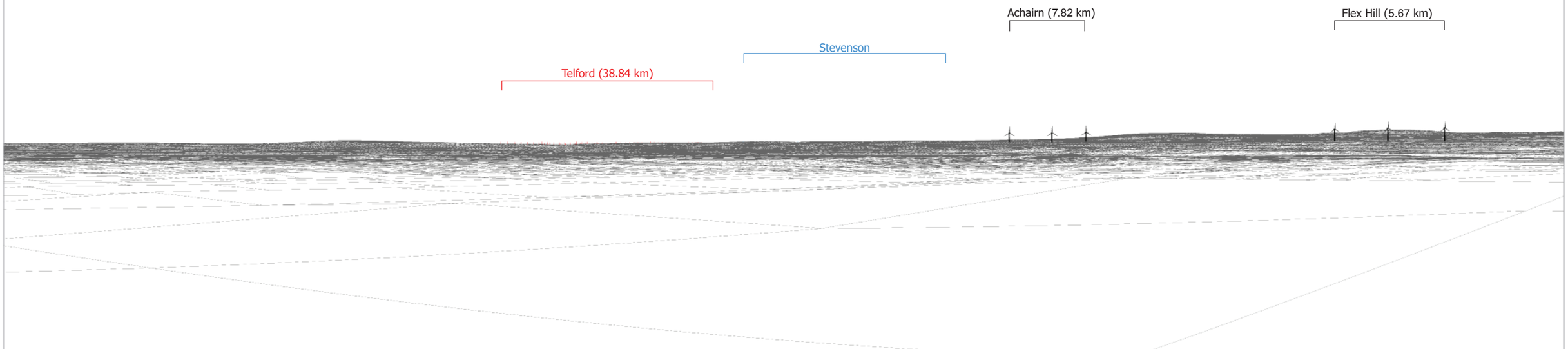
Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-071	

Figure 8.4-25a
Viewpoint 13: Catchory

Photograph and Wireframe

Layout Scenario 1c

Existing view from Catchory | Distance to nearest turbine: 38.84 km (Telford) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72mm | Camera Height: 1.5m | Date: 02/09/12 | Time: 14:45



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

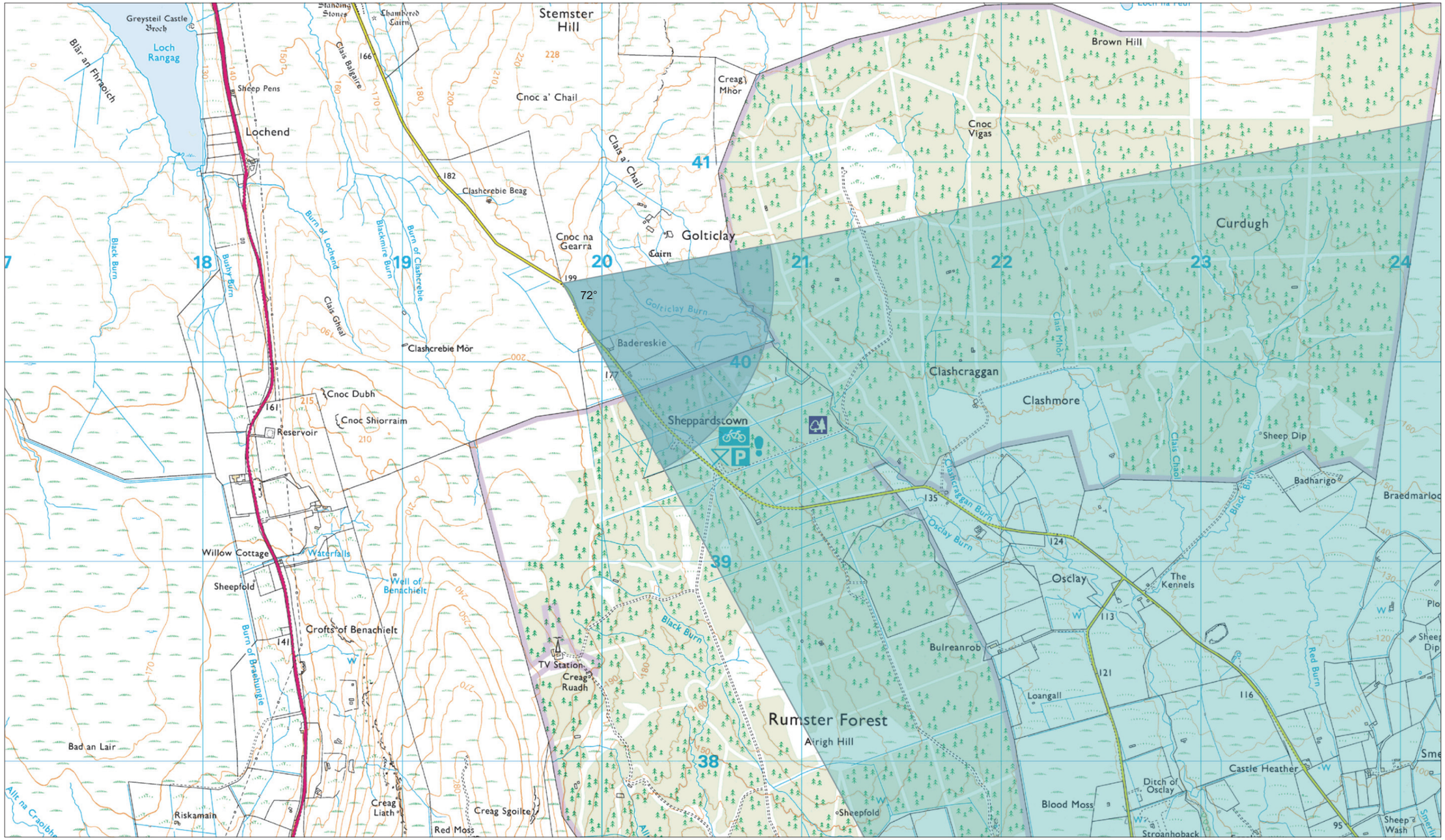
The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Date: 09/07/2012	Revision: B
Ref: 8460001-PPW0201-OPE-MAP-072	

Figure 8.4-25b
Viewpoint 13: Catchory

Photograph and Wireframe

Layout Scenario 5c



Viewpoint 14: Minor Road, south side of Stemster Hill OSGB Grid Reference: 319802 E 940395 N Distance to nearest turbine: 33.74 km AOD: c 199 m

View taken from minor road connecting A9 and A99 near Stemster Hill

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

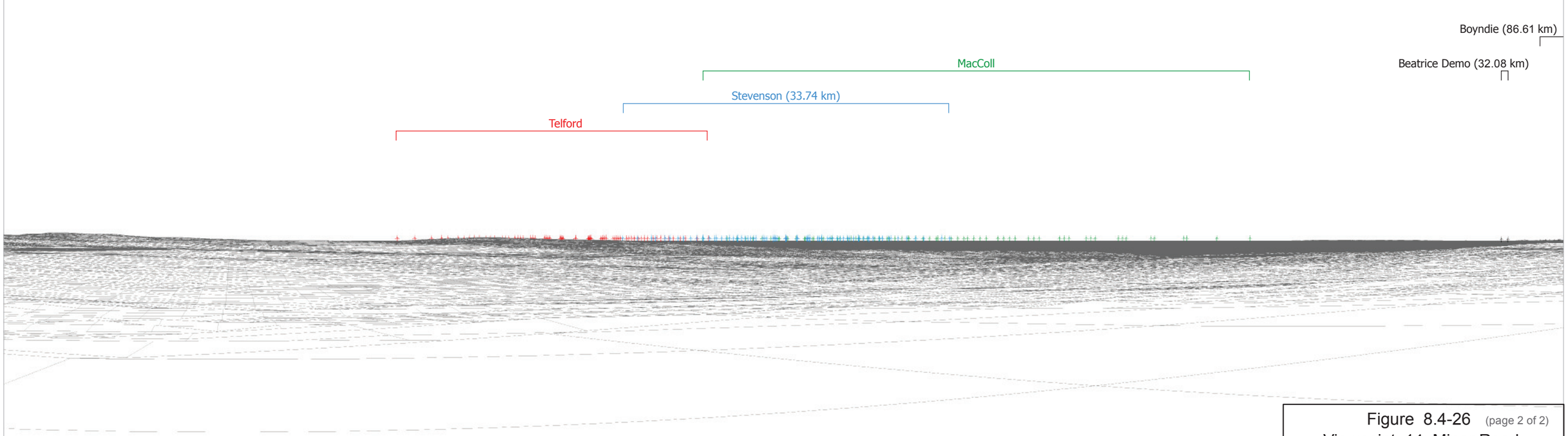
Date: 09/07/2012 | Revision: B

Ref: 8460001-PPW0201-OPE-MAP-073

Figure 8.4-26 (page 1 of 2)
Viewpoint 14: Minor Road, south side of Stemster Hill Location

Moray Offshore Renewables Ltd

Existing view from Minor Road, south side of Stemster Hill | Distance to nearest turbine: 33.74 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 03/09/11 | Time: 15:35



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

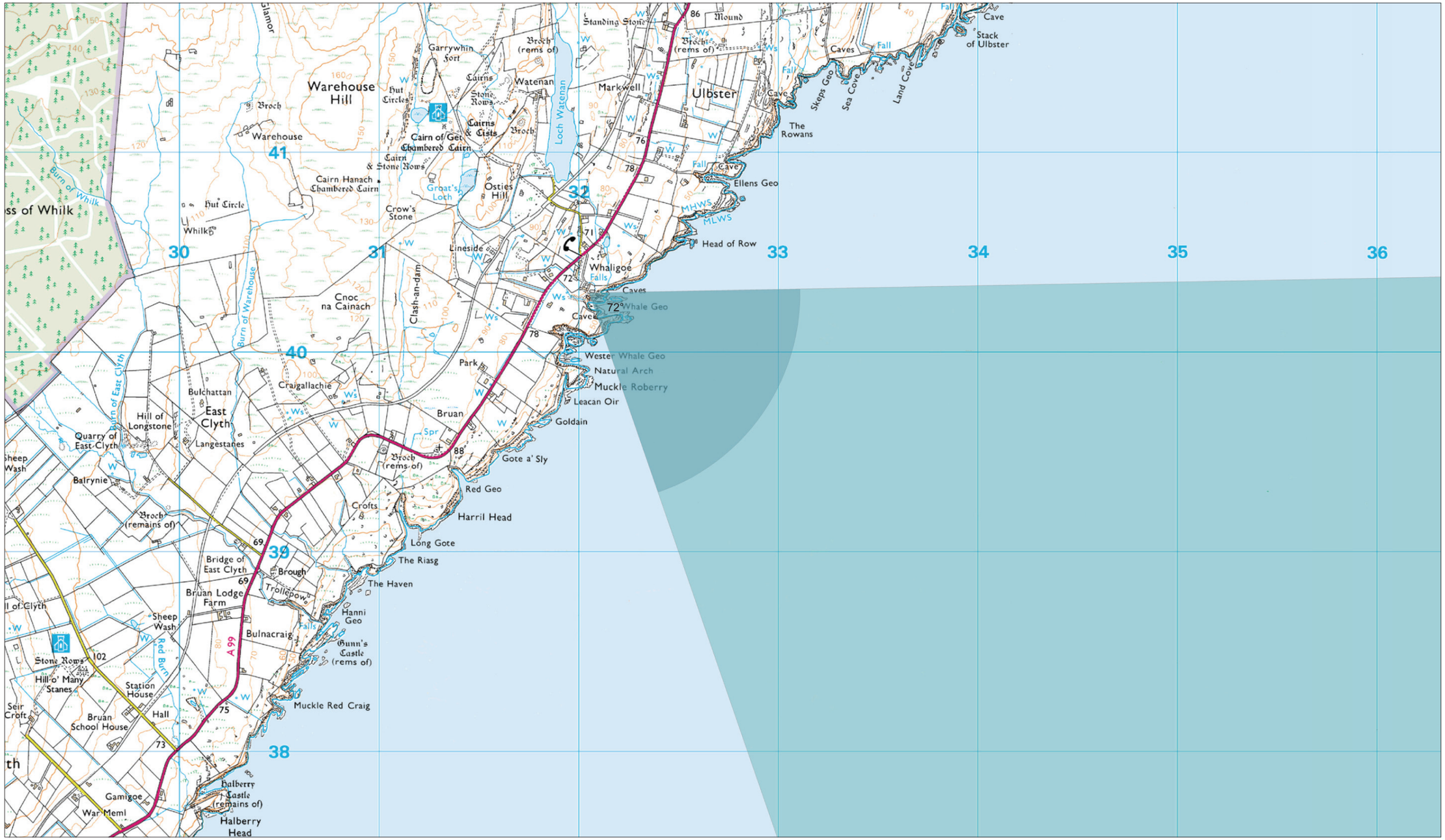
The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-26

Viewpoint 14: Minor Road, south side of Stemster Hill

Photograph and Wireframe

Layout Scenario 4c



Viewpoint 15: Whaligoe Steps OSGB Grid Reference: 332051 E 940296 N Distance to nearest turbine: 23.64 km AOD: c 66 m

View taken from visitor attraction of Whaligoe Steps - 365 man-made steps cut into cliff to access small port

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

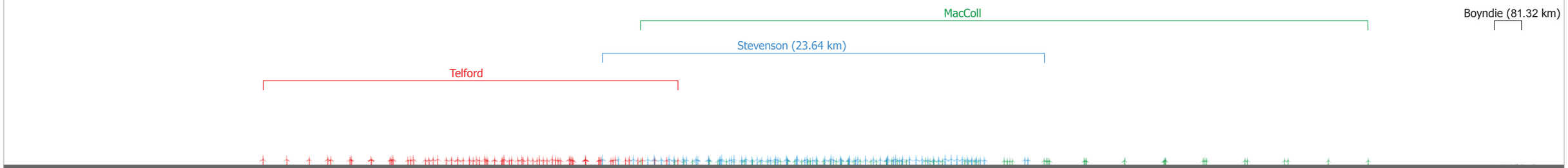
Date: 09/07/2012 | Revision: B

Ref: 8460001-PPW0201-OPE-MAP-074

Figure 8.4-27 (page 1 of 3)
Viewpoint 15: Whaligoe Steps Location

Moray Offshore Renewables Ltd

Existing view from Whaligoe Steps | Distance to nearest turbine: 23.64 km (Stevenson) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 03/09/11 | Time: 13:53



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-27
Viewpoint 15: Whaligoe Steps

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development	Distance to nearest turbine: 23.64 km (Stevenson)	Camera: Canon EOS 5D Mark II	Focal Length: 50mm	Horizontal Field of View: 72 degrees	Camera Height: 1.5m	Date: 03/09/11	Time: 13:53

Important Viewing Instructions

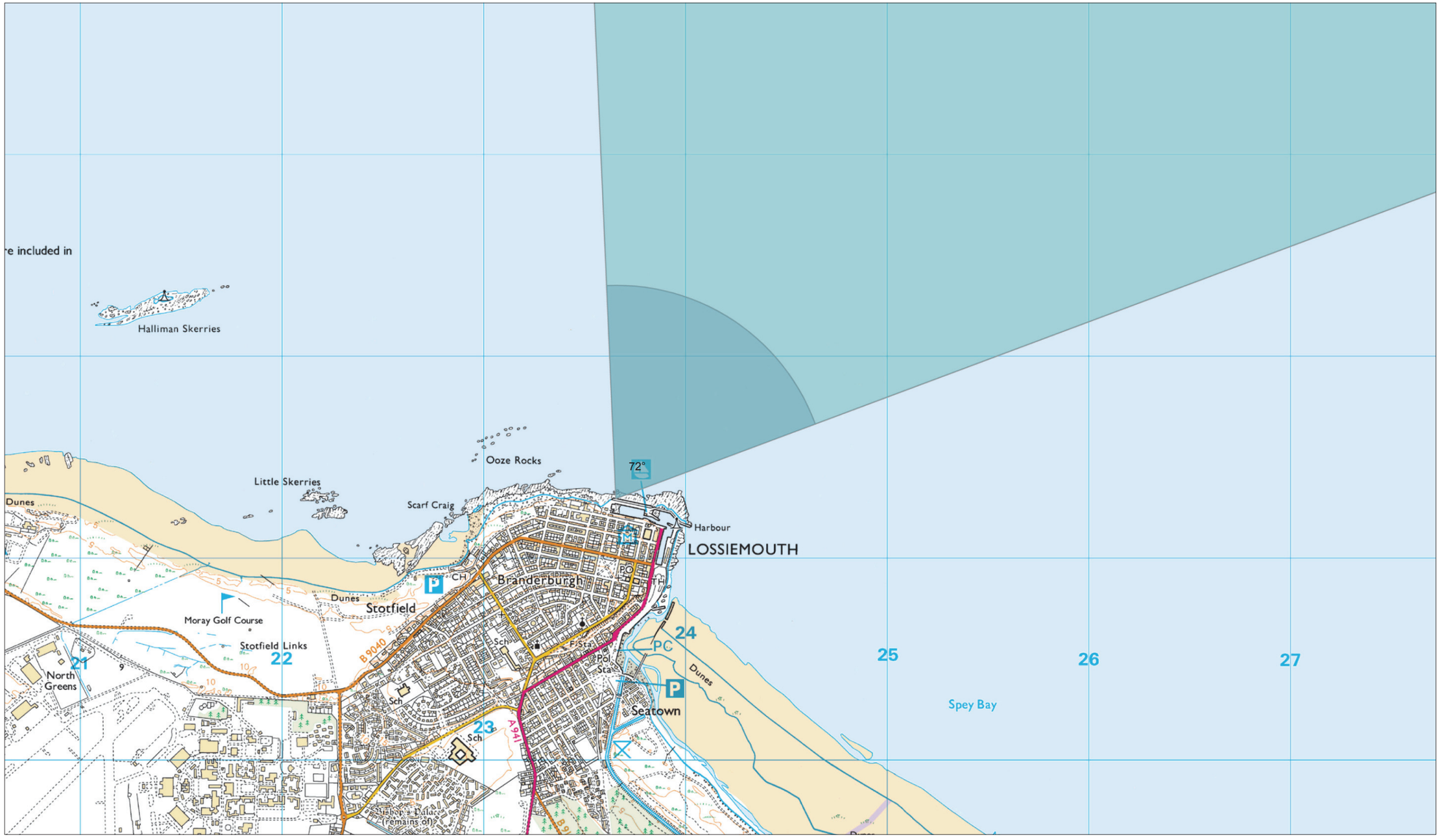
This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-27 (page 3 of 3)
Viewpoint 15: Whaligoe Steps

Photomontage

Layout Scenario 4c



Viewpoint 16: Lossiemouth, Harbour OSGB Grid Reference: 323654 E 871296 N Distance to nearest turbine: 45.81 km AOD: c 6 m

View taken from harbour wall

edp renewables REPSOL

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

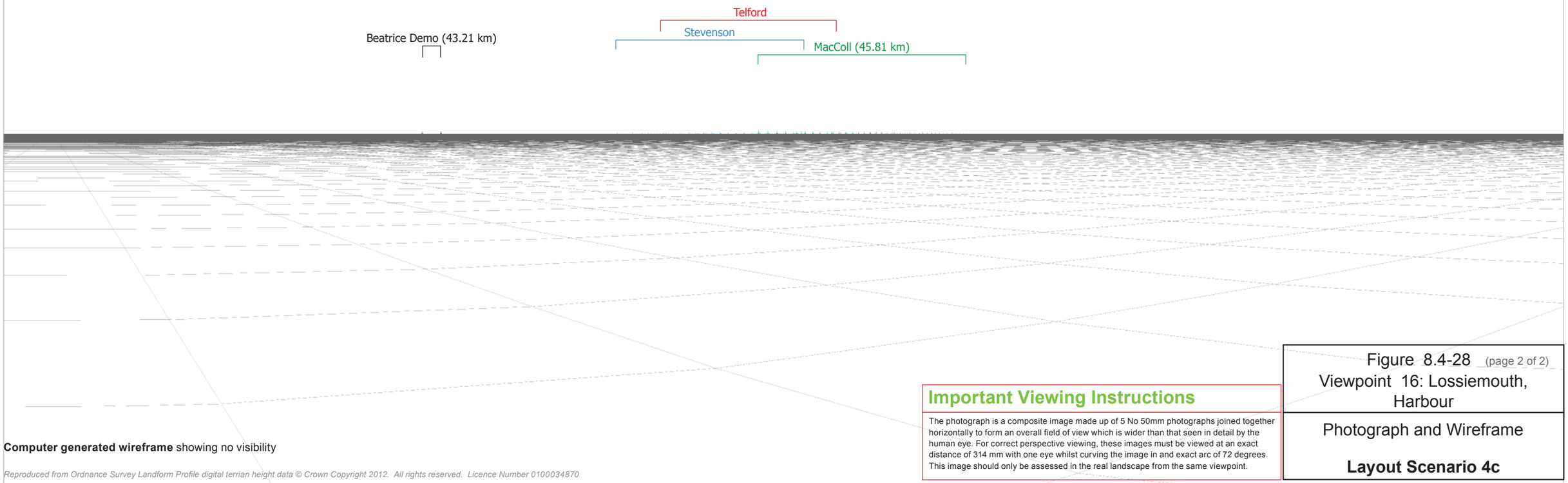
Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-075

Figure 8.4-28 (page 1 of 2)
Viewpoint 16: Lossiemouth, Harbour Location

Moray Offshore Renewables Ltd

Existing view from Lossiemouth Harbour | Distance to nearest turbine: 45.81 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 06/09/11 | Time:10:37



Computer generated wireframe showing no visibility

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-28 (page 2 of 2)
Viewpoint 16: Lossiemouth, Harbour

Photograph and Wireframe

Layout Scenario 4c

Viewpoint 17: Buckie, Cliff Terrace OSGB Grid Reference: 343091 E 865825 N Distance to nearest turbine: 44.35 km AOD: c 25 m

View taken from Cliff Terrace adjacent to the lighthouse.

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0 250 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

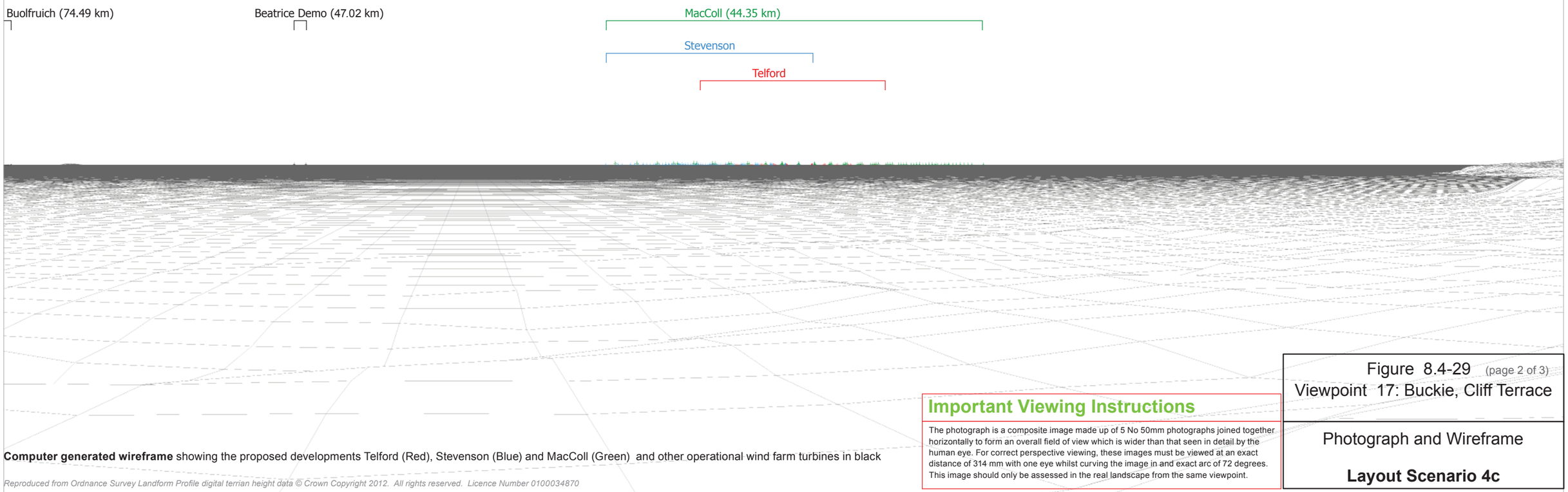
Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-076

Figure 8.4-29 (page 1 of 3)
Viewpoint 17: Buckie, Cliff Terrace Location

Moray Offshore Renewables Ltd

Existing view from Buckie, Cliff Terrace | Distance to nearest turbine: 44.35 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 06/09/11 | Time: 14:24



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-29 (page 2 of 3)
Viewpoint 17: Buckie, Cliff Terrace

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development	Distance to nearest turbine: 44.35 km (MacColl)	Camera: Canon EOS 5D Mark II	Focal Length: 50mm	Horizontal Field of View: 72 degrees	Camera Height: 1.5m	Date: 06/09/11	Time: 14:24

Important Viewing Instructions

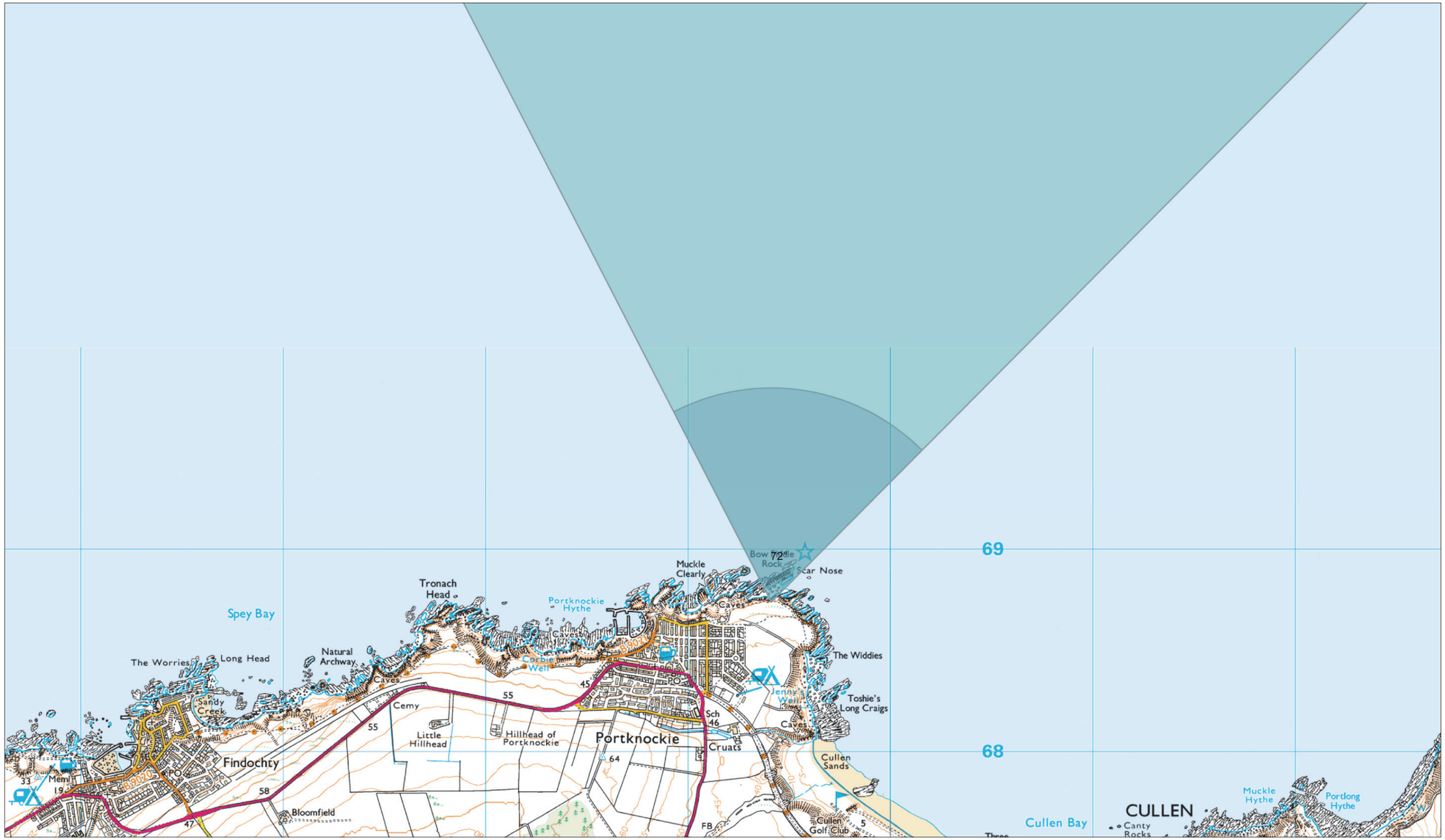
This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-29 (page 3 of 3)
Viewpoint 17: Buckie, Cliff Terrace

Photomontage

Layout Scenario 4c



Viewpoint 18: Portnockie - Bow Fiddle Rock Info Point OSGB Grid Reference: 349411 E 868741 N Distance to nearest turbine: 41.16 km AOD: c 24 m

View taken from the coastal path next to Bow Fiddle Rock Information point.

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

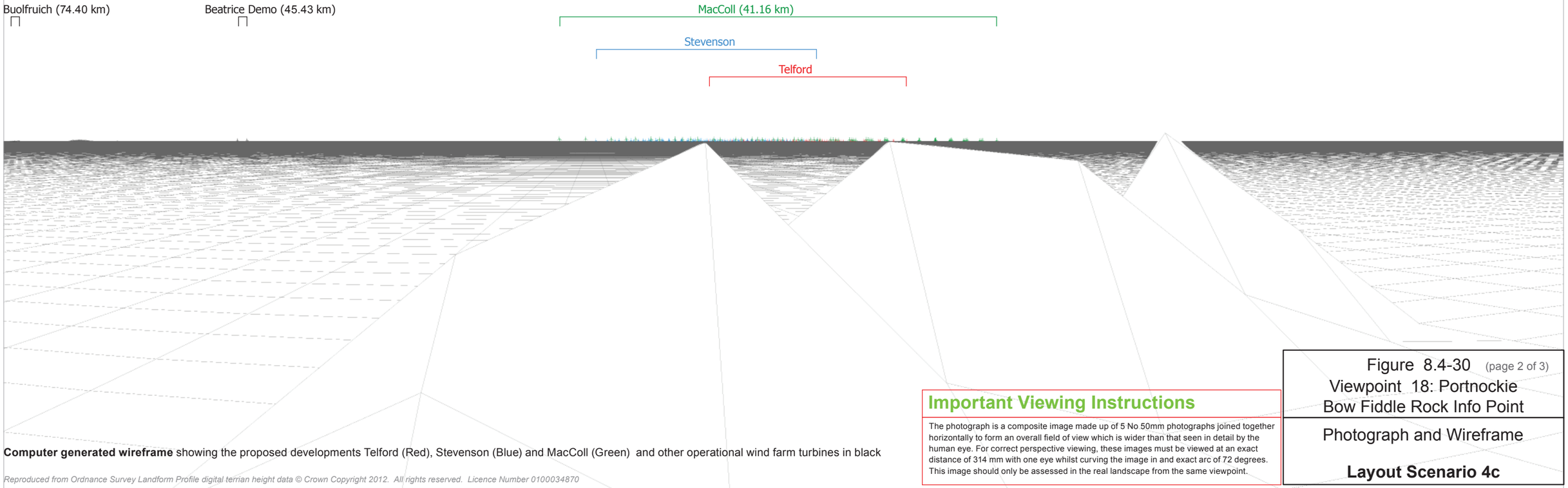
Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-077

Figure 8.4-30 (page 1 of 3)
Viewpoint 18: Portnockie
Bow Fiddle Rock Info Point Location

Moray Offshore
Renewables Ltd

Existing view from Portnockie - Bow Fiddle Rock Info Point | Distance to nearest turbine: 41.16 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 06/09/11 | Time: 13:55



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-30
Viewpoint 18: Portnockie
Bow Fiddle Rock Info Point

Photograph and Wireframe

Layout Scenario 4c

Photomontage view showing the proposed development	Distance to nearest turbine: 41.16 km (MacColl)	Camera: Canon EOS 5D Mark II	Focal Length: 50mm	Horizontal Field of View: 72 degrees	Camera Height: 1.5m	Date: 06/09/11	Time: 13:55

Important Viewing Instructions

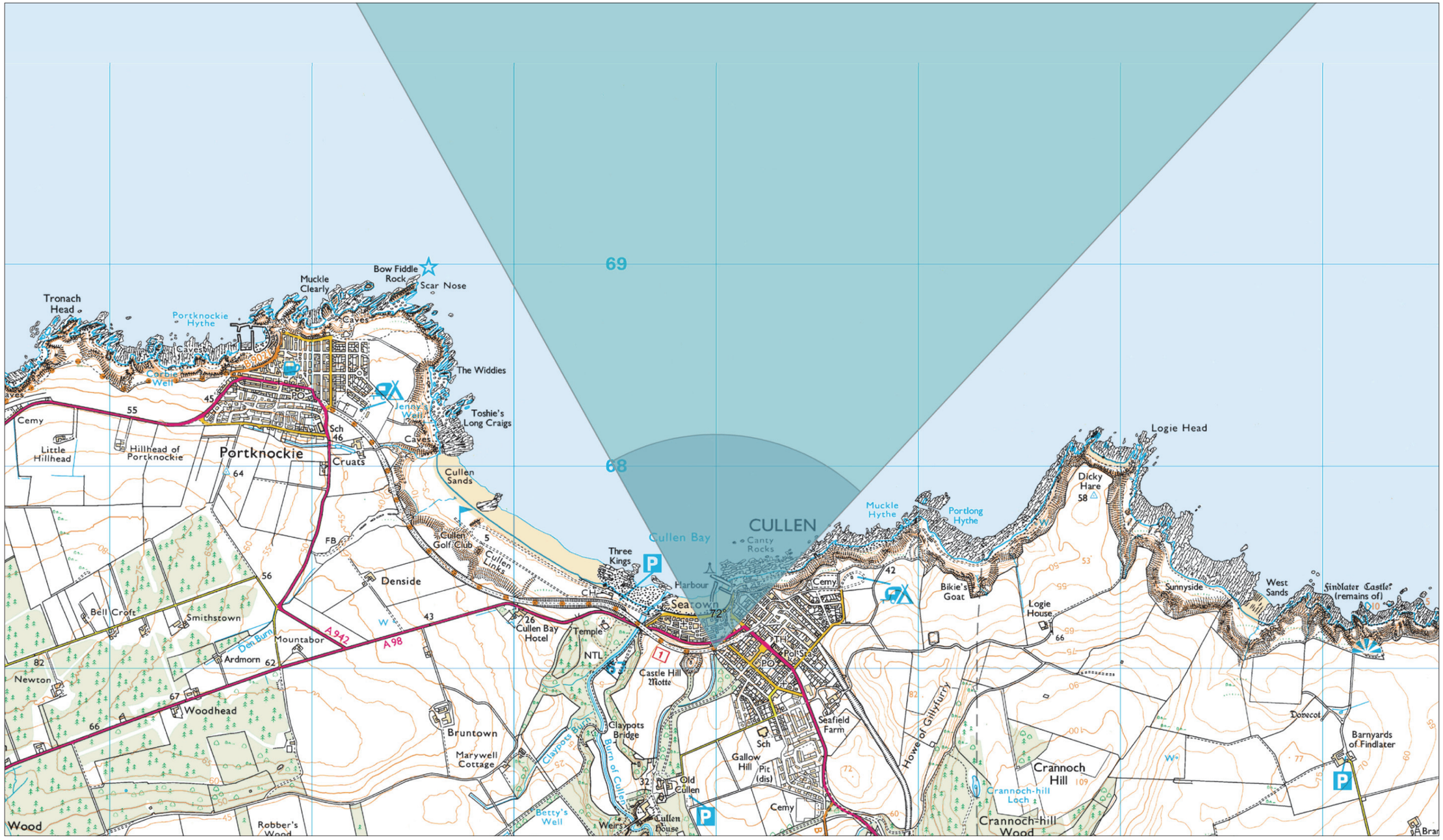
This is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, this photograph, photomontage and wireline must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees.

This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-30 (page 3 of 3)
Viewpoint 18: Portnockie
Bow Fiddle Rock Info Point

Photomontage

Layout Scenario 4c



Viewpoint 19: Cullen, Viaduct OSGB Grid Reference: 350995 E 867102 N Distance to nearest turbine: 42.87 km AOD: c 35 m

View taken from footpath on elevated viaduct in Cullen

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

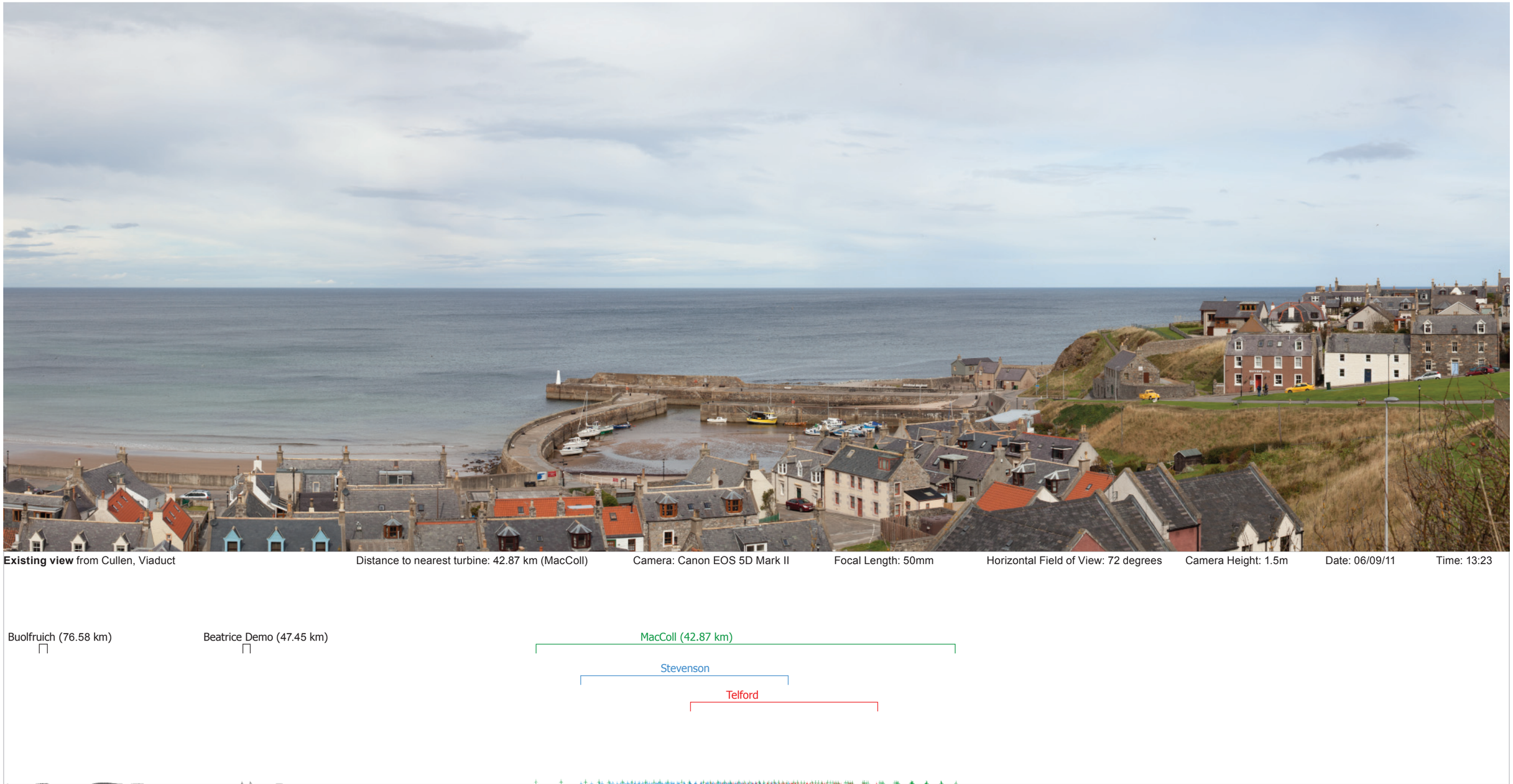
N

Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-078

Figure 8.4-31 (page 1 of 2)
Viewpoint 19: Cullen, Viaduct Location

Moray Offshore Renewables Ltd



Existing view from Cullen, Viaduct | Distance to nearest turbine: 42.87 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 06/09/11 | Time: 13:23

Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

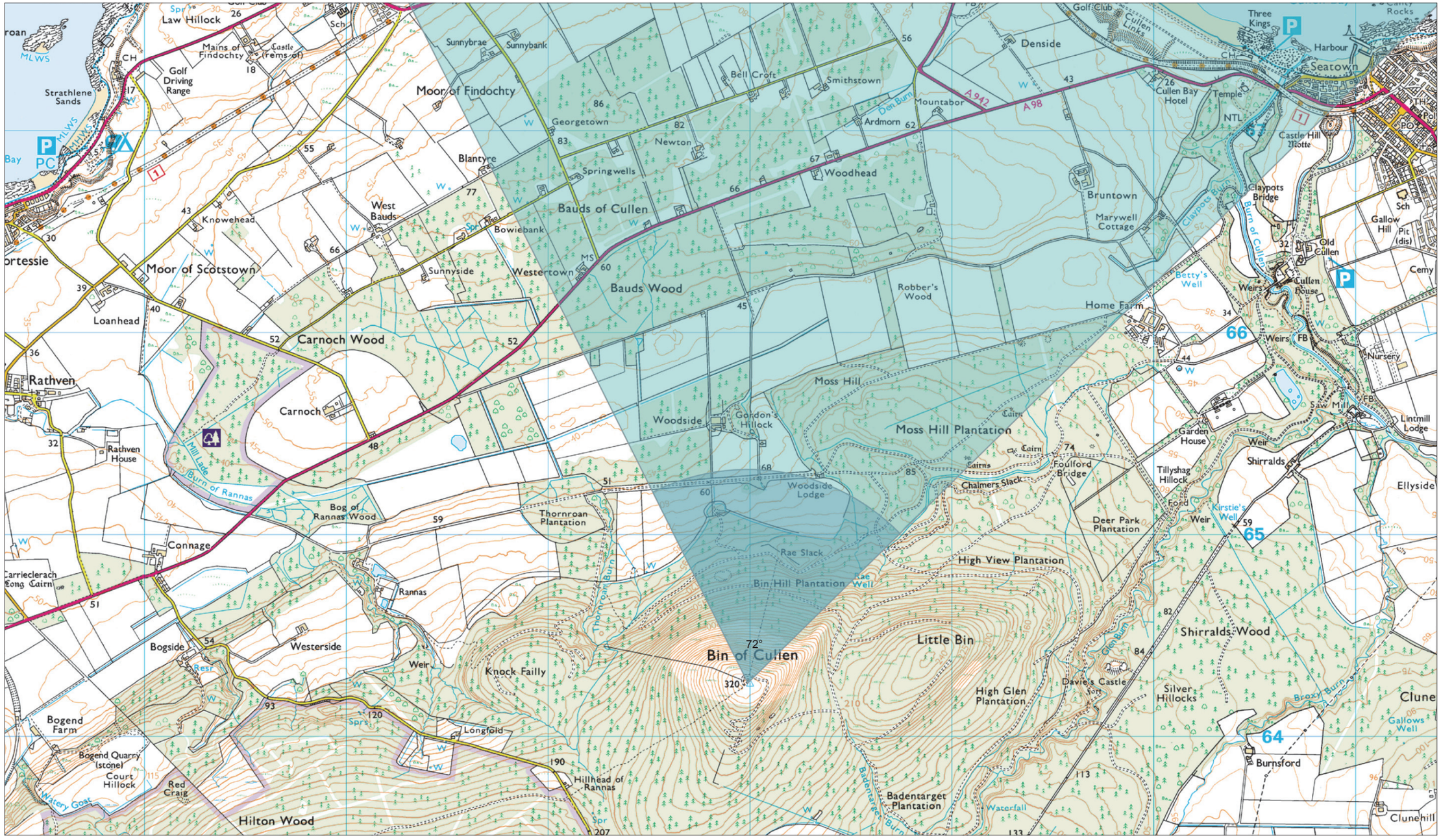
Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-31 (page 2 of 2)
Viewpoint 19: Cullen, Viaduct

Photograph and Wireframe

Layout Scenario 4c



Viewpoint 20: Bin Hill OSGB Grid Reference: 347989 E 864267 N Distance to nearest turbine: 45.61 km AOD: c 320 m

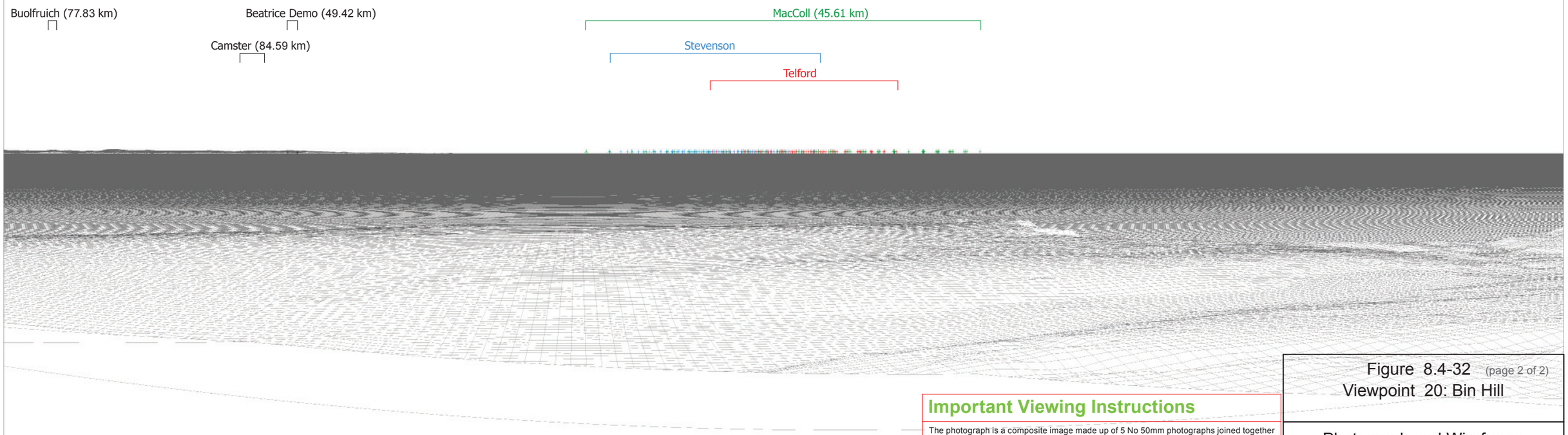
View taken from summit of Bin Hill near trig point

edp renewables REPSOL **Moray Offshore Renewables Ltd**		Scale in metres: 1: 20,000 Geodetic Parameters: WGS84 UTM Zone 30N Produced: LT Reviewed: SM Approved: SM Date: 09/07/2012 Revision: B Ref: 8460001-PPW0201-OPE-MAP-079

Figure 8.4-32 (page 1 of 2)
Viewpoint 20: Bin Hill
Location

Moray Offshore
Renewables Ltd

Existing view from Bin Hill | Distance to nearest turbine: 45.61 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 25/09/11 | Time: 13:32



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

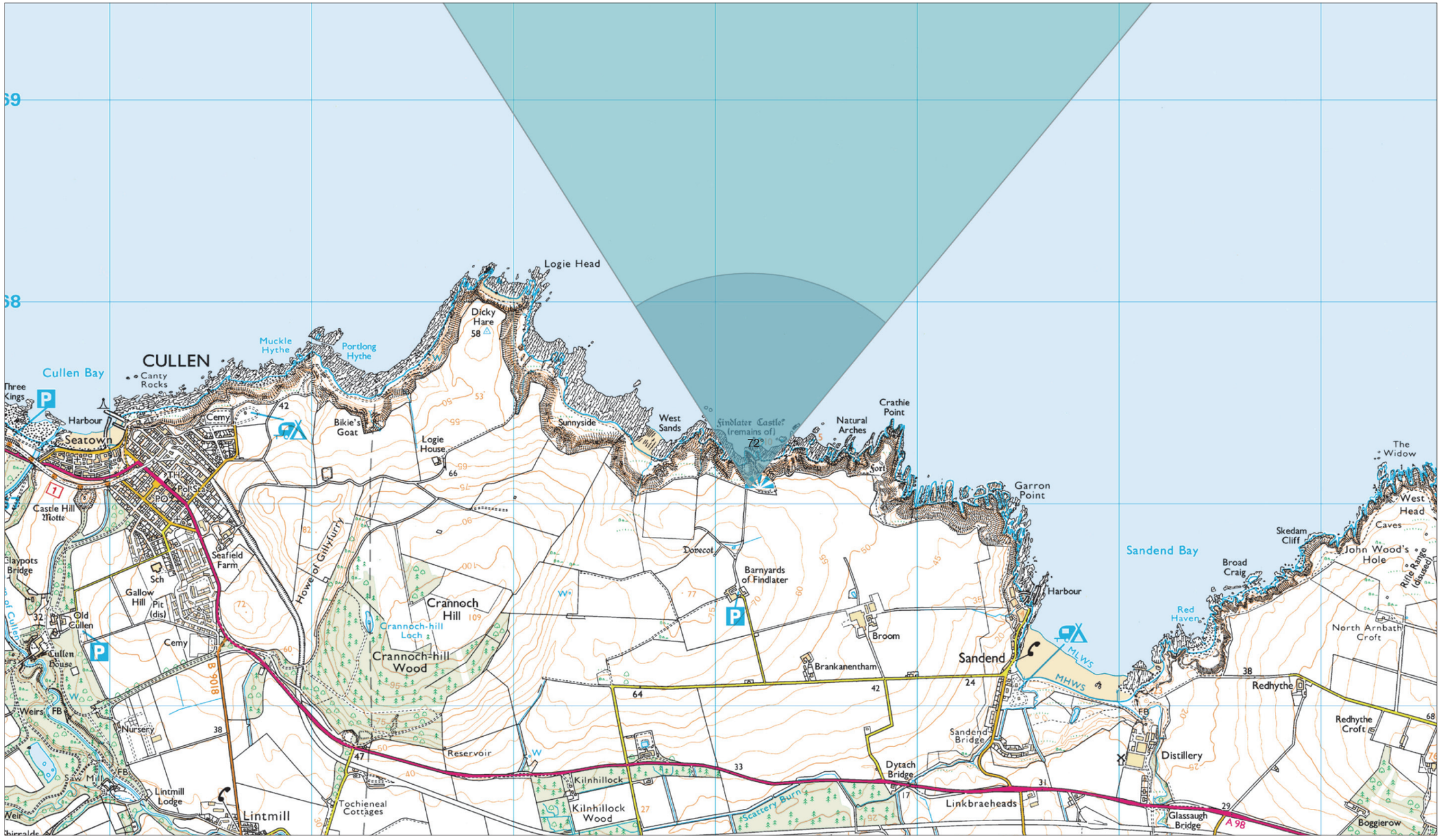
Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-32
Viewpoint 20: Bin Hill

Photograph and Wireframe

Layout Scenario 4c



Viewpoint 21: Findlater Castle OSGB Grid Reference: 354169 E 867086 N Distance to nearest turbine: 43.21 km AOD: c 55 m

View taken adjacent to viewpoint and information point for Findlater Castle.

edp renewables REPSOL

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0 250 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

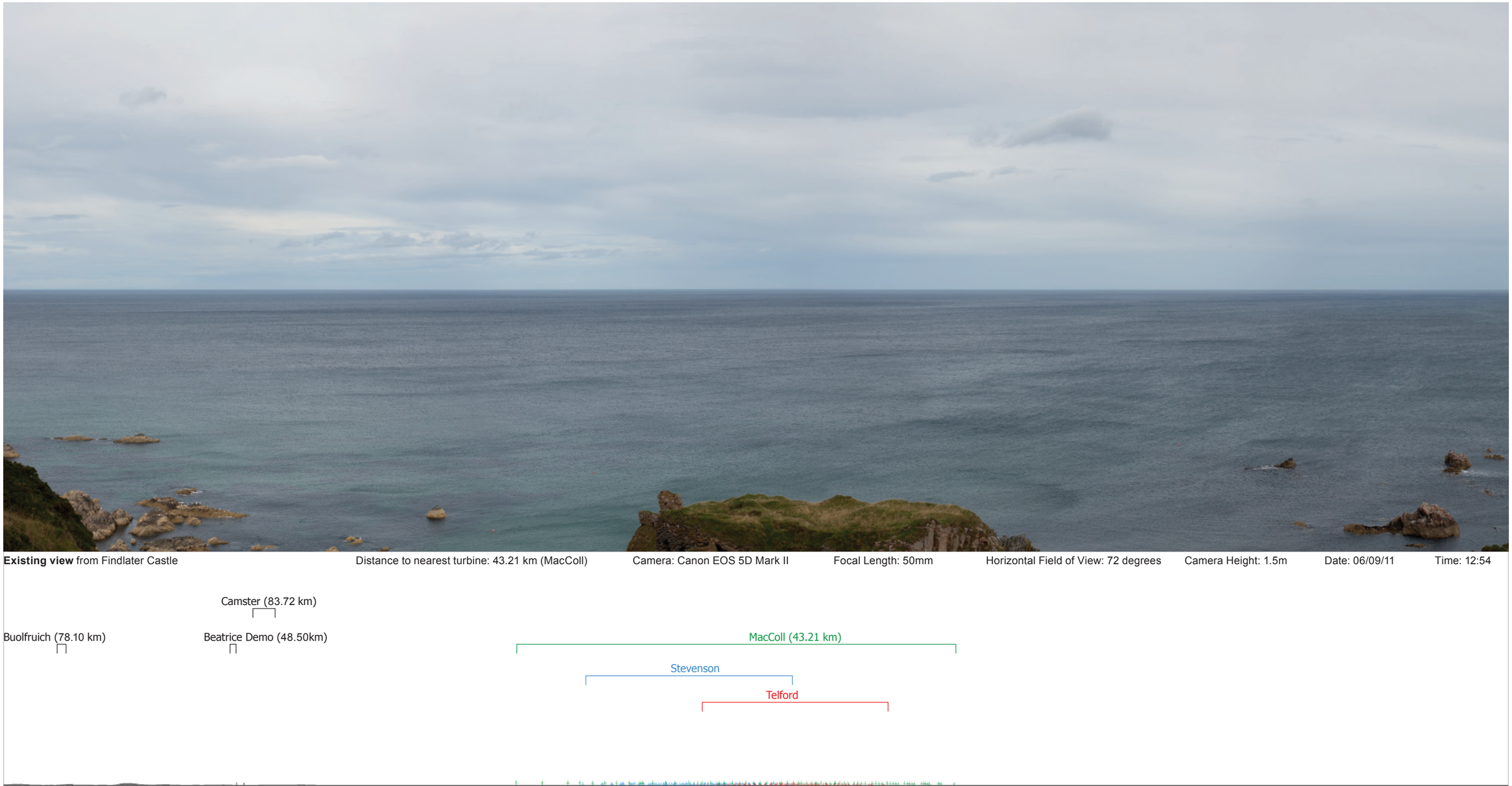
N

Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-080

Figure 8.4-33 (page 1 of 2)
Viewpoint 21: Findlater Castle Location

Moray Offshore Renewables Ltd



Existing view from Findlater Castle | Distance to nearest turbine: 43.21 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 06/09/11 | Time: 12:54

Camster (83.72 km)

Buolfruich (78.10 km)

Beatrice Demo (48.50km)

MacColl (43.21 km)

Stevenson

Telford

Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

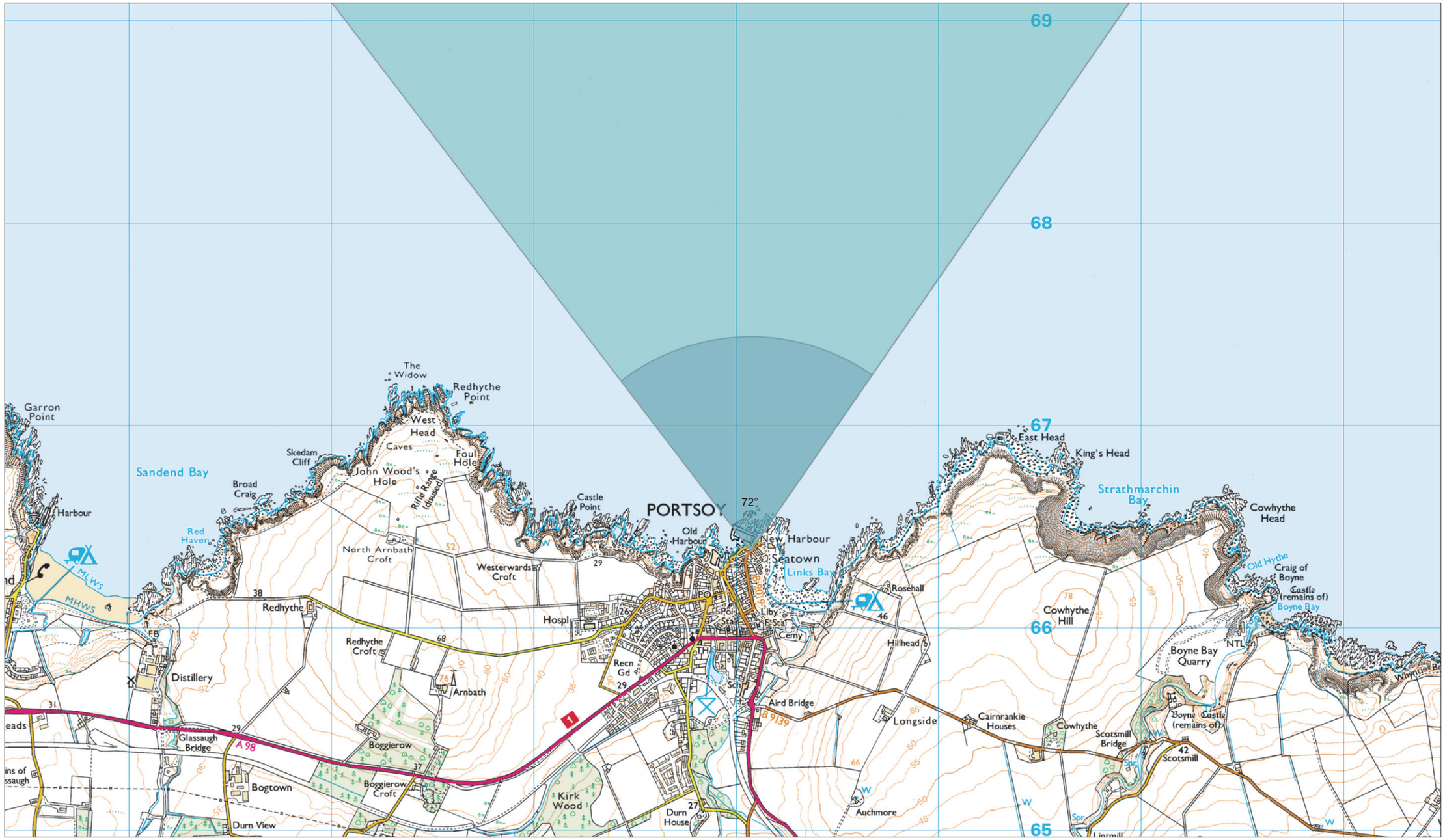
Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-33 (page 2 of 2)
Viewpoint 21: Findlater Castle

Photograph and Wireframe

Layout Scenario 4c



Viewpoint 22: Portsoy OSGB Grid Reference: 359071 E 866382 N Distance to nearest turbine: 44.83 km AOD: c 11 m

View taken from grassy area between Shore Street and Schoolhedry Street adjacent to bench.

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

N

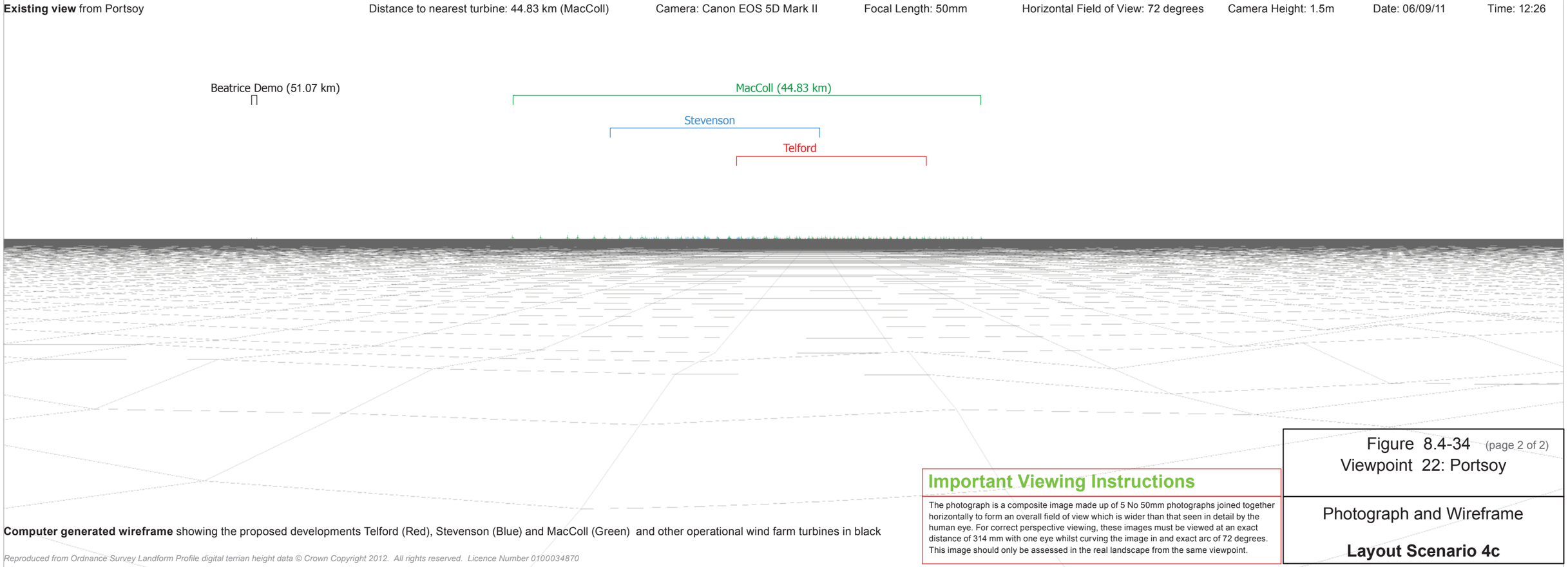
Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-081

Figure 8.4-34 (page 1 of 2)
Viewpoint 22: Portsoy Location

Moray Offshore Renewables Ltd

Existing view from Portsoy | Distance to nearest turbine: 44.83 km (MacColl) | Camera: Canon EOS 5D Mark II | Focal Length: 50mm | Horizontal Field of View: 72 degrees | Camera Height: 1.5m | Date: 06/09/11 | Time: 12:26



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

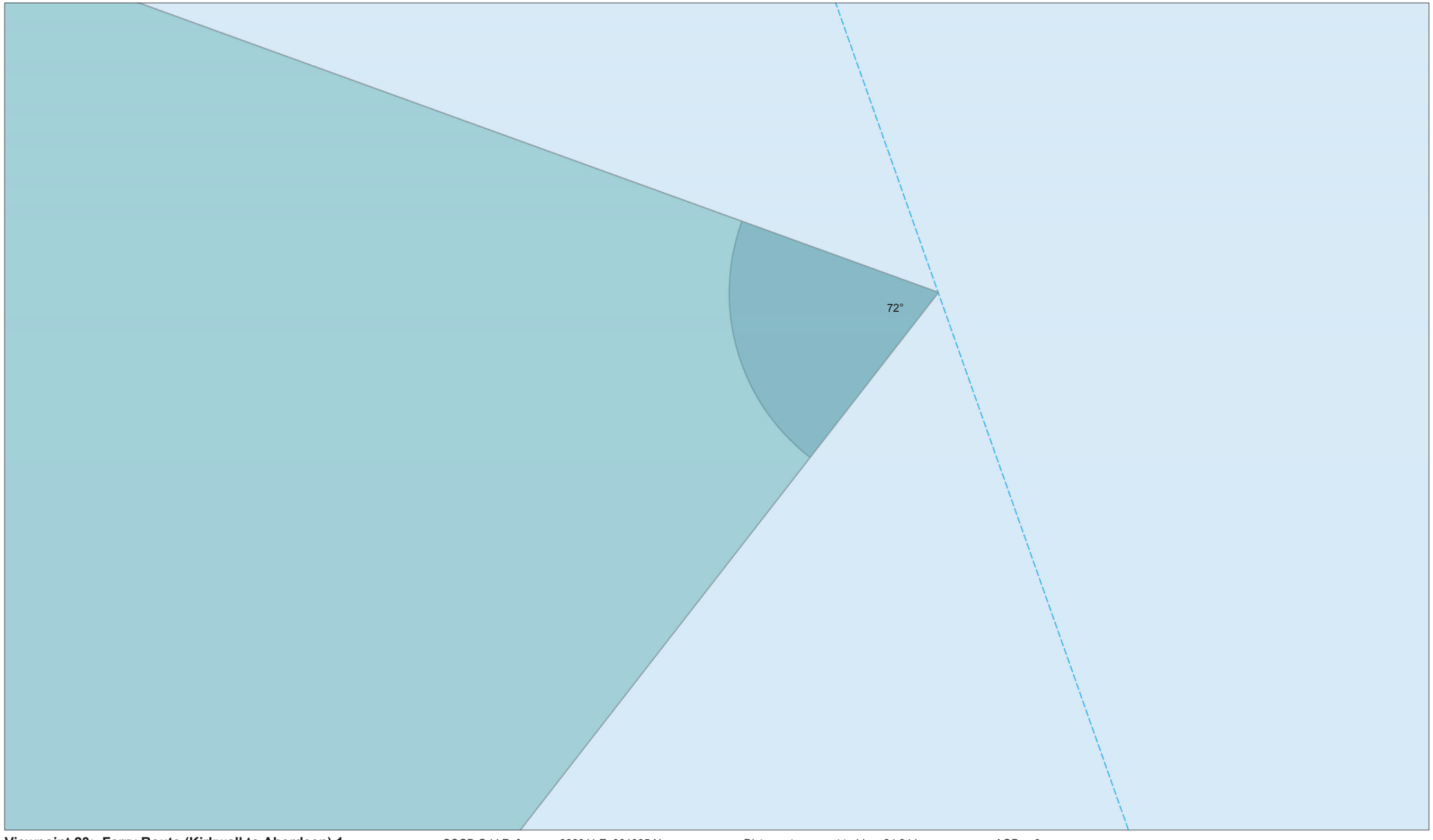
Important Viewing Instructions

The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-34 (page 2 of 2)
Viewpoint 22: Portsoy

Photograph and Wireframe

Layout Scenario 4c



Viewpoint 23: Ferry Route (Kirkwall to Aberdeen) 1 OSGB Grid Reference: 388911 E 931385 N Distance to nearest turbine: 24.84 km AOD: c 0 m

Wireline view taken from Kirkwall to Aberdeen ferry route to east of proposed developments

edp renewables REPSOL

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

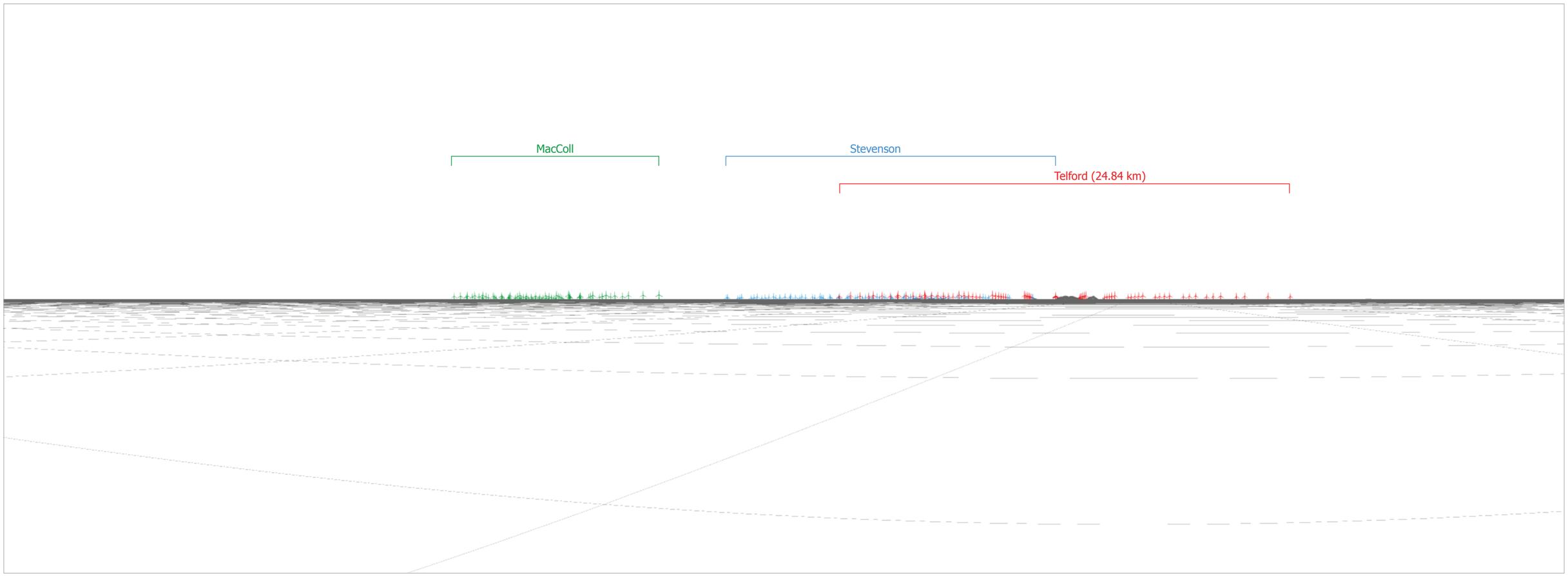
N

Date: 09/07/2012 | Revision: B

Ref: 8460001-PPW0201-OPE-MAP-082

Figure 8.4-35 (page 1 of 2)
Viewpoint 23: Ferry Route (Kirkwall to Aberdeen) 1 Location

Moray Offshore Renewables Ltd



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Distance to nearest turbine: 24.84 km (Telford)

Horizontal Field of View: 72 degrees

Important Viewing Instructions

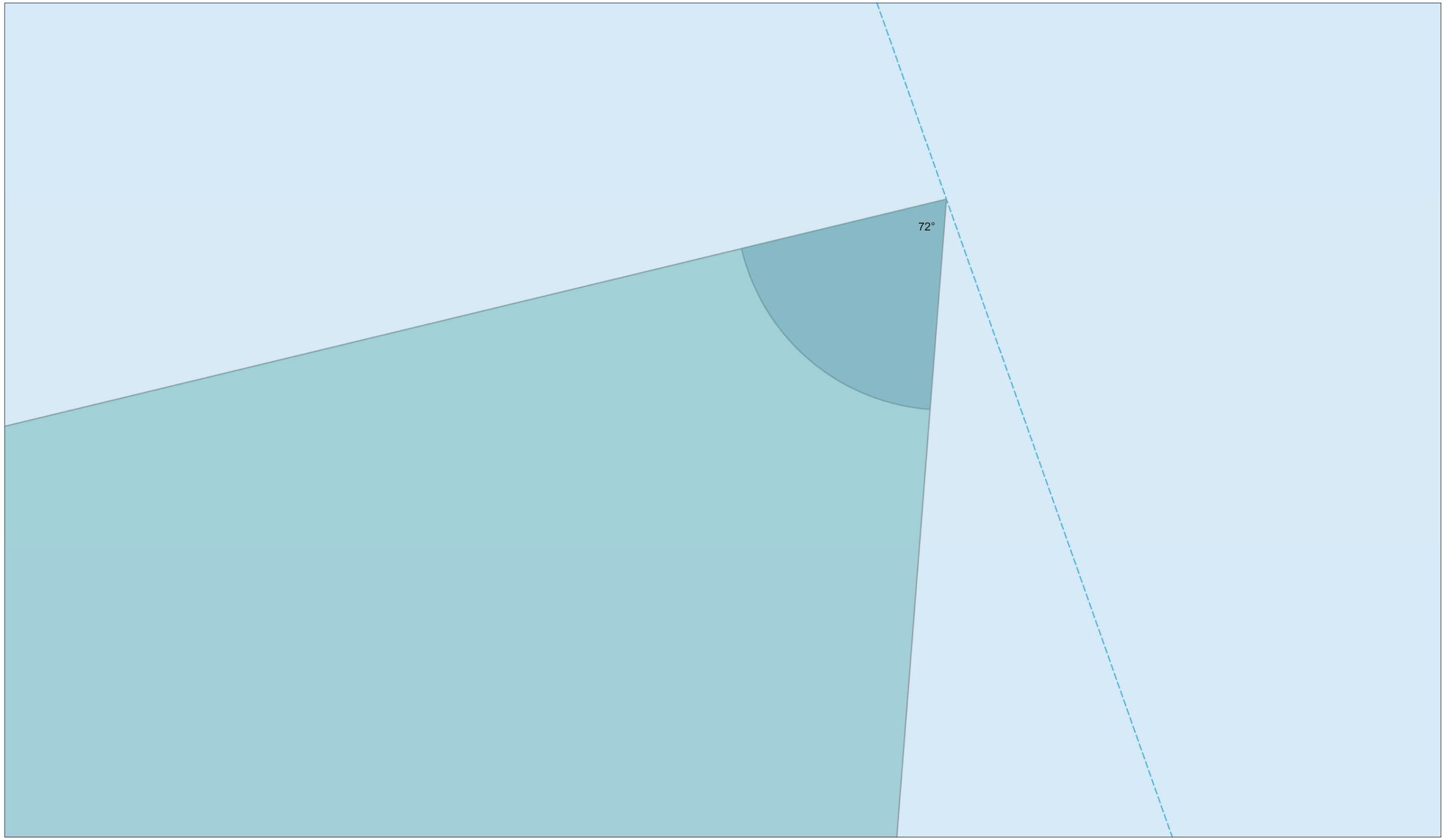
The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

Figure 8.4-35 (page 2 of 2)

Viewpoint 24: Ferry Route (Kirkwall to Aberdeen) 1 Location

Wireframe

Layout Scenario 4c



Viewpoint 24: Ferry Route (Kirkwall to Aberdeen) 2 OSGB Grid Reference: 382009 E 950868 N Distance to nearest turbine: 28.58 km AOD: c 0 m

Wireline view taken from Kirkwall to Aberdeen ferry route to north east of proposed developments

edp renewables REPSOL

Moray Offshore Renewables Ltd

Scale in metres: 1: 20,000 (0, 250, 500m)

Geodetic Parameters: WGS84 UTM Zone 30N

Produced: LT
Reviewed: SM
Approved: SM

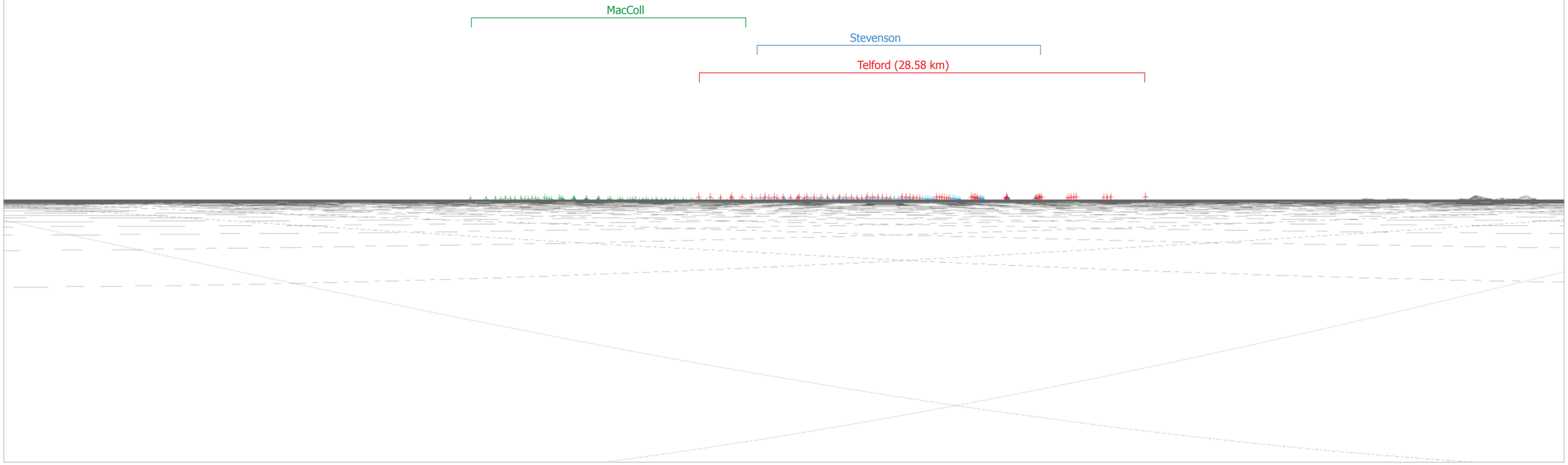
N

Date: 09/07/2012 Revision: B

Ref: 8460001-PPW0201-OPE-MAP-083

Figure 8.4-36 (page 1 of 2)
Viewpoint 25: Ferry Route (Kirkwall to Aberdeen) 2 Location

Moray Offshore Renewables Ltd



Computer generated wireframe showing the proposed developments Telford (Red), Stevenson (Blue) and MacColl (Green) and other operational wind farm turbines in black

Distance to nearest turbine: 28.58 km (Telford)

Horizontal Field of View: 72 degrees

Important Viewing Instructions

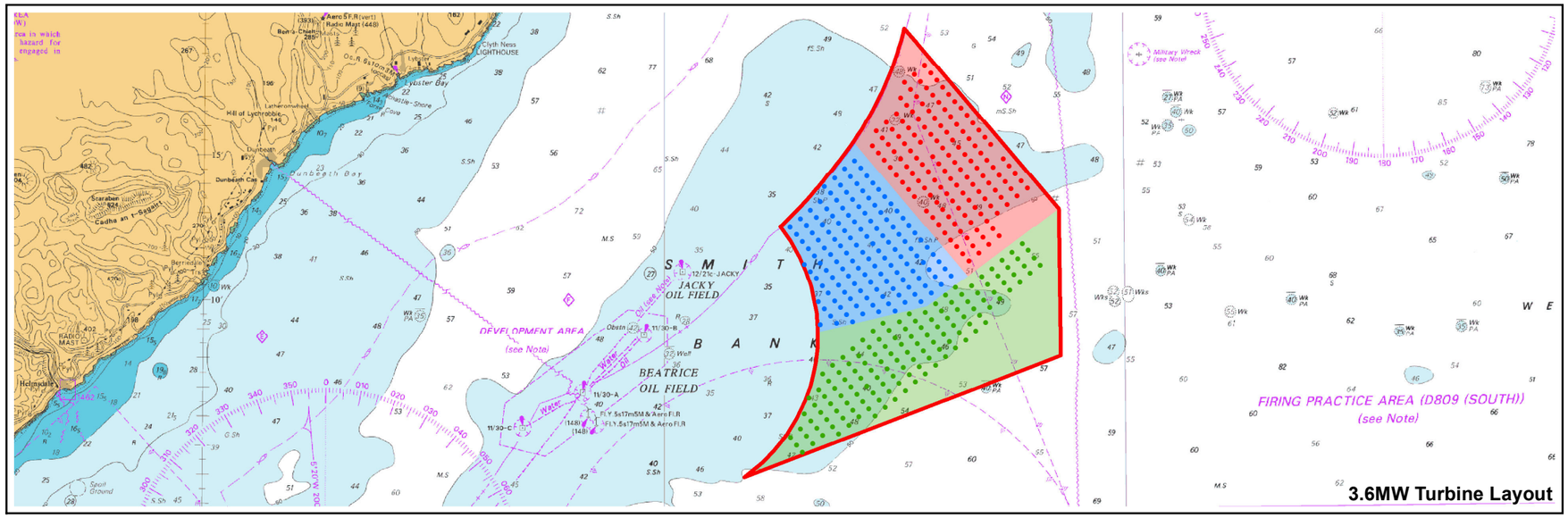
The photograph is a composite image made up of 5 No 50mm photographs joined together horizontally to form an overall field of view which is wider than that seen in detail by the human eye. For correct perspective viewing, these images must be viewed at an exact distance of 314 mm with one eye whilst curving the image in and exact arc of 72 degrees. This image should only be assessed in the real landscape from the same viewpoint.

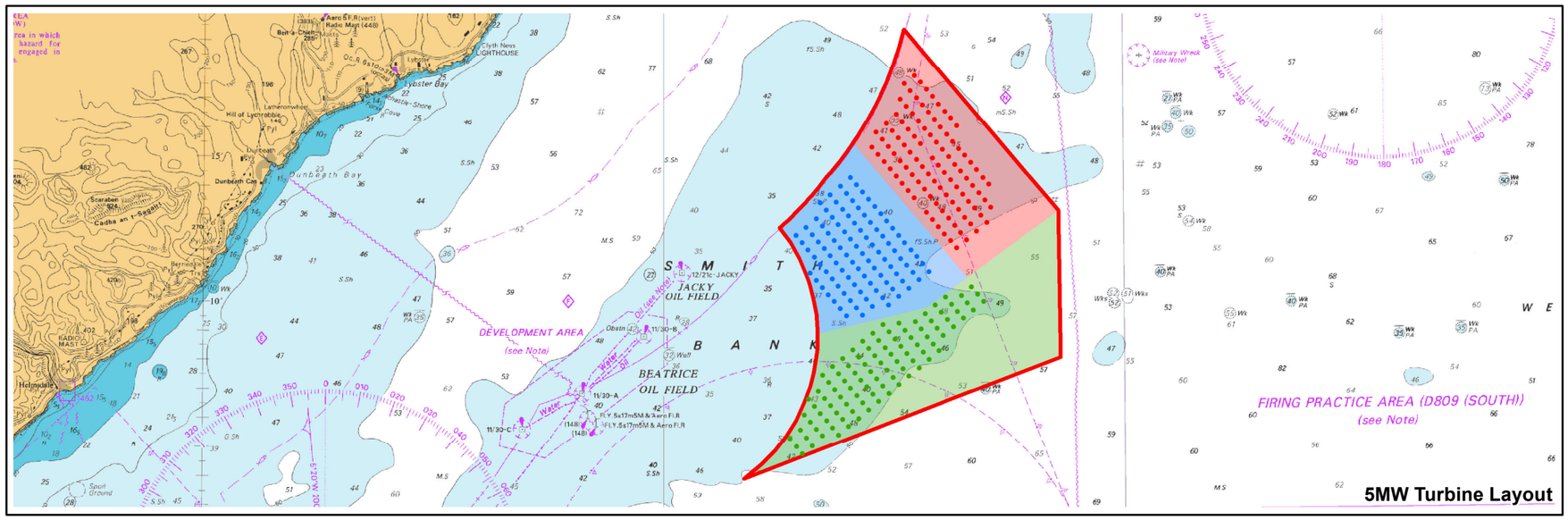
Figure 8.4-36 (page 2 of 2)

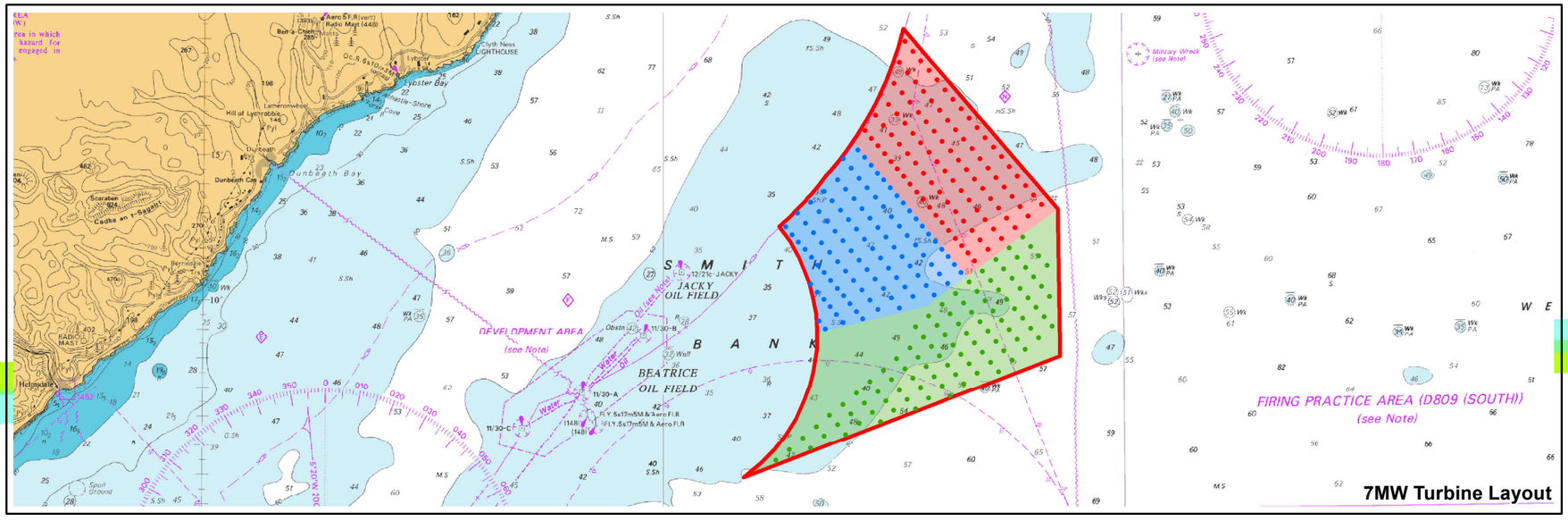
Viewpoint 25: Ferry Route (Kirkwall to Aberdeen) 2 Location

Wireframe

Layout Scenario 4c







edp renewables

REPSOL

Moray Offshore Renewables Ltd

KEY

Secondary Assessment Layouts:

- Telford Layout
- Stevenson Layout
- MacColl Layout
- Telford Development Area
- Stevenson Development Area
- MacColl Development Area
- Eastern Development Area

Horizontal Scale: 1:350,000 A3 Chart

0 5,000 10,000 Meters

N

Geodetic Parameters:	WGS84 UTM Zone 30N
Produced: TR Reviewed: SM Approved: SM	
Date: 05/06/2012	Revision: B
REF: 8460001-PPW0201-OPE-MAP-084	

Figure 8.4-37
Rochdale Envelope - Secondary Assessment

Moray Offshore Renewables Ltd