



INTERNATIONAL

Planning Ref.: 08.PA0044

**Grousemount Wind Farm
County Kerry**

Additional Information

March 2016

Part 2 of 3

ESB International, Stephen Court, 18/21 St Stephen's Green, Dublin 2, Ireland.

Phone +353 (0)1 703 8000

www.esbi.ie

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Planning Ref.: 08.PA0044
Grousemount Wind Farm, County Kerry
Additional Information

Part 2 of 3

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Drawings

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PSRA Sheets



INTERNATIONAL

PEAT STABILITY RISK ASSESSMENT

Appendices A & C

Grousemount Wind Farm

W78035-F105-018-R-0001

August 2015

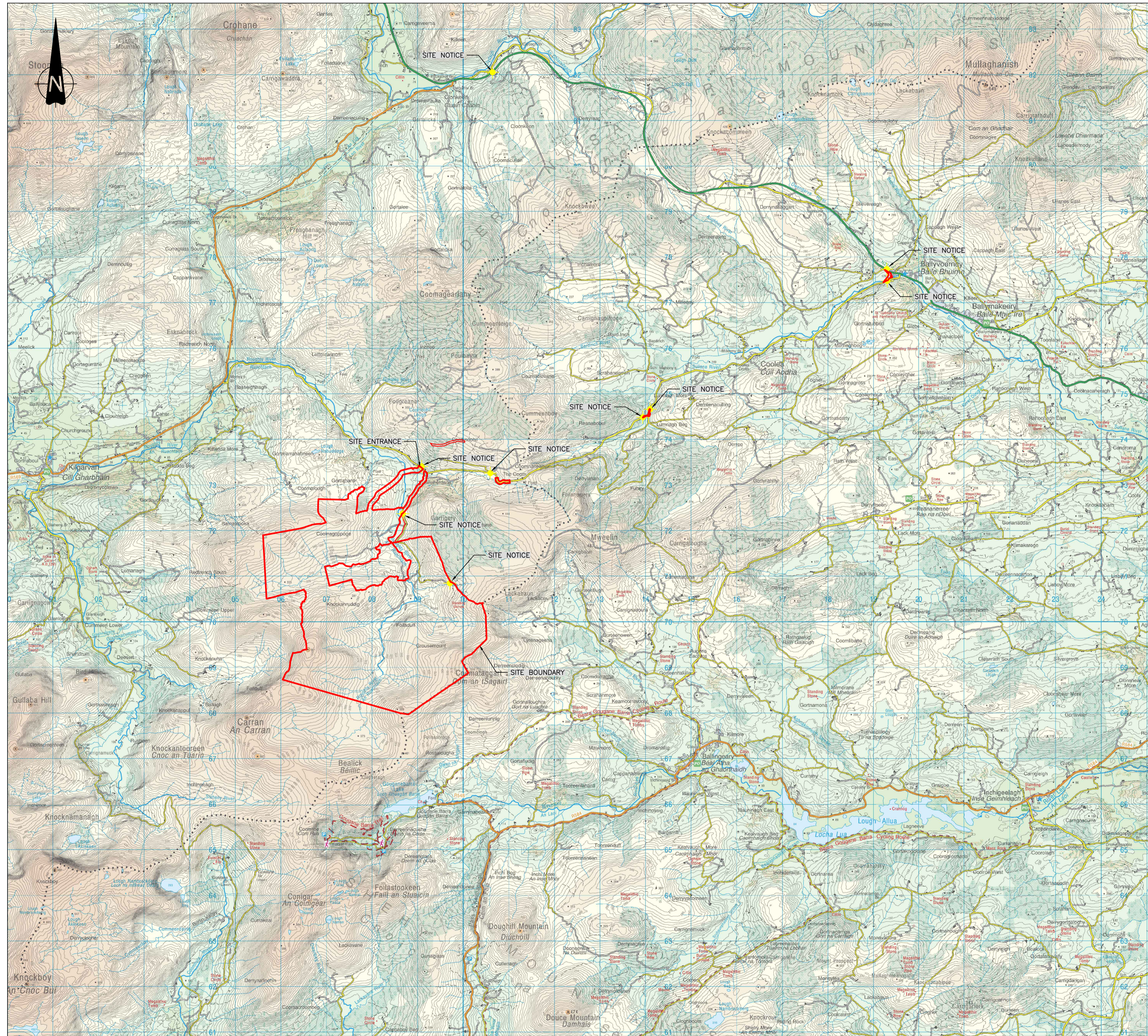
ESB Wind Development Ltd.

APPENDIX A: Drawings

DRAWING NO.	TITLE
QR320171-MWC-P-1001	Site Location Map
QR320171-MWC-P-1017	Site Layout - Orthophoto Background
QR320171-MWC-P-1018	Site Layout - Peat Probe Data And Estimated Peat Bandings
QR320171-MWC-P-1019	Site Layout - Ground Slope Map
QR320171-MWC-P-1020-Sh.1	Site Layout (1:2500) - Sheet 1 of 7 - Site Investigation Locations
QR320171-MWC-P-1020-Sh.2	Site Layout (1:2500) - Sheet 2 of 7 - Site Investigation Locations
QR320171-MWC-P-1020-Sh.3	Site Layout (1:2500) - Sheet 3 of 7 - Site Investigation Location
QR320171-MWC-P-1020-Sh.4	Site Layout (1:2500) - Sheet 4 of 7 - Site Investigation Locations
QR320171-MWC-P-1020-Sh.5	Site Layout (1:2500) - Sheet 5 of 7 - Site Investigation Locations
QR320171-MWC-P-1020-Sh.6	Site Layout (1:2500) - Sheet 6 of 7 - Site Investigation Locations
QR320171-MWC-P-1020-Sh.7	Site Layout (1:2500) - Sheet 7 of 7 - Site Investigation Locations
QR320171-MWC-P-6001	Borrow Pit / Repository A Sections
QR320171-MWC-P-6002	Borrow Pit / Repository B Sections
QR320171-MWC-P-6003	Borrow Pit / Repository C Sections
QR320171-MWC-P-6004	Borrow Pit / Repository D Sections
QR320171-MWC-P-6005	Borrow Pit / Repository E Sections
QR320171-MWC-P-6006	Borrow Pit / Repository F Sections
QR320171-MWC-P-6007	Borrow Pit / Repository G Sections
QR320171-MWC-P-6008	Borrow Pit / Repository H Sections
QR320171-MWC-P-6009	Borrow Pit / Repository I Sections

LEGEND:

 SITE BOUNDARY



REV	DATE	REVISION DESCRIPTION	DRN	PRO	VER	APP
0	19.08.15	ISSUED FOR PLANNING		SB	DS	SS FQ

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED
TENDER CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED


Client **ESB WIND DEVELOPMENT LTD.**

Project **GROUSEMOUNT WIND FARM**

Contract **PLANNING APPLICATION**

Drawing Title **SITE LOCATION MAP**

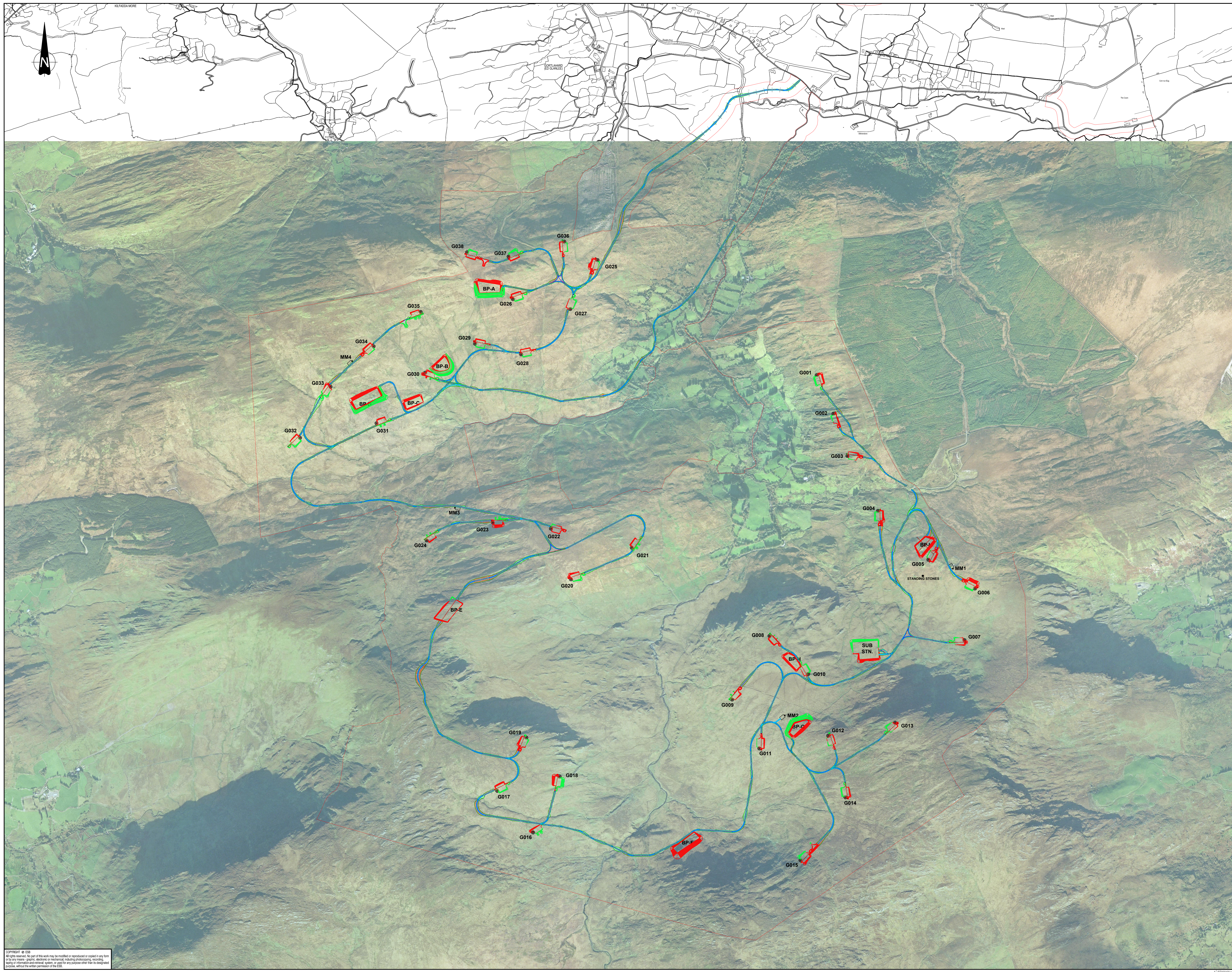
Production Unit **WIND DEVELOPMENT**



Energy for generations
ESB Wind Development Ltd., Stephen Court, 18-21 St. Stephen's Green,
Dublin 2, Ireland Tel: +353 (0)1 7038000
Web: www.esb.ie
Registered Office: as above Registered in Ireland No. 471139

DRAWN	PRODUCED	VERIFIED	APPROVED	APPRO DATE
S. Bolton	D. Shiels	S. Shanley	F. Quigley	19.08.2015
CLIENT REF	No. of SHEETS	SIZE	REV	SCALE
	1	A1	0	1:50,000

DRAWING NUMBER **QR320171-MWC-P-1001**



LEGEND:

- SITE BOUNDARY
- ACCESS TRACK
- - - PUBLIC ROAD WIDENING
- TURBINE HARDSTANDING AREA
- 5m CONTOUR
- 1m CONTOUR

NOTES:

1. CO-ORDINATES TO ITM.
2. LEVELS TO MALN HEAD DATUM.

TURBINE LOCATIONS

No.	Easting	Northing	Level (m)
G001	509157.000	571590.000	311.500
G002	509262.500	571347.000	335.500
G003	509250.700	571981.500	323.500
G004	509453.000	570738.000	306.000
G005	509860.521	570428.369	390.000
G006	510154.000	570247.000	405.500
G007	510087.531	569921.806	370.000
G008	508859.792	569947.807	383.000
G009	508625.093	569547.612	380.500
G010	509104.739	569708.857	390.000
G011	508795.802	569239.958	403.000
G012	509229.710	569319.939	460.000
G013	509650.621	569401.919	493.000
G014	509338.217	568932.126	465.000
G015	509054.743	568536.107	454.000
G016	507371.103	568711.078	403.000
G017	507145.152	568973.024	457.000
G018	507538.985	569062.782	410.000
G019	507329.115	569307.951	463.000
G020	507610.060	570304.738	370.000
G021	507992.980	570503.693	350.000
G022	507484.089	570623.670	395.000
G023	507117.167	570662.684	384.500
G024	506701.255	570549.690	401.500
G025	507777.120	572314.637	329.000
G026	507243.785	572069.293	384.000
G027	507605.781	572006.260	346.000
G028	507296.500	571721.278	345.000
G029	507005.834	571788.354	353.000
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G033	506096.027	571517.417	388.500
G034	506366.970	571771.361	390.500
G035	506663.382	571998.108	390.500
G036	507568.387	572430.328	367.000
G037	507216.785	572336.650	395.500
G038	506955.494	572364.104	396.000

MET. MAST LOCATIONS

No.	Easting	Northing	Level (m)
MM1	510015.0	570372.0	406
MM2	508956.0	569448.0	412
MM3	506879.0	570755.0	380
MM4	506232.0	571679.0	400

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The following maps are shown on this drawing: 6322, 6323, 6367, 6368, 6412 & 6413 (OSI Vector Mapping 1:5000)

REV	DATE	REVISION DESCRIPTION	DRN	PRG	VER	APP
0	19.08.15	ISSUED FOR PLANNING	SB	DS	SS	FG

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED

TENDER CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract: **PLANNING APPLICATION**

Drawing Title: **SITE LAYOUT (ORTHO PHOTO BACKGROUND)**

Production Unit: **WIND DEVELOPMENT**

ESB Energy for generations

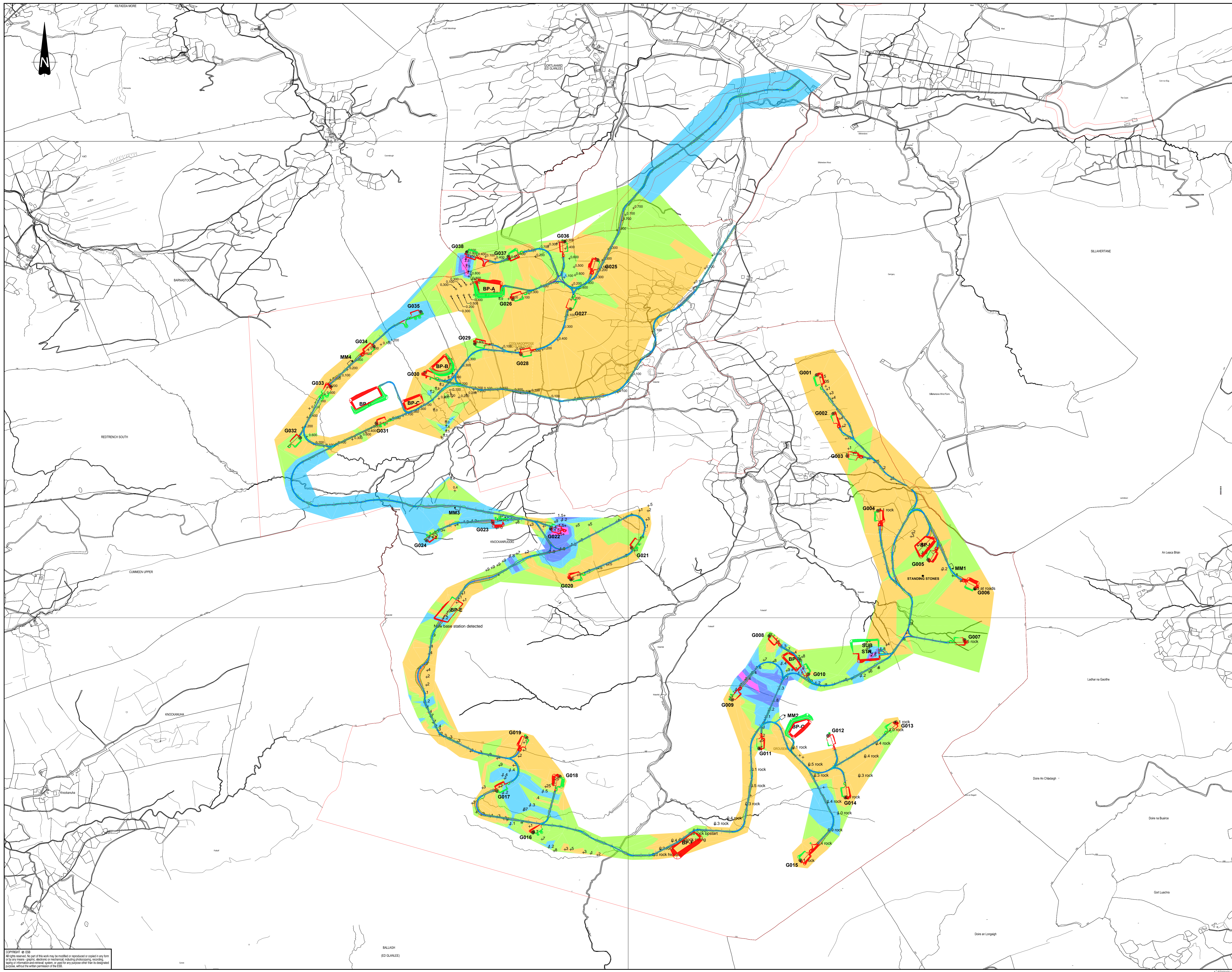
ESB Wind Development Ltd., Stephen Court, 16-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 7038000
 Web: www.esb.ie
 Registered Office: as above Registered in Ireland No. 471139

NAME	FUNCTION	DESIGNED	CHECKED	DATE
S. Bolton	D. Shiels	S. Shanley	F. O'Grady	19.08.2015

Scale: 1:7500 u.n.o.

DRAWING NUMBER: **QR320171-MWC-P-1017**

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LEGEND:

- SITE BOUNDARY
- ACCESS TRACK
- PUBLIC ROAD WIDENING
- TURBINE HARDSTANDING AREA
- 5m CONTOUR
- 1m CONTOUR

NOTES:

- CO-ORDINATES TO ITM.
- LEVELS TO MALIN HEAD DATUM.

TURBINE LOCATIONS

No.	Easting	Northing	Level (m)
G001	509157.000	571590.000	311.500
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G008	508859.792	569947.807	383.000
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G014	509338.217	568932.126	465.000
G015	509054.743	568536.107	454.000
G016	507371.103	568711.078	403.000
G017	507145.152	568973.024	457.000
G018	507538.985	569062.782	410.000
G019	507329.115	569307.951	463.000
G020	507610.060	570304.738	370.000
G021	507992.980	570503.693	350.000
G022	507494.089	570623.670	395.000
G023	507117.167	570662.664	384.500
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MM3	506879.0	570755.0	380
MM4	506232.0	571679.0	400

PEAT DEPTHS

- 0m-0.5m Peat Depth
- 0.5m-1.0m Peat Depth
- 1.0m-1.5m Peat Depth
- 1.5m-2.0m Peat Depth
- 2.0m-2.5m Peat Depth
- 2.5m-3.0m Peat Depth

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		PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED					
		CLIENT APPROVAL		CONSTRUCTION	AS-BUILT	REVISED	

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract: **PLANNING APPLICATION**

Drawing Title: **SITE LAYOUT
PEAT PROBE DATA AND ESTIMATED PEAT BANDINGS**

Production Unit: **WIND DEVELOPMENT**

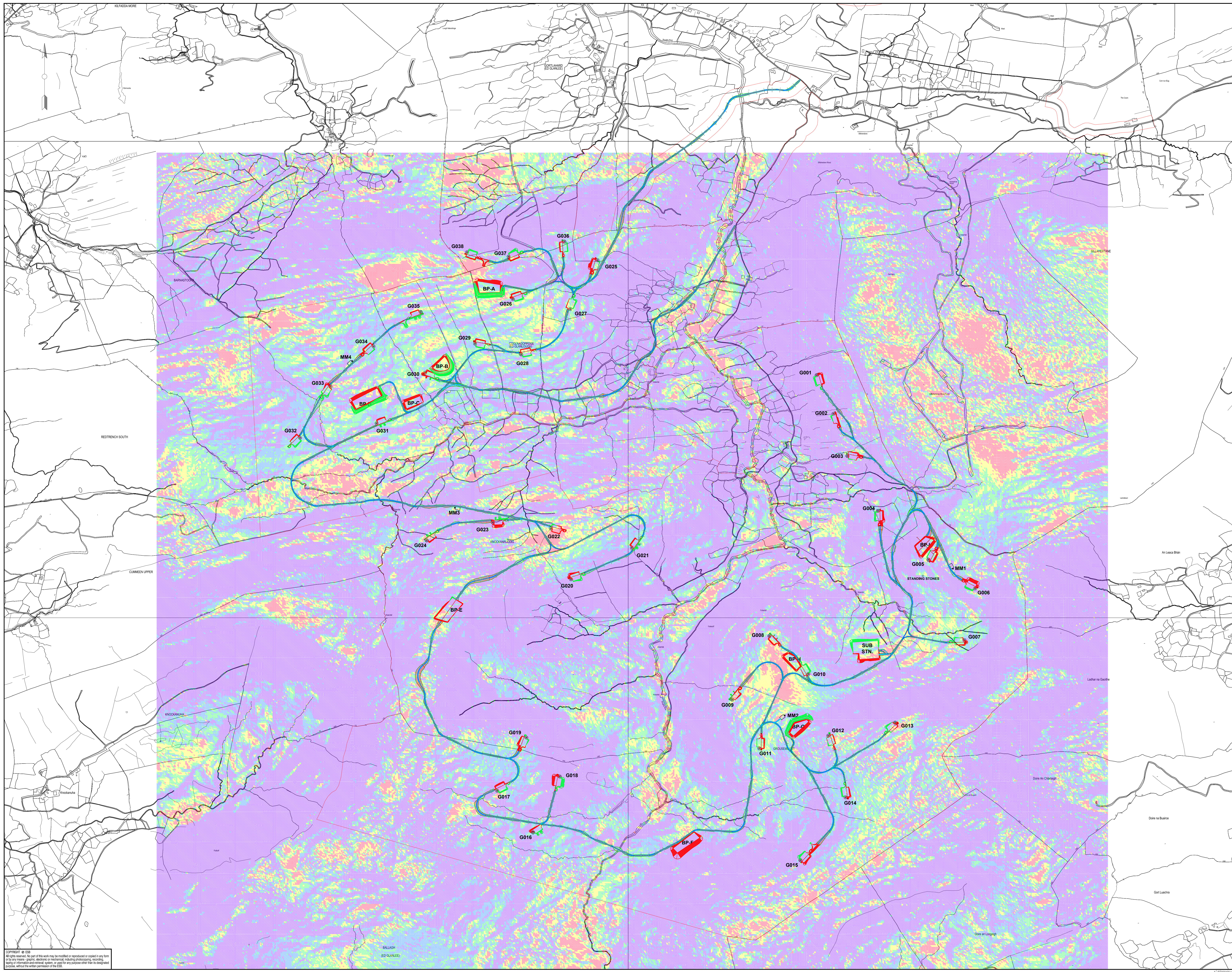
ESB Energy for generations

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 Web: www.esb.ie
 Registered Office: as above Registered in Ireland No. 471139

NAME	ROLE	DESIGNED	CHECKED	DATE
S. Bolton	D. Shields	S. Shanley	F. O'Grady	19.08.2015
SCALE	NO. OF SHEETS	SHEET NO.	TOTAL SHEETS	DATE
1:7500 u.n.o.	1	AO	0	

DRAWING NUMBER: **QR320171-MWC-P-1018**

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LEGEND:

- SITE BOUNDARY
- ACCESS TRACK
- PUBLIC ROAD WIDENING
- TURBINE HARDSTANDING AREA
- 5m CONTOUR
- 1m CONTOUR

NOTES:

- CO-ORDINATES TO ITM.
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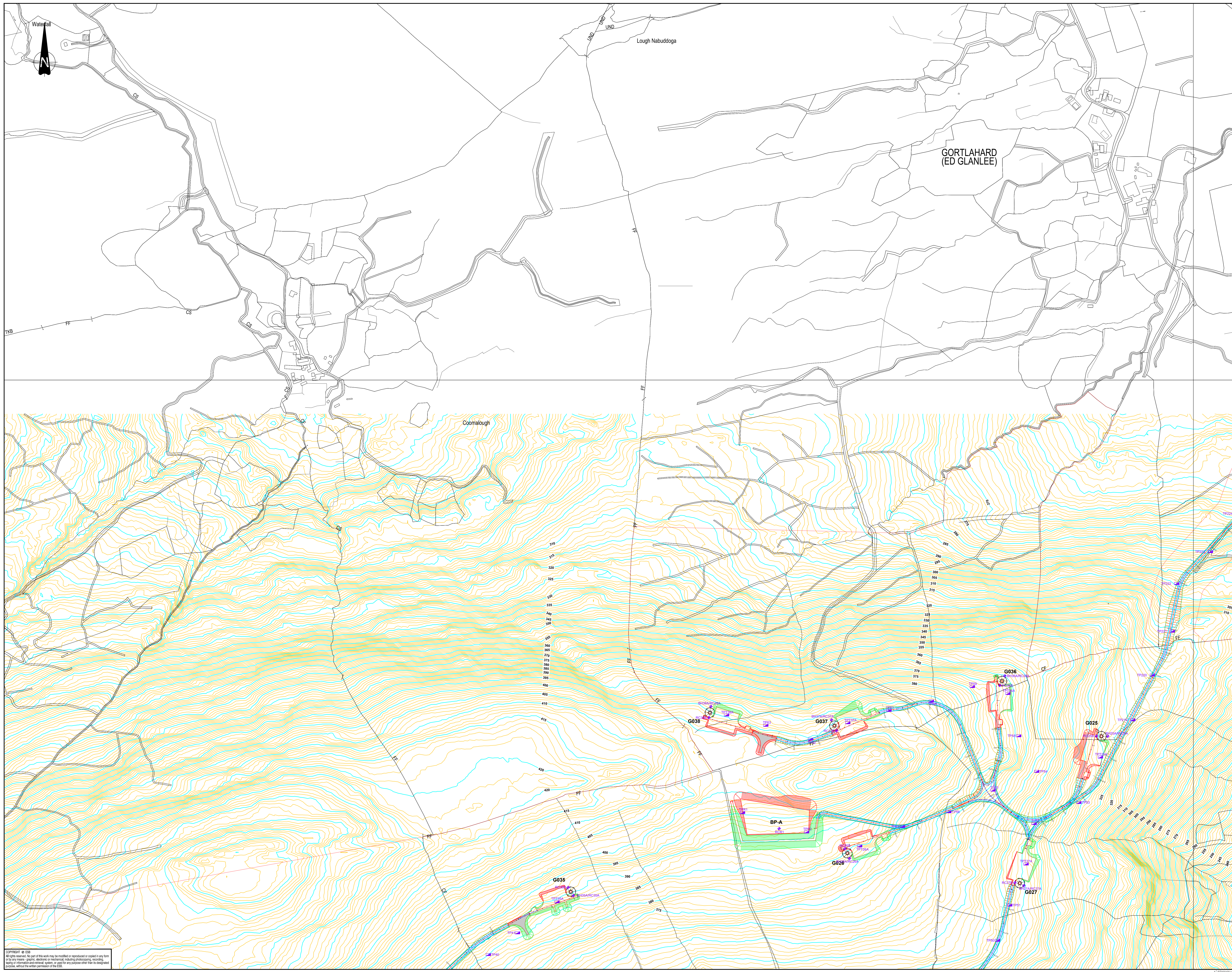
- 0°-3°
- 3°-6°
- 6°-7°
- 7°-10°
- >10°

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0	19.08.15	ISSUED FOR PLANNING	SB	DS	SS	FG
REV	DATE	REVISION DESCRIPTION	DRN	PRG	VER	APP
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Client: ESB WIND DEVELOPMENT LTD.						
Project: GROUSEMOUNT WIND FARM						
Contract: PLANNING APPLICATION						
Drawing Title: SITE LAYOUT MAP GROUND SLOPE MAP						
Production Unit: WIND DEVELOPMENT						
ESB Wind Development Ltd., Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 7038000 Web: www.esb.ie Registered Office: as above Registered in Ireland No. 471139						
Drawn	Checked	Issued	Approved	Date		
S. Bolton	D. Shiels	S. Shanley	F. O'Grady	19.08.2015		
Scale	1:7500 u.n.o.					
DRAWING NUMBER: QR320171-MWC-P-1019						

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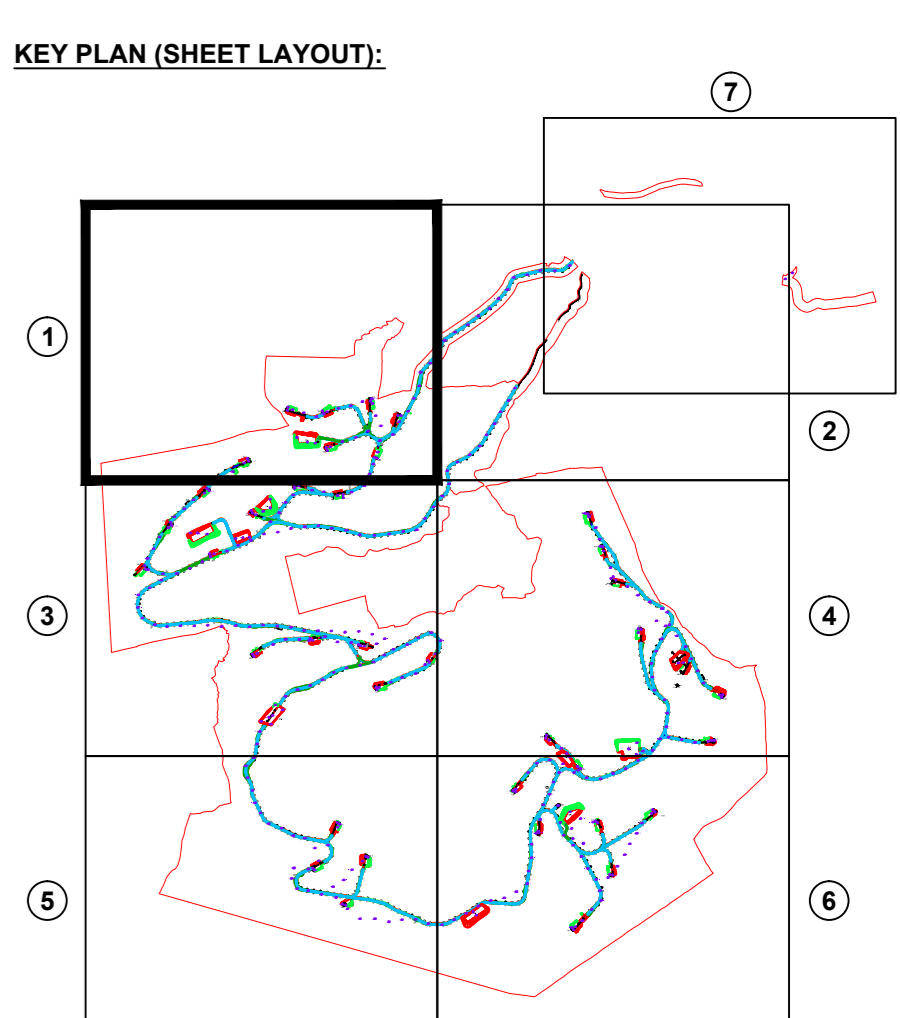
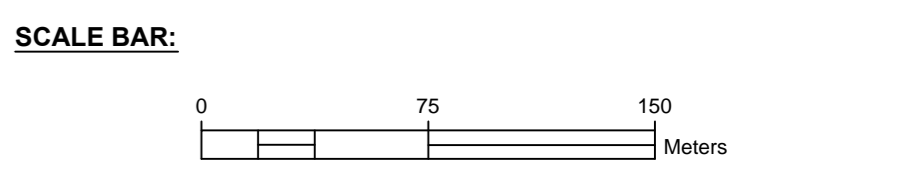
- SITE BOUNDARY
- ACCESS TRACK
- - - PUBLIC ROAD WIDENING
- TURBINE HARDSTANDING AREA
- 5m CONTOUR
- 1m CONTOUR

NOTES:

- CO-ORDINATES TO ITM.
- LEVELS TO MALIN HEAD DATUM.

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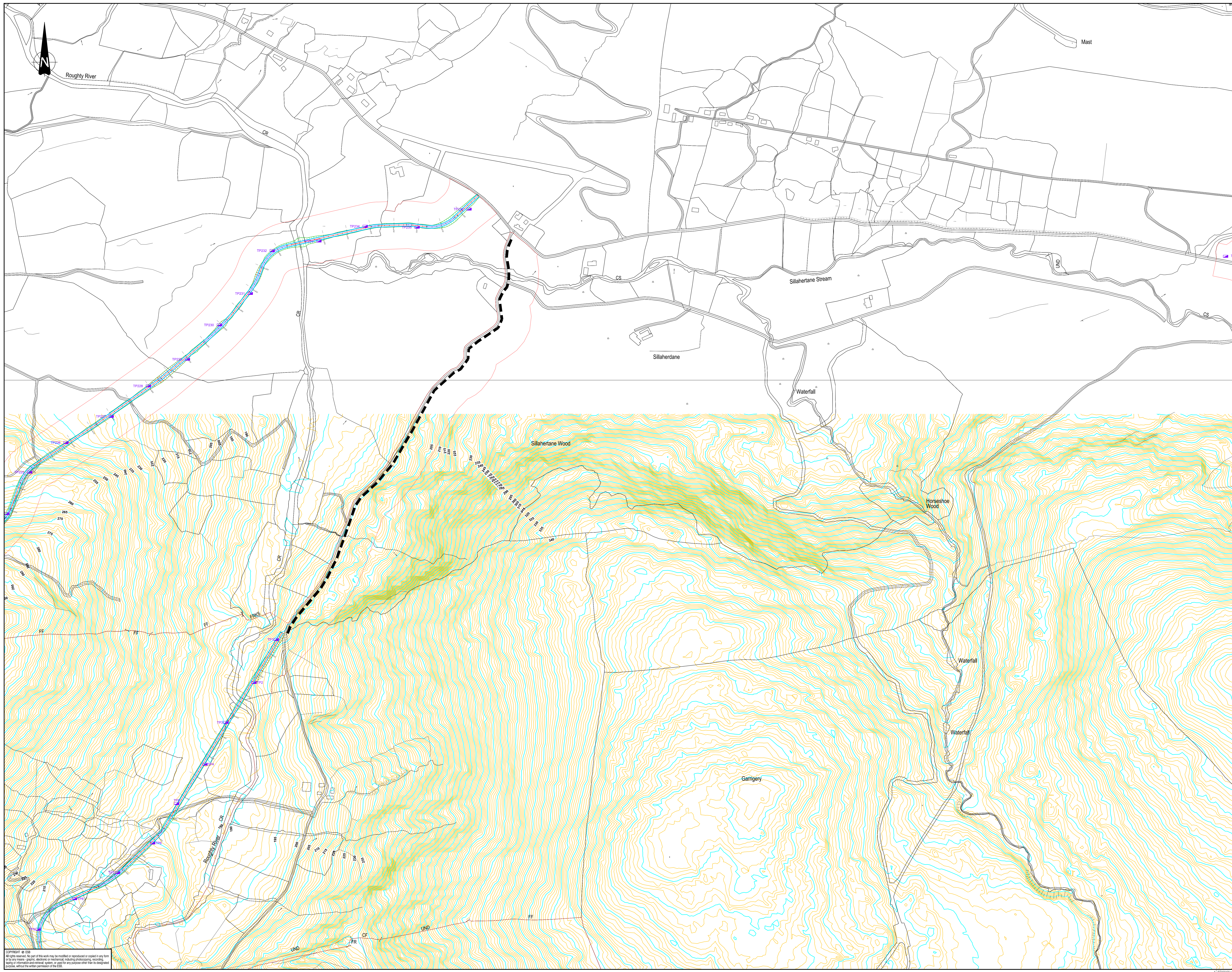
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REV	DATE	REVISION DESCRIPTION	DRN	PRG	VER	APP
0	19.08.15	ISSUED FOR PLANNING	SB	DS	SS	FG
PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED						
TENDER	<input type="checkbox"/> CLIENT APPROVAL <input type="checkbox"/> CONSTRUCTION <input type="checkbox"/> AS-BUILT <input type="checkbox"/> REVISED					
Client	ESB WIND DEVELOPMENT LTD.					
Project	GROUSEMOUNT WIND FARM					
Contract	PLANNING APPLICATION					
Drawing Title	SITE LAYOUT (1:2500) SHEET 1 OF 7 SITE INVESTIGATION LOCATIONS					
Production Unit	WIND DEVELOPMENT					
ESB Wind Development Ltd., Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 7038000 Web: www.esb.ie Registered Office: as above Registered in Ireland No. 471139						
Author	Checker	Designer	Approver	Date		
S. Bolton	D. Shiels	S. Shanley	F. O'Grady	19.08.2015		
Scale	No. of Sheets	Sheet No.	Scale	Date		
1:2500	7	AO	0	19.08.2015		
DRAWING NUMBER						
QR320171-MWC-P-1020						

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LEGEND:

- SITE BOUNDARY
- ACCESS TRACK
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- TURBINE HARDSTANDING AREA
- 5m CONTOUR
- 1m CONTOUR

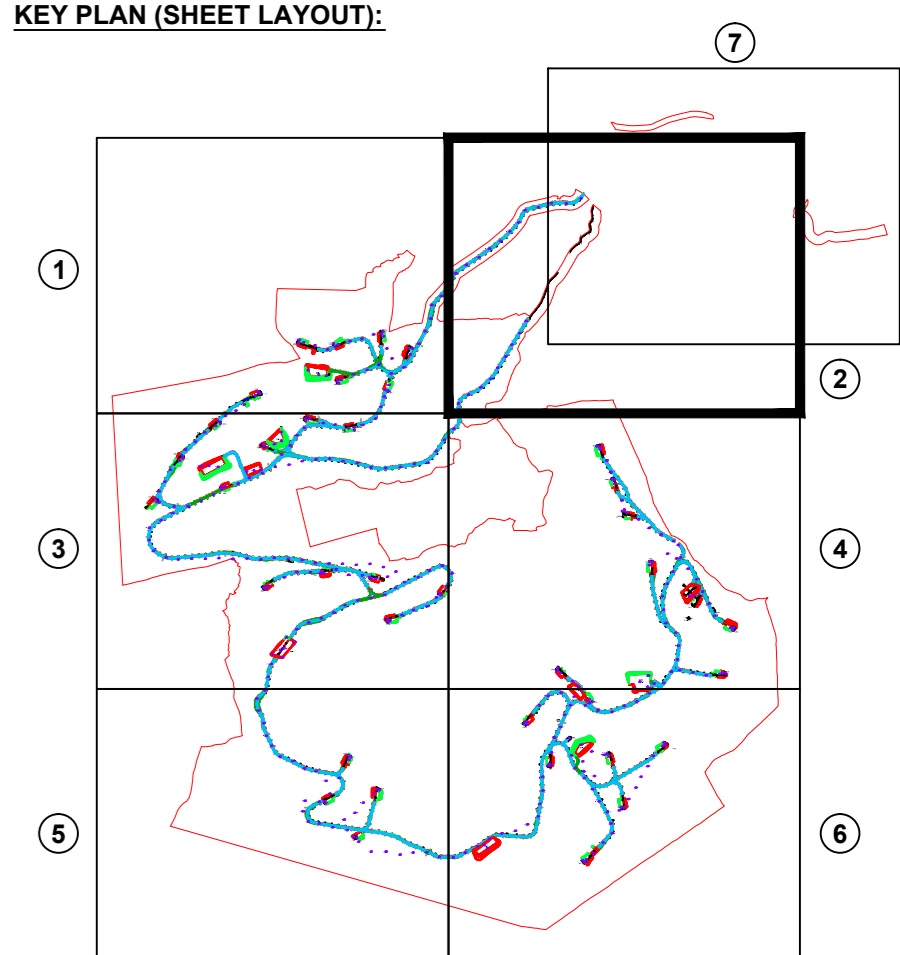
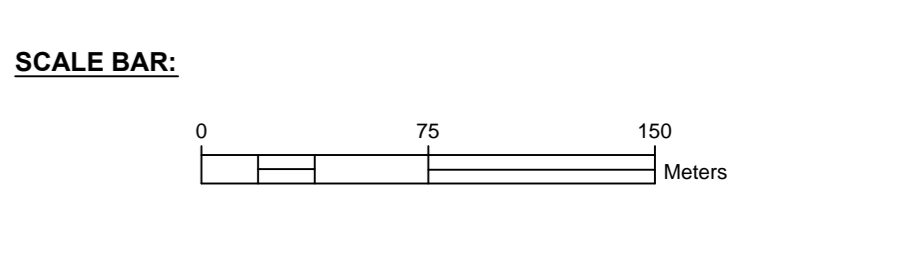
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G007	510087.5	569921.8	370.000
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G010	509104.7	569708.9	390.000
G011	508795.8	569240.0	403.000
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G014	509338.2	568932.1	465.000
G015	509054.7	568536.1	454.000
G016	507371.1	568711.1	403.000
G017	507145.2	568973.0	457.000
G018	507539.0	569062.8	410.000
G019	507329.1	569308.0	463.000
G020	507610.1	570304.7	370.000
G021	507993.0	570503.7	350.000
G022	507484.1	570623.7	395.000
G023	507117.2	570627.7	384.500
G024	506701.3	570549.7	401.500
G025	507777.1	572314.6	329.000
G026	507243.8	572069.3	364.000
G027	507605.8	572006.3	346.000
G028	507296.5	571721.3	345.000
G029	507005.8	571788.4	353.000
G030	506690.9	571605.4	344.000
G031	506385.7	571287.0	343.500
G032	505904.1	571195.5	367.500
G033	506096.0	571517.4	388.500
G034	506367.0	571771.4	390.500
G035	506663.4	571988.1	390.500
G036	507568.4	572430.3	367.000
G037	507216.8	572336.7	395.500
G038	506955.5	572364.1	396.000

MET. MAST LOCATIONS			
No.	Easting	Northing	Level (m)
MM1	510015.0	570372.0	406
MM2	508956.0	569448.0	412
MM3	506879.0	570755.0	380
MM4	506232.0	571679.0	400

SCALE BAR:



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 The following maps are shown on this drawing:
 6323 & 6368 (OSI Vector Mapping 1:5000)

REV	DATE	REVISION DESCRIPTION	DRN	PRG	VER	APP
0	19.08.15	ISSUED FOR PLANNING		SB	DS	SS

TENDER: CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract: **PLANNING APPLICATION**

Drawing Title: **SITE LAYOUT (1:2500)
SHEET 2 OF 7
SITE INVESTIGATION LOCATIONS**

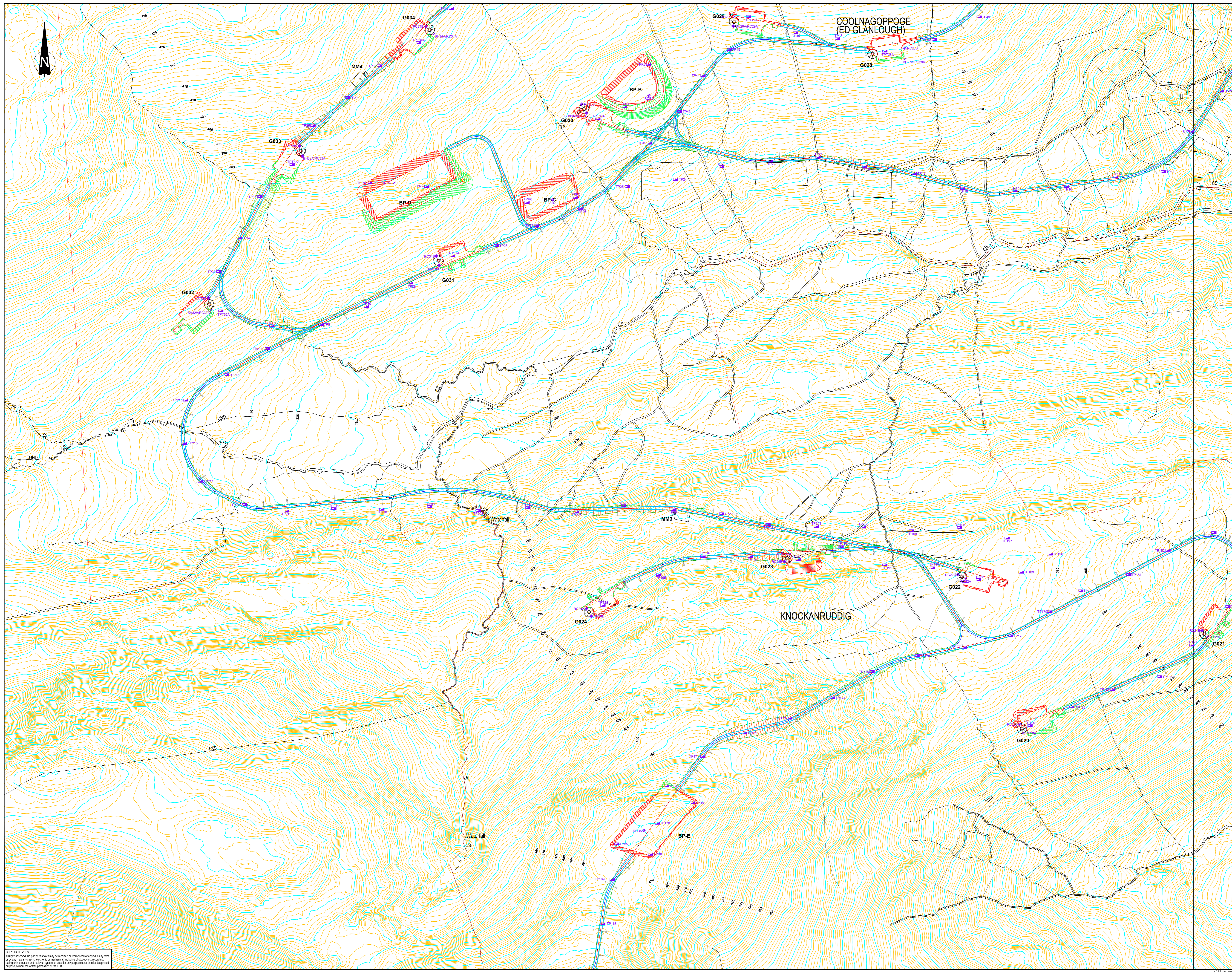
Production Unit: **WIND DEVELOPMENT**

ESB Wind Development Ltd., Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 7038000
 Web: www.esb.ie
 Registered Office: as above Registered in Ireland No. 471139

NAME	ROLE	DESIGNED	APPROVED	DATE
S. Bolton	D. Shiel	S. Shanley	F. O'Grady	19.08.2015

DRAWING NUMBER: **QR320171-MWC-P-1020**

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LEGEND:

- SITE BOUNDARY
- ACCESS TRACK
- PUBLIC ROAD WIDENING
- TURBINE HARDSTANDING AREA
- 5m CONTOUR
- 1m CONTOUR

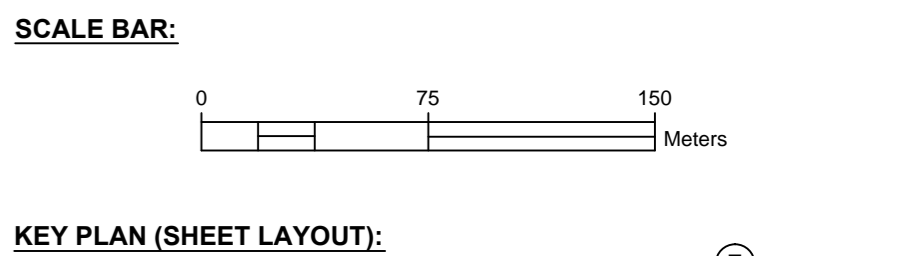
NOTES:

1. CO-ORDINATES TO ITM.
2. LEVELS TO MALIN HEAD DATUM.

TURBINE LOCATIONS			
No.	Easting	Northing	Level (m)
G001	509157.0	571590.0	311.500
G002	509262.5	571347.0	335.500
G003	509350.7	571081.5	323.500
G004	509543.0	570736.0	306.000
G005	509860.5	570428.4	390.000
G006	510154.0	570247.0	405.500
G007	510087.5	569921.8	370.000
G008	509959.8	569947.8	353.000
G009	509825.1	569547.6	390.500
G010	509104.7	569708.9	390.000
G011	508795.8	569240.0	403.000
G012	509229.7	569319.9	460.000
G013	509650.6	569401.9	493.000
G014	509338.2	569321.1	465.000
G015	509054.7	568536.1	454.000
G016	507371.1	568711.1	403.000
G017	507145.2	568973.0	457.000
G018	507539.0	569062.8	410.000
G019	507329.1	569308.0	463.000
G020	507610.1	570304.7	370.000
G021	507993.0	570503.7	350.000
G022	507484.1	570623.7	395.000
G023	507117.2	570662.7	384.500
G024	506701.3	570549.7	401.500
G025	507777.1	572314.6	329.000
G026	507243.8	572069.3	384.000
G027	507605.8	572006.3	346.000
G028	507296.5	571721.3	345.000
G029	507005.8	571788.4	353.000
G030	506690.9	571605.4	344.000
G031	506385.7	571287.0	343.500
G032	505904.1	571195.5	367.500
G033	506096.0	571517.4	398.500
G034	506367.0	571771.4	390.500
G035	506663.4	571988.1	390.500
G036	507568.4	572430.3	367.000
G037	507216.8	572336.7	395.500
G038	506955.5	572364.1	396.000

MET. MAST LOCATIONS			
No.	Easting	Northing	Level (m)
MM1	510015.0	570372.0	406
MM2	508956.0	569448.0	412
MM3	506879.0	570755.0	380
MM4	506232.0	571679.0	400

SCALE BAR:



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The following maps are shown on this drawing;
 6367, 6368, 6412 & 6413 (OSI Vector Mapping 1:5000)

REV	DATE	REVISION DESCRIPTION	DRN	PRG	VER	APP
0	19.08.15	ISSUED FOR PLANNING	SB	DS	SS	FG

PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED

TENDER CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract: **PLANNING APPLICATION**

Drawing Title: **SITE LAYOUT (1:2500)
SHEET 3 OF 7
SITE INVESTIGATION LOCATIONS**

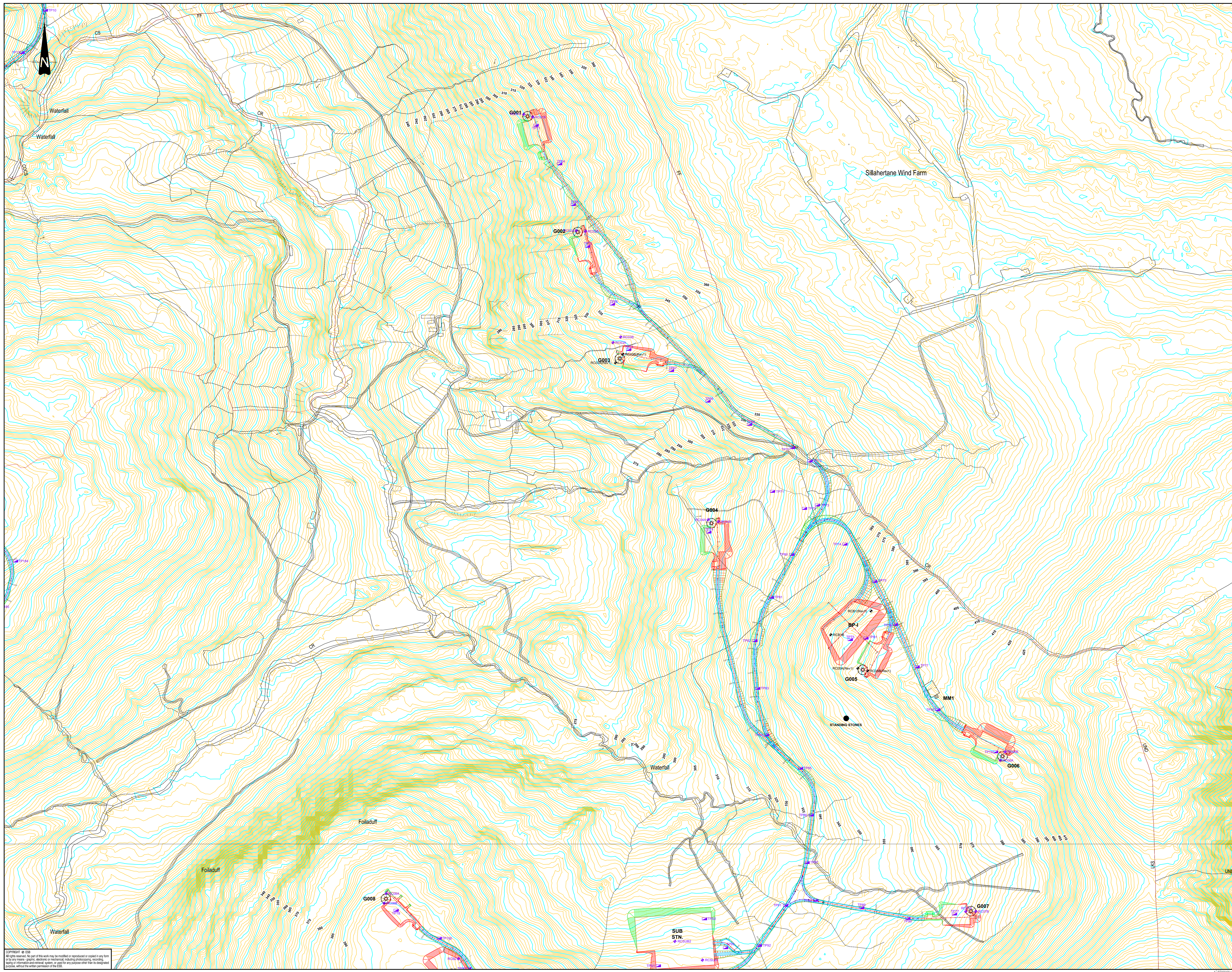
Production Unit: **WIND DEVELOPMENT**

ESB Wind Development Ltd., Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland; Tel: +353 (0)1 7038000; Web: www.esb.ie; Registered Office: as above Registered in Ireland No. 471139

Author:	Checker:	Designer:	Appr. Date:
S. Bolton	D. Shiels	S. Shanley	F. O'Grady
Scale:	Drawn by:	Rev:	Date:
7	AO	0	19.08.2015

DRAWING NUMBER: **QR320171-MWC-P-1020**

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LEGEND:

[Red line]	SITE BOUNDARY
[Green line]	ACCESS TRACK
[Black dashed line]	PUBLIC ROAD WIDENING
[Red outline]	TURBINE HARDSTANDING AREA
[Yellow line]	5m CONTOUR
[Blue line]	1m CONTOUR

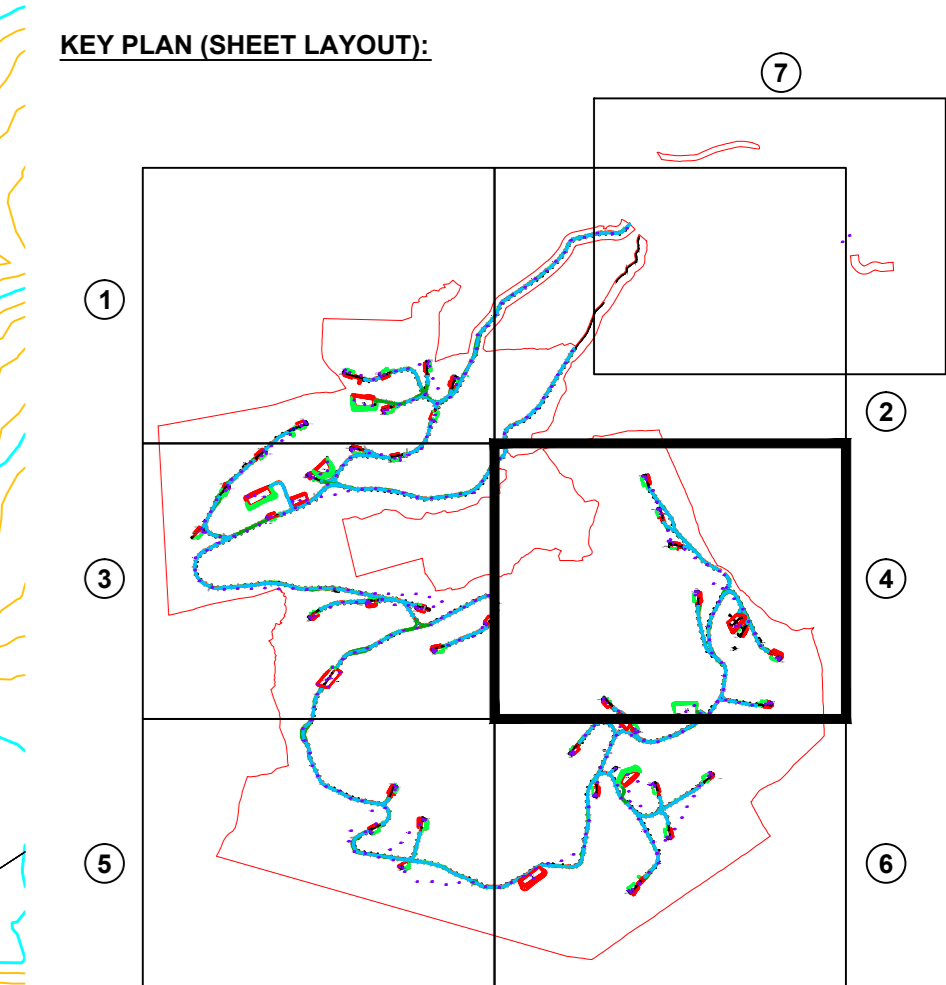
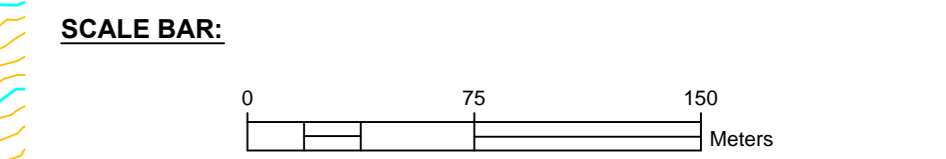
NOTES:
 1. CO-ORDINATES TO ITM.
 2. LEVELS TO MALIN HEAD DATUM.

TURBINE LOCATIONS

No.	Easting	Northing	Level (m)
G001	509157.0	571590.0	311.500
G002	509862.8	571347.0	335.500
G003	509550.7	571081.5	323.500
G004	509543.0	570736.0	306.000
G005	509860.5	570428.4	390.000
G006	510154.0	570247.0	405.500
G007	510087.5	569921.8	370.000
G008	509859.8	569947.8	353.000
G009	509825.1	569547.6	380.500
G010	509104.7	569708.9	390.000
G011	508795.8	569240.0	403.000
G012	509229.7	569319.9	460.000
G013	509650.6	569401.9	493.000
G014	509338.2	569321.1	465.000
G015	509054.7	568536.1	454.000
G016	507371.1	568711.1	403.000
G017	507145.2	568973.0	457.000
G018	507539.0	569062.8	410.000
G019	507329.1	569308.0	463.000
G020	507610.1	570304.7	370.000
G021	507993.0	570503.7	350.000
G022	507484.1	570623.7	395.000
G023	507117.2	570662.7	384.500
G024	506701.3	570549.7	401.500
G025	507777.1	572314.6	329.000
G026	507243.8	572069.3	384.000
G027	507805.8	572006.3	346.000
G028	507296.5	571721.3	345.000
G029	507005.8	571788.4	353.000
G030	506690.9	571605.4	344.000
G031	506385.7	571287.0	343.500
G032	505904.1	571195.5	367.500
G033	506096.0	571517.4	398.500
G034	506367.0	571771.4	390.500
G035	506663.4	571988.1	390.500
G036	507568.4	572430.3	367.000
G037	507216.8	572336.7	395.500
G038	506955.5	572364.1	396.000

MET. MAST LOCATIONS

No.	Easting	Northing	Level (m)
MM1	510015.0	570372.0	406
MM2	508956.0	569448.0	412
MM3	506879.0	570755.0	380
MM4	506232.0	571679.0	400



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 The following maps are shown on this drawing:
 6368 & 6413 (OSI Vector Mapping 1:5000)

REV	DATE	REVISION DESCRIPTION	DRN	PRG	VER	APP	
0	19.08.15	ISSUED FOR PLANNING		SB	DS	SS	FG

PURPOSE OF ISSUE: PRELIMINARY UNLESS INDICATED
 CLIENT APPROVAL: CONSTRUCTION: AS-BUILT: REVISION:

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract: **PLANNING APPLICATION**

Drawing Title: **SITE LAYOUT (1:2500)
 SHEET 4 OF 7
 SITE INVESTIGATION LOCATIONS**

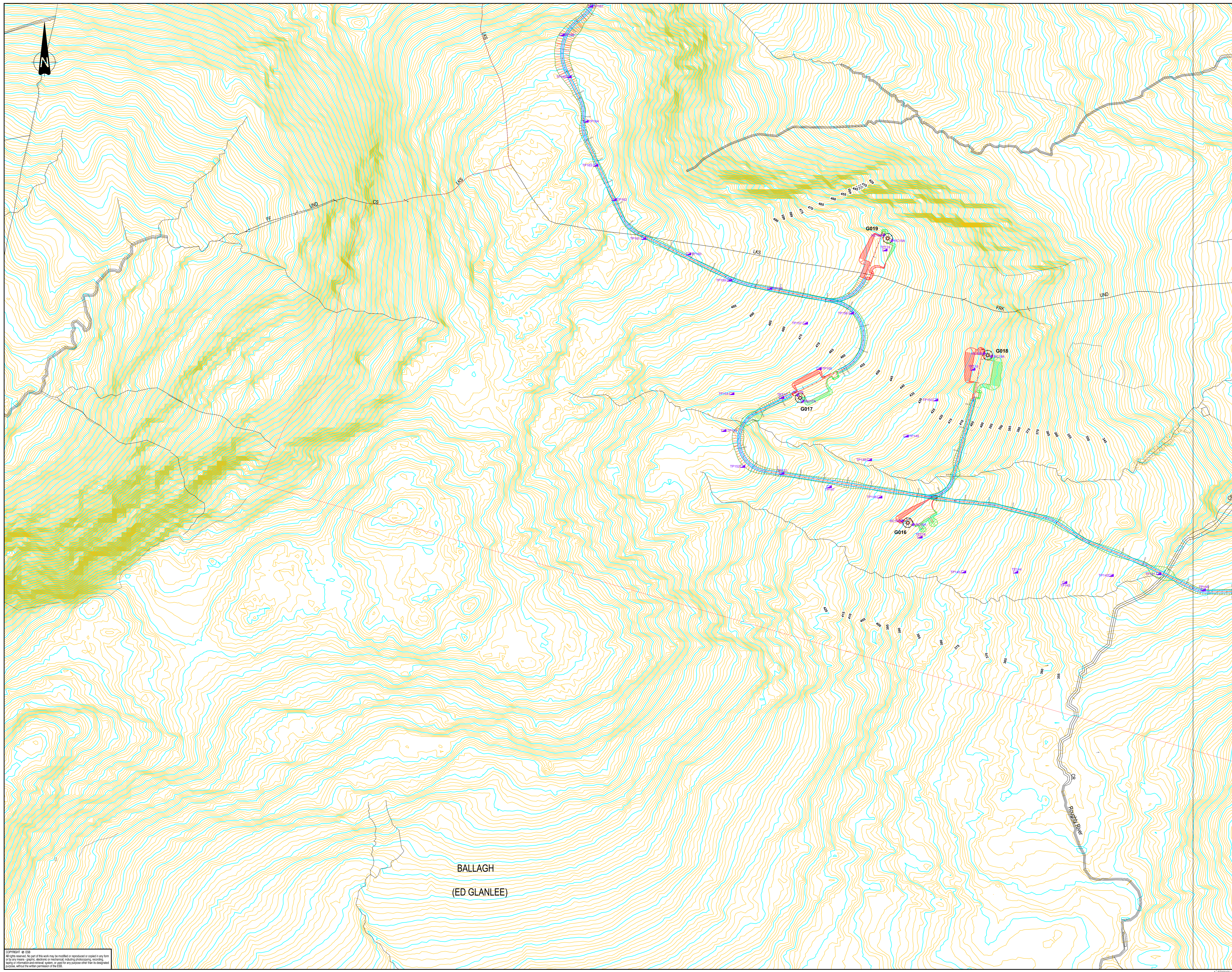
Production Unit: **WIND DEVELOPMENT**

ESB Wind Development Ltd., Stephen Court, 16-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 7038000
 Web: www.esb.ie
 Registered Office: as above Registered in Ireland No. 471139

NAME	ROLE	ISSUED	APPROVED	DATE
S. Bolton	D. Shields	S. Shanley	F. O'Grady	19.08.2015
COUNT NO	7	AO	0	SCALE 1:2500

DRAWING NUMBER: **QR320171-MWC-P-1020**

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LEGEND:

- SITE BOUNDARY
- ACCESS TRACK
- PUBLIC ROAD WIDENING
- TURBINE HARDSTANDING AREA
- 5m CONTOUR
- 1m CONTOUR

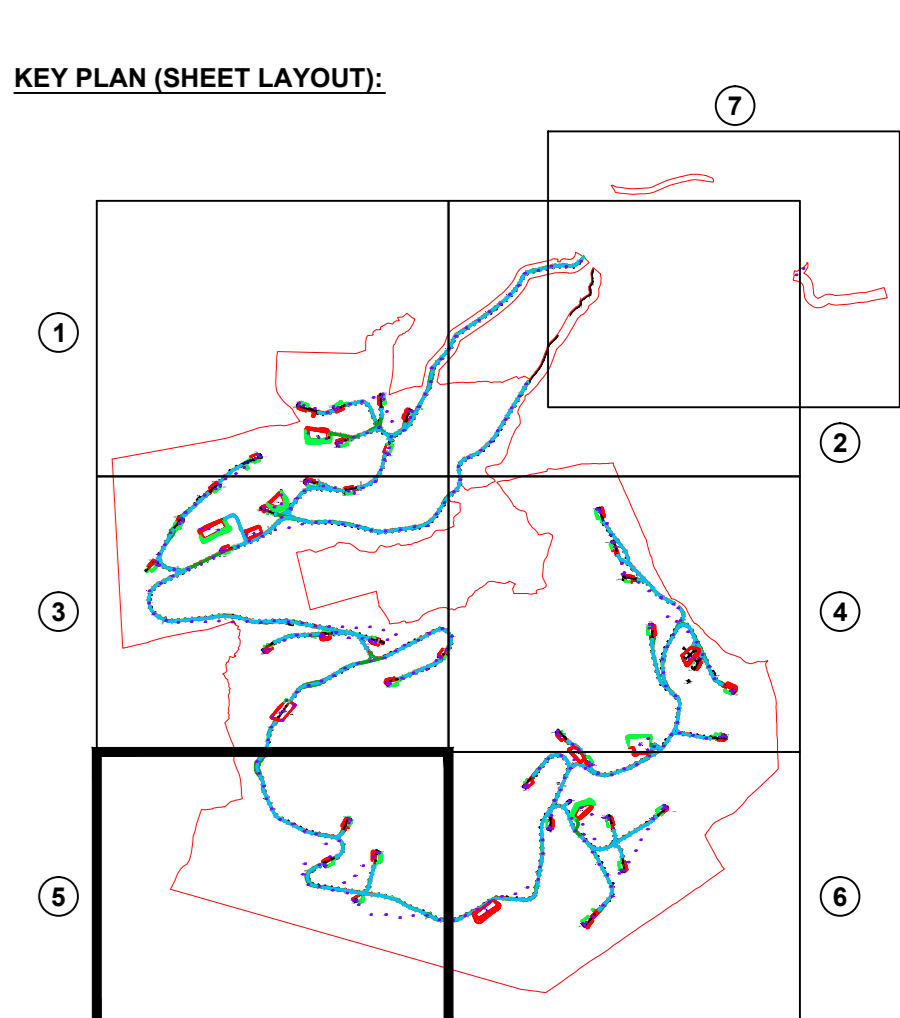
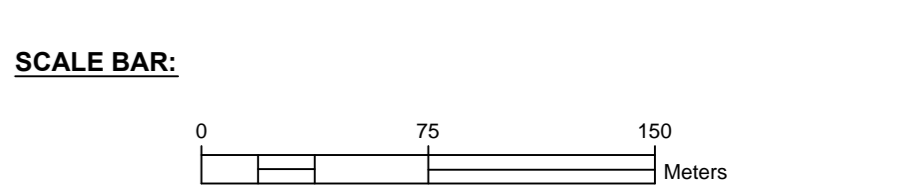
- NOTES:**
- CO-ORDINATES TO ITM.
 - LEVELS TO MALIN HEAD DATUM.

TURBINE LOCATIONS

No.	Easting	Northing	Level (m)
G001	509157.0	571590.0	311.500
G002	509262.5	571347.0	335.500
G003	509350.7	571081.5	323.500
G004	509543.0	570736.0	306.000
G005	509860.5	570428.4	390.000
G006	510154.0	570247.0	405.500
G007	510087.5	569921.8	370.000
G008	509859.8	569947.8	353.000
G009	508625.1	569547.6	380.500
G010	509104.7	569708.9	390.000
G011	508795.8	569240.0	403.000
G012	509229.7	569319.9	460.000
G013	509650.6	569401.9	493.000
G014	509338.2	568932.1	465.000
G015	509054.7	568536.1	454.000
G016	507371.1	568711.1	403.000
G017	507145.2	568973.0	457.000
G018	507539.0	569062.8	410.000
G019	507329.1	569308.0	463.000
G020	507610.1	570304.7	370.000
G021	507993.0	570503.7	350.000
G022	507484.1	570623.7	395.000
G023	507117.2	570662.7	384.500
G024	506701.3	570549.7	401.500
G025	507777.1	572314.6	329.000
G026	507243.8	572069.3	384.000
G027	507605.8	572006.3	346.000
G028	507296.5	571721.3	345.000
G029	507005.8	571788.4	353.000
G030	506690.9	571605.4	344.000
G031	506385.7	571287.0	343.500
G032	505904.1	571195.5	367.500
G033	506096.0	571517.4	388.500
G034	506367.0	571771.4	390.500
G035	506663.4	571988.1	390.500
G036	507568.4	572430.3	367.000
G037	507216.8	572336.7	395.500
G038	506955.5	572364.1	396.000

MET. MAST LOCATIONS

No.	Easting	Northing	Level (m)
MM1	510015.0	570372.0	406
MM2	508956.0	569448.0	412
MM3	506879.0	570755.0	380
MM4	506232.0	571679.0	400



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 6412 & 6413 (OSI Vector Mapping 1:5000)

REV	DATE	REVISION DESCRIPTION	DRN	CR	SS	FG
0	19.08.15	ISSUED FOR PLANNING		SB	DS	SS

PURPOSE OF ISSUE: PRELIMINARY UNLESS INDICATED

TENDER: CLIENT APPROVAL CONSTRUCTION AS-BUILT REVISED

Client: **ESB WIND DEVELOPMENT LTD.**

Project: **GROUSEMOUNT WIND FARM**

Contract: **PLANNING APPLICATION**

Drawing Title: **SITE LAYOUT (1:2500)
SHEET 5 OF 7
SITE INVESTIGATION LOCATIONS**

Production Unit: **WIND DEVELOPMENT**

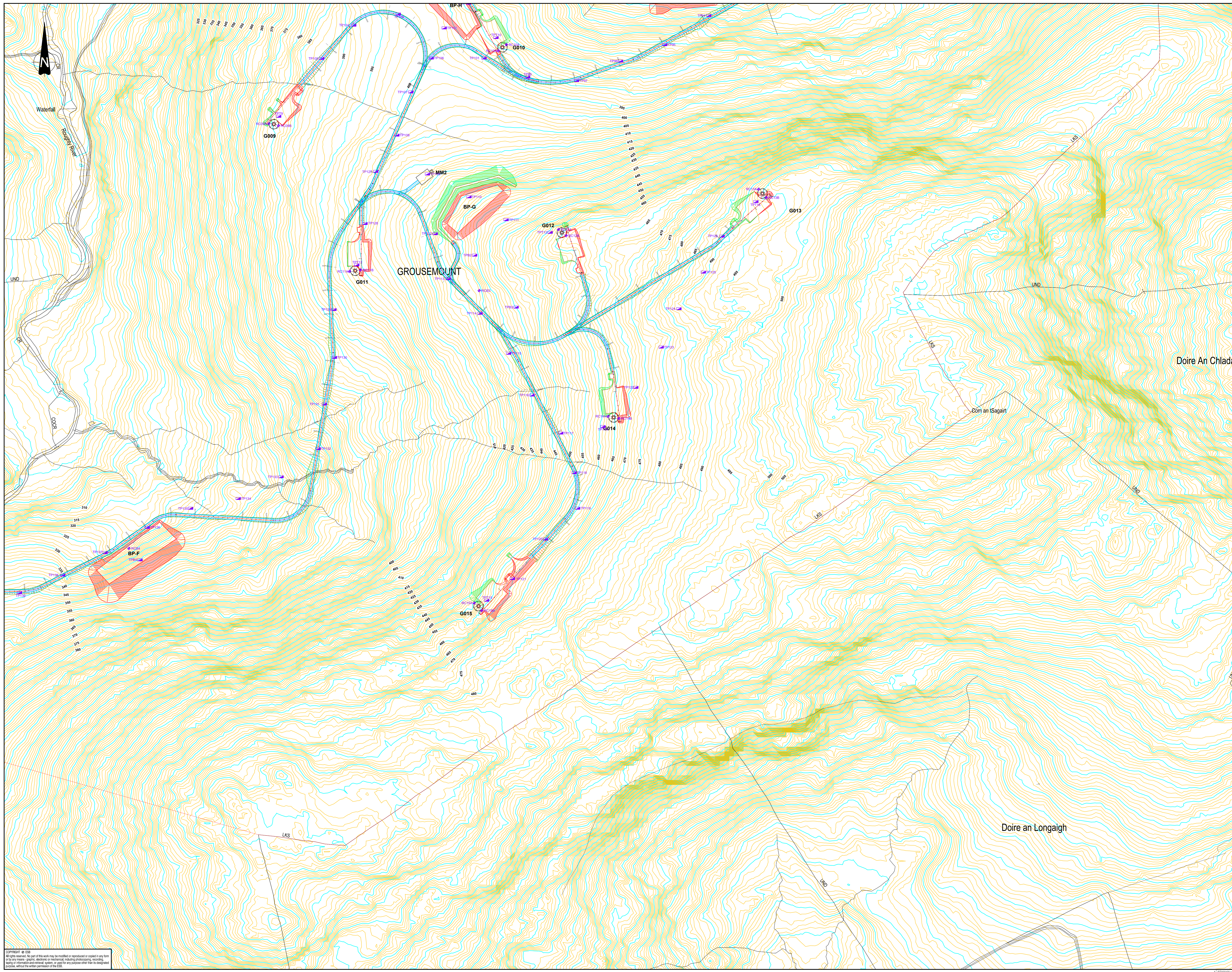
ESB Wind Development Ltd., Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 7038000
 Web: www.esb.ie
 Registered Office: as above Registered in Ireland No. 471139

NAME	ROLE	DESIGNED	DRAWN	CHECKED	DATE
S. Bolton	D. Shiel	S. Shanley	F. O'Grady		19.08.2015

Scale: 1:2500

DRAWING NUMBER: **QR320171-MWC-P-1020**

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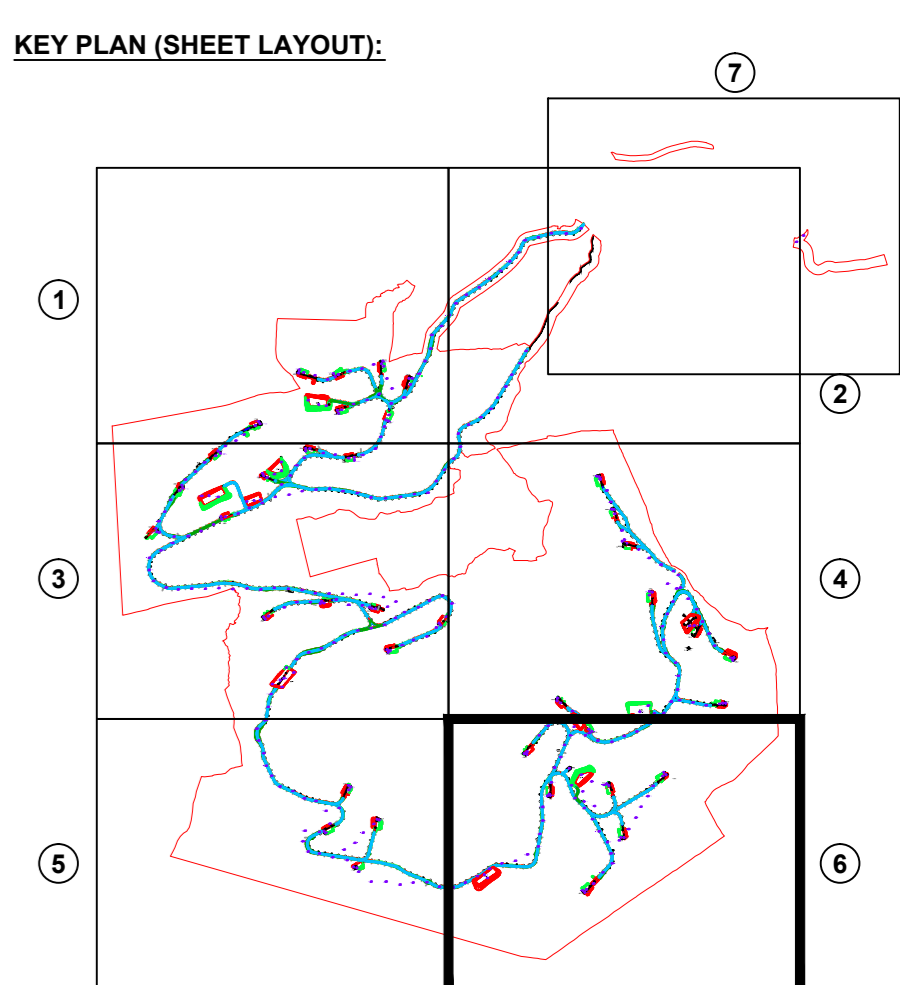
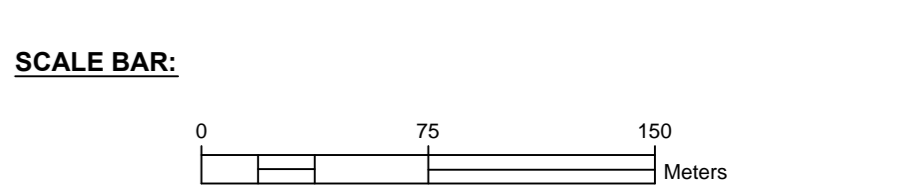
LEGEND:

- SITE BOUNDARY
- ACCESS TRACK
- PUBLIC ROAD WIDENING
- TURBINE HARDSTANDING AREA
- 5m CONTOUR
- 1m CONTOUR

- NOTES:**
- CO-ORDINATES TO ITM.
 - LEVELS TO MALIN HEAD DATUM.

TURBINE LOCATIONS			
No.	Easting	Northing	Level (m)
G001	509157.0	571590.0	311.500
G002	509862.5	571347.0	335.500
G003	509550.7	571081.5	323.500
G004	509543.0	570736.0	306.000
G005	509860.5	570428.4	390.000
G006	510154.0	570247.0	405.500
G007	510087.5	569921.8	370.000
G008	509859.8	569947.8	393.000
G009	508625.1	569547.6	380.500
G010	509104.7	569708.9	390.000
G011	508795.8	569240.0	403.000
G012	509229.7	569319.9	460.000
G013	509650.6	569401.9	493.000
G014	509338.2	568932.1	465.000
G015	509054.7	568536.1	454.000
G016	507371.1	568711.1	403.000
G017	507145.2	568973.0	457.000
G018	507539.0	569062.8	410.000
G019	507329.1	569308.0	463.000
G020	507610.1	570304.7	370.000
G021	507993.0	570503.7	350.000
G022	507484.1	570623.7	395.000
G023	507117.2	570662.7	384.500
G024	506701.3	570549.7	401.500
G025	507777.1	572314.6	329.000
G026	507243.8	572069.3	384.000
G027	507605.8	572006.3	346.000
G028	507296.5	571721.3	345.000
G029	507005.8	571788.4	353.000
G030	506690.9	571605.4	344.000
G031	506385.7	571287.0	343.500
G032	505904.1	571195.5	367.500
G033	506096.0	571517.4	388.500
G034	506367.0	571771.4	390.500
G035	506663.4	571988.1	390.500
G036	507568.4	572430.3	367.000
G037	507216.8	572336.7	395.500
G038	506955.5	572364.1	396.000

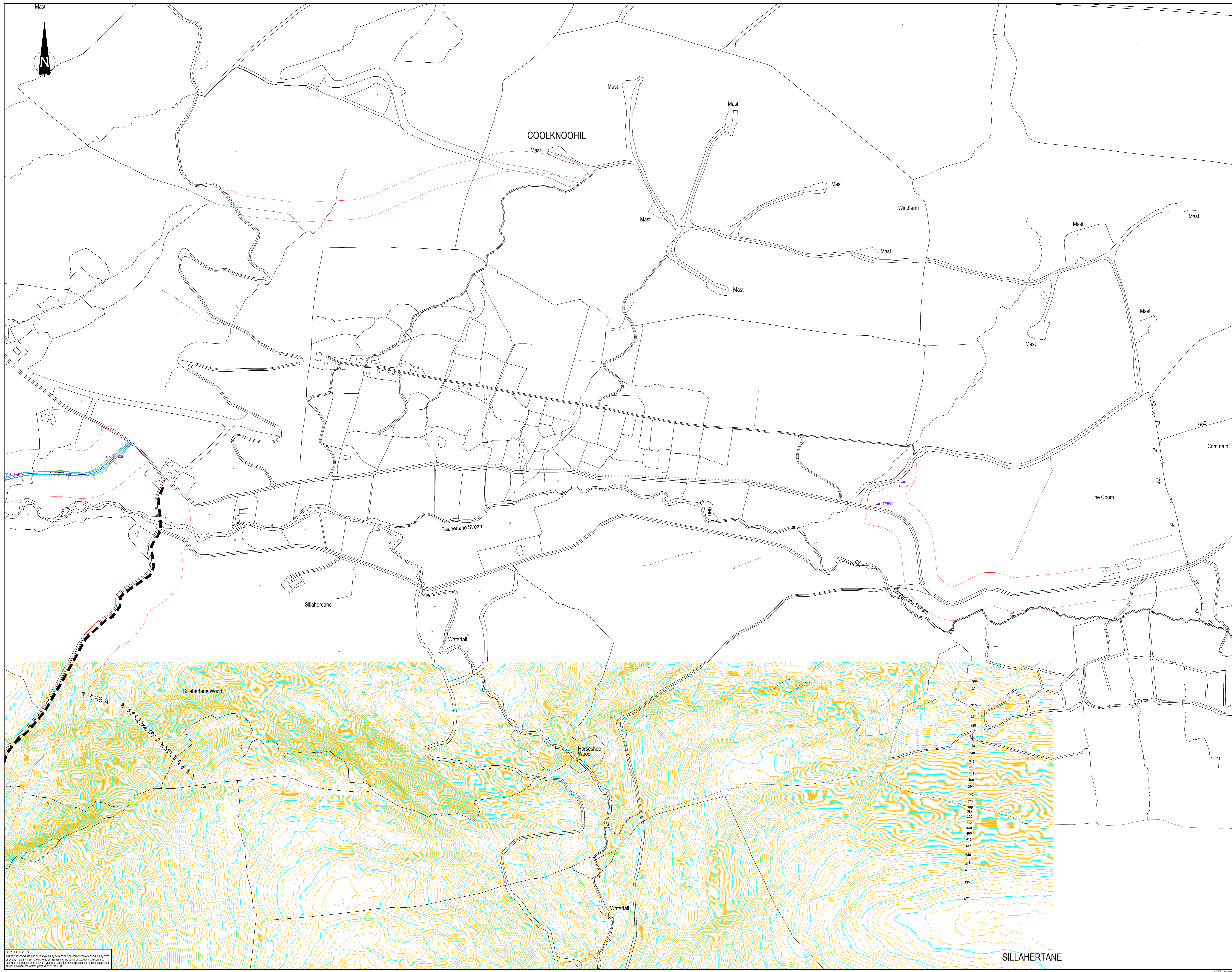
MET. MAST LOCATIONS			
No.	Easting	Northing	Level (m)
MM1	510015.0	570372.0	406
MM2	508956.0	569448.0	412
MM3	506879.0	570755.0	380
MM4	506232.0	571679.0	400



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 The following map is shown on this drawing:
 6413 (OSi Vector Mapping 1:5000)

0	19.08.15	ISSUED FOR PLANNING	SB	DS	SS	FG
REV	DATE	REVISION DESCRIPTION	DRN	PRG	VER	APP
PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED						
TENDER	<input type="checkbox"/> APPROVAL <input type="checkbox"/> CONSTRUCTION <input type="checkbox"/> AS-BUILT <input type="checkbox"/> REVISED <input type="checkbox"/>					
Client	ESB WIND DEVELOPMENT LTD.					
Project	GROUSEMOUNT WIND FARM					
Contract	PLANNING APPLICATION					
Drawing Title	SITE LAYOUT (1:2500) SHEET 6 OF 7 SITE INVESTIGATION LOCATIONS					
Production Unit	WIND DEVELOPMENT					
ESB Wind Development Ltd., Stephen Court, 16-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 7038000 Web: www.esb.ie Registered Office: as above Registered in Ireland No. 471139						
Author	Checker	Designer	Approved	Date		
S. Bolton	D. Shiel	S. Shanley	F. O'Grady	19.08.2015		
Drawn by	No. of Sheets	Scale				
7	AO	0	1:2500			
DRAWING NUMBER						
QR320171-MWC-P-1020						

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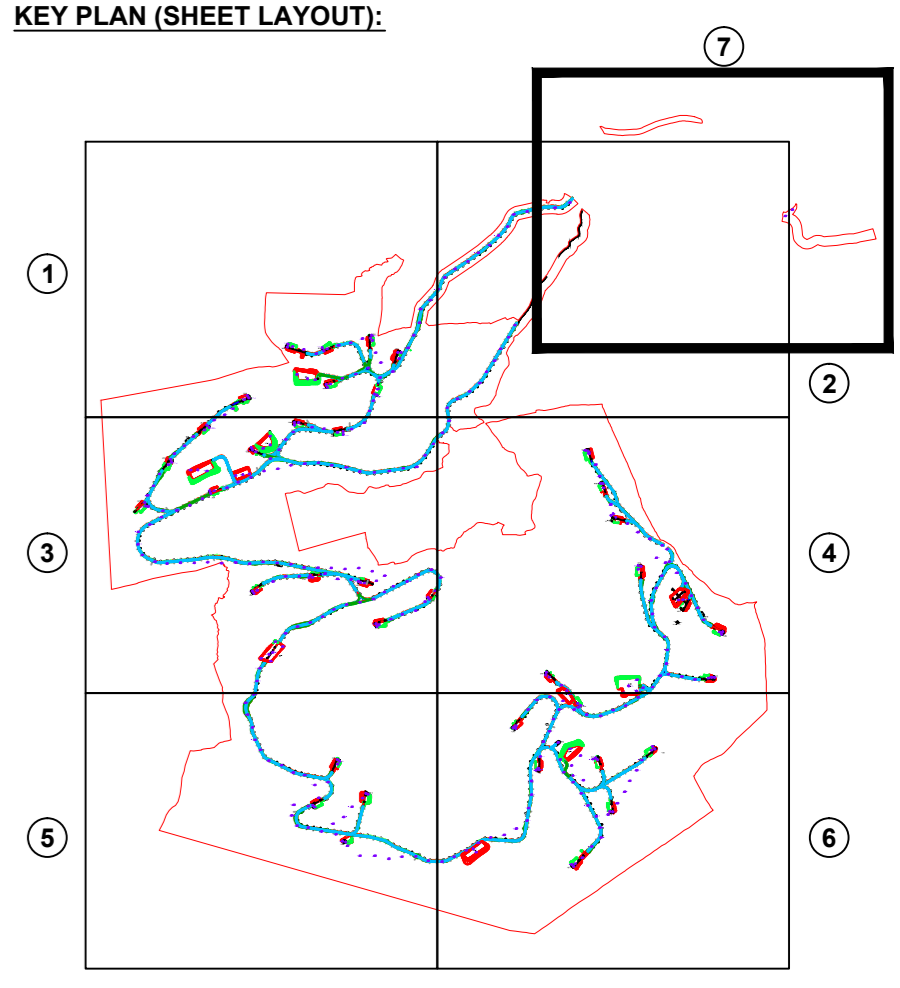
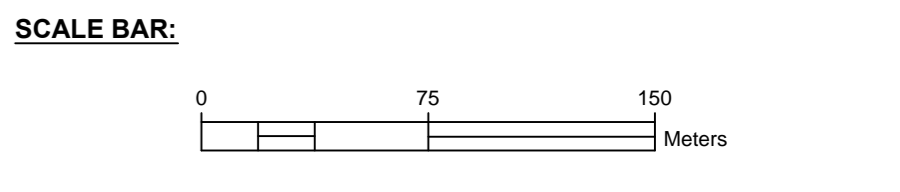
LEGEND:

- SITE BOUNDARY
- ACCESS TRACK
- PUBLIC ROAD WIDENING
- TURBINE HARDSTANDING AREA
- 5m CONTOUR
- 1m CONTOUR

- NOTES:**
- CO-ORDINATES TO ITM.
 - LEVELS TO MALIN HEAD DATUM.

TURBINE LOCATIONS			
No.	Easting	Northing	Level (m)
G001	509157.0	571590.0	311.500
G002	509262.5	571347.0	335.500
G003	509350.7	571081.5	323.500
G004	509543.0	570736.0	306.000
G005	509860.5	570428.4	390.000
G006	510154.0	570247.0	405.500
G007	510087.5	569921.8	370.000
G008	509859.8	569947.8	353.000
G009	508625.1	569547.6	380.500
G010	509104.7	569708.9	390.000
G011	508795.8	569240.0	403.000
G012	509229.7	569319.9	460.000
G013	509650.6	569401.9	493.000
G014	509338.2	568932.1	465.000
G015	509054.7	568536.1	454.000
G016	507371.1	568711.1	403.000
G017	507145.2	568973.0	457.000
G018	507539.0	569062.8	410.000
G019	507329.1	569308.0	463.000
G020	507610.1	570304.7	370.000
G021	507993.0	570503.7	350.000
G022	507484.1	570623.7	395.000
G023	507117.2	570662.7	384.500
G024	506701.3	570549.7	401.500
G025	507777.1	572314.6	329.000
G026	507243.8	572069.3	384.000
G027	507605.8	572006.3	346.000
G028	507296.5	571221.3	345.000
G029	507005.8	571788.4	353.000
G030	506690.9	571605.4	344.000
G031	506385.7	571287.0	343.500
G032	505904.1	571195.5	367.500
G033	506096.0	571517.4	388.500
G034	506367.0	571771.4	390.500
G035	506663.4	571988.1	390.500
G036	507568.4	572430.3	367.000
G037	507216.8	572336.7	395.500
G038	506955.5	572364.1	396.000

MET. MAST LOCATIONS			
No.	Easting	Northing	Level (m)
MM1	510015.0	570372.0	406
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MM3	506879.0	570755.0	380
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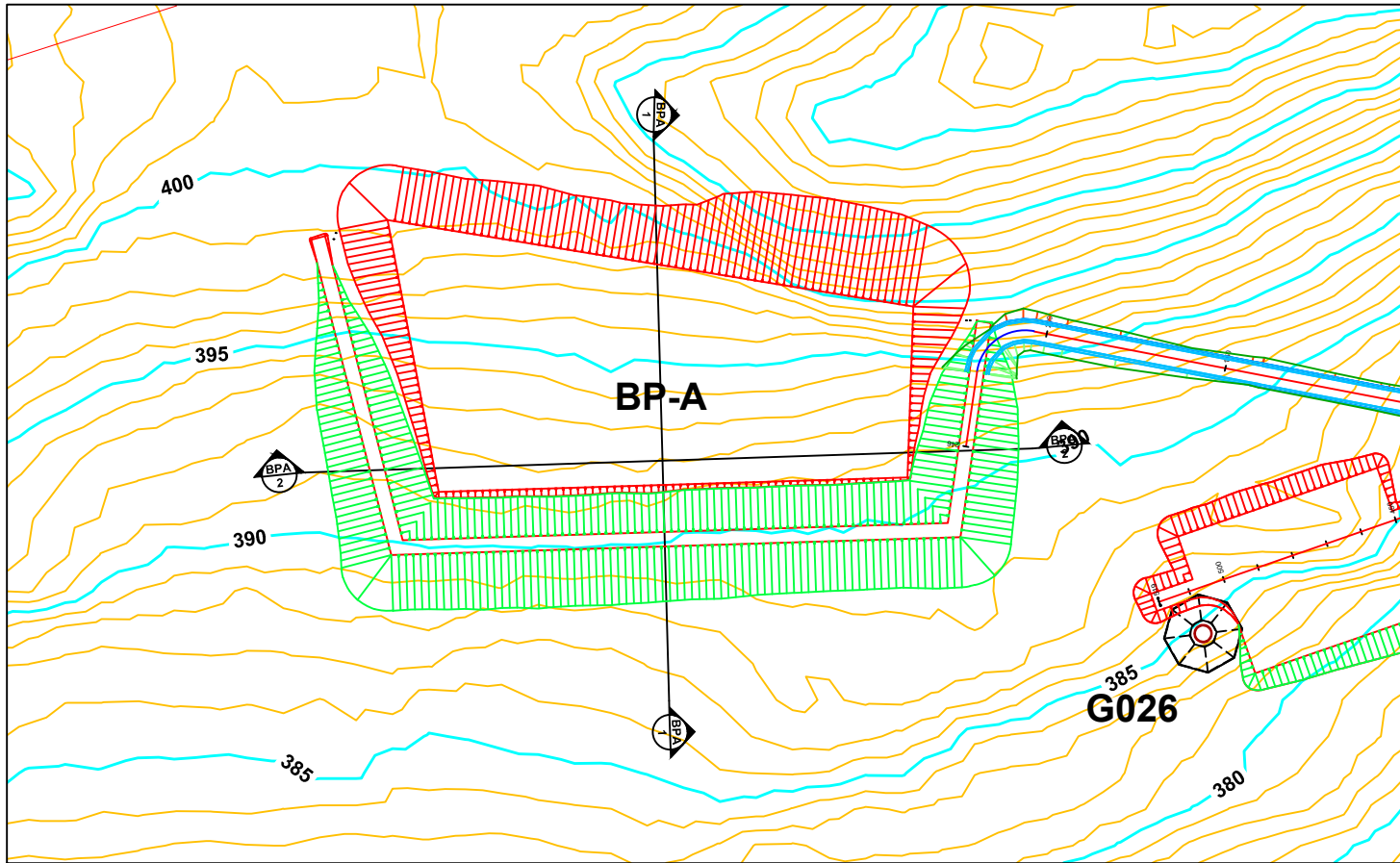


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 The following maps are shown on this drawing:
 6323 & 6368 (OSI Vector Mapping 1:5000)

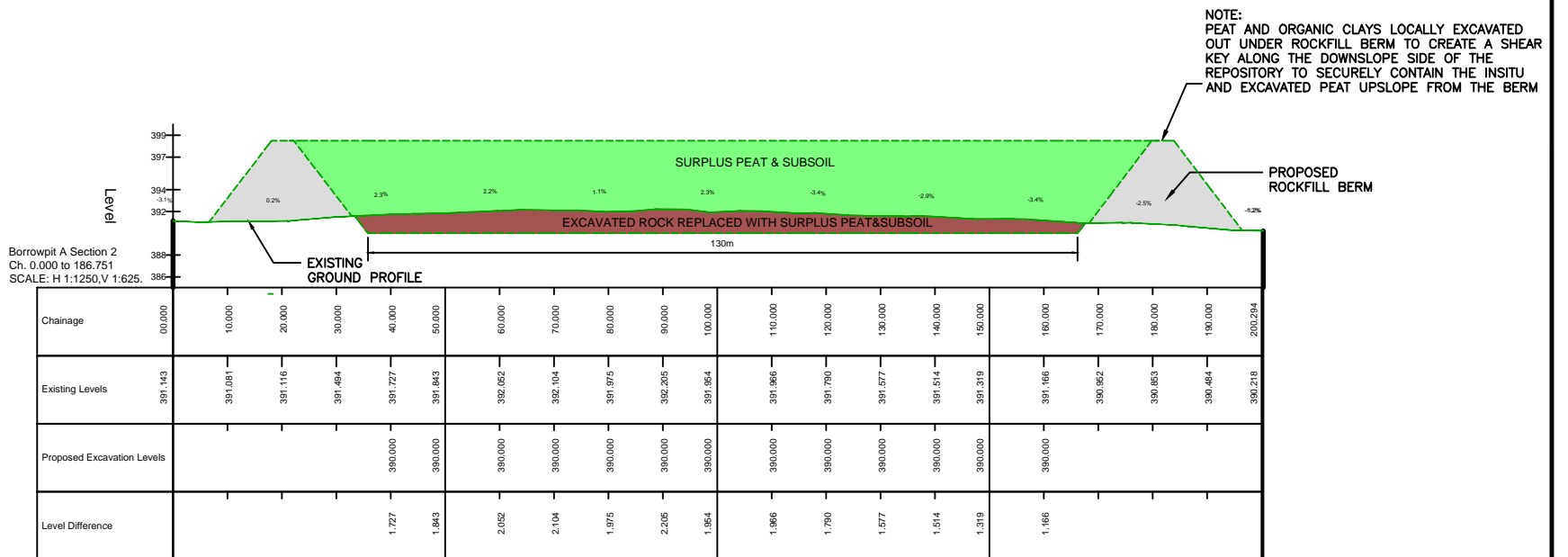
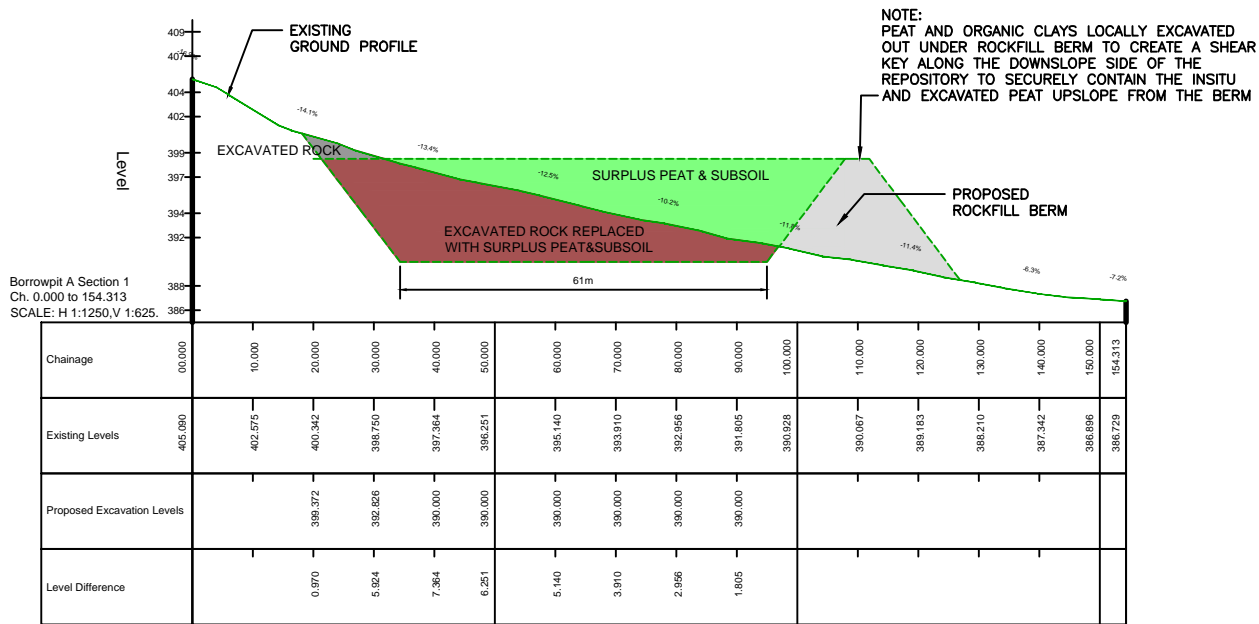
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PURPOSE OF ISSUE - PRELIMINARY UNLESS INDICATED						
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Client: ESB WIND DEVELOPMENT LTD.						
Project: GROUSEMOUNT WIND FARM						
Contract: PLANNING APPLICATION						
Drawing Title: SITE LAYOUT (1:2500) SHEET 7 OF 7 SITE INVESTIGATION LOCATIONS						
Production Unit: WIND DEVELOPMENT						
ESB Wind Development Ltd., Stephen Court, 18-21 St. Stephen's Green, Dublin 2, Ireland Tel: +353 (0)1 7038000 Web: www.esb.ie Registered Office: as above Registered in Ireland No. 471139						
Drawn	Checked	Issued	Approved	Date		
S. Bolton	D. Shiels	S. Shanley	F. O'Grady	19.08.2015		
Client Rep	No. of Sheets	Scale				
	7	AO	1:2500			
Drawing Number: QR320171-MWC-P-1020						

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SILLAHERTANE



BORROW PIT / REPOSITORY A
SCALE 1:2000



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Rev	Date	Revision description	Drn.	Pro.	Ver.	App

Purpose of issue - Preliminary unless indicated
 Tender Client approval Construction As-built Revised

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L.McM	L.McM	D. Shiels	S. Shanley	19.08.2015
Client ref.	No. of sheets	Size	Rev	Scale
	1	A3	0	As Shown

Client **ESB WIND DEVELOPMENT LTD.**

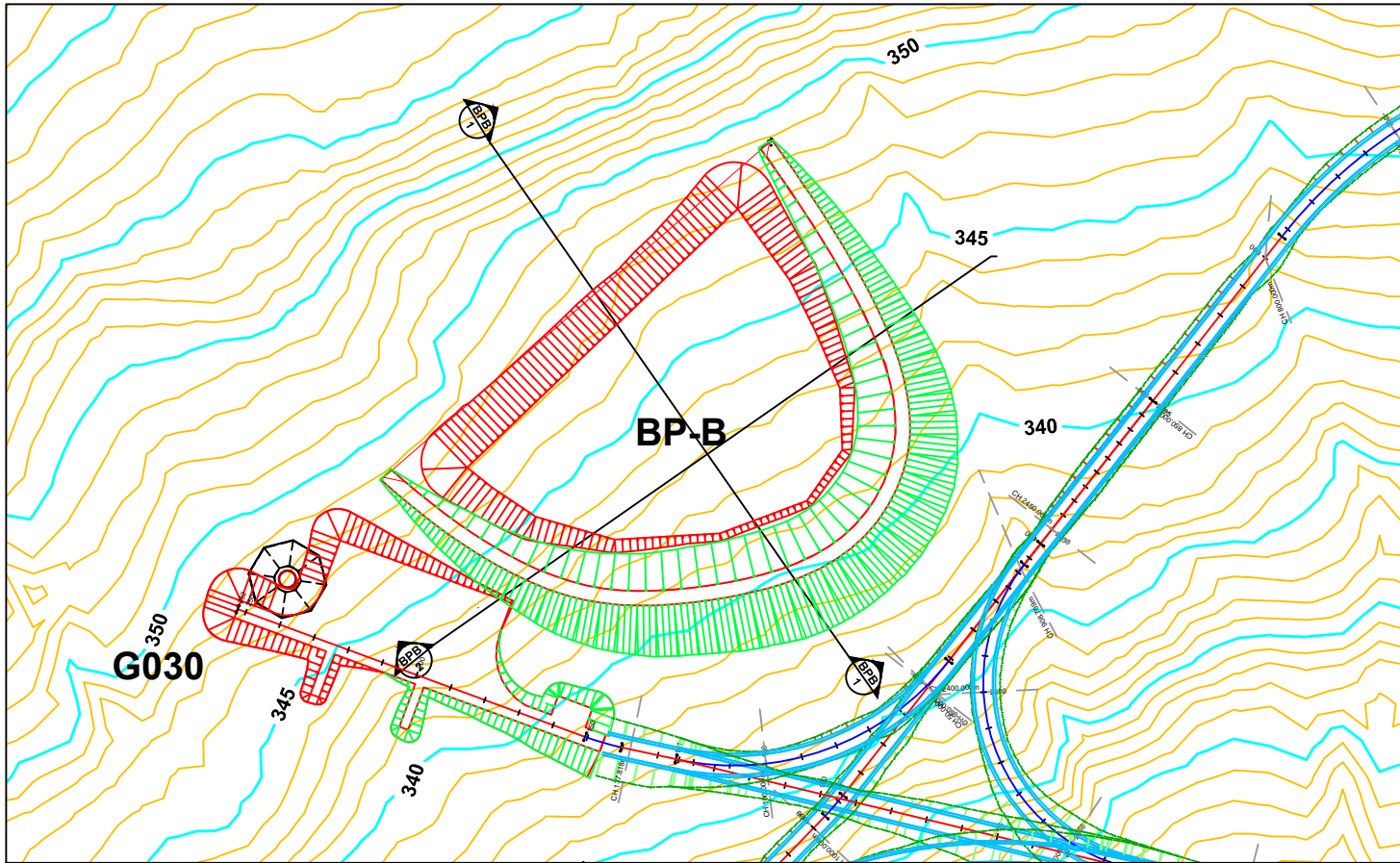
Contract **PLANNING APPLICATION**

Project **GROUSEMOUNT WIND FARM**

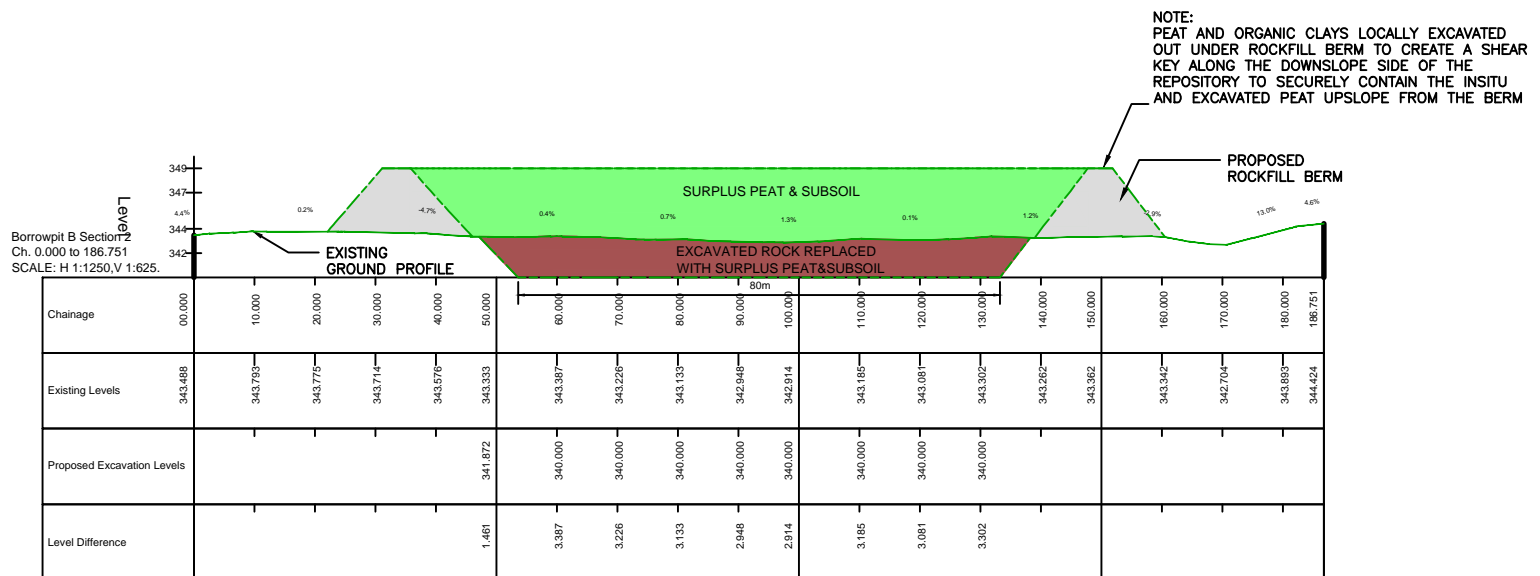
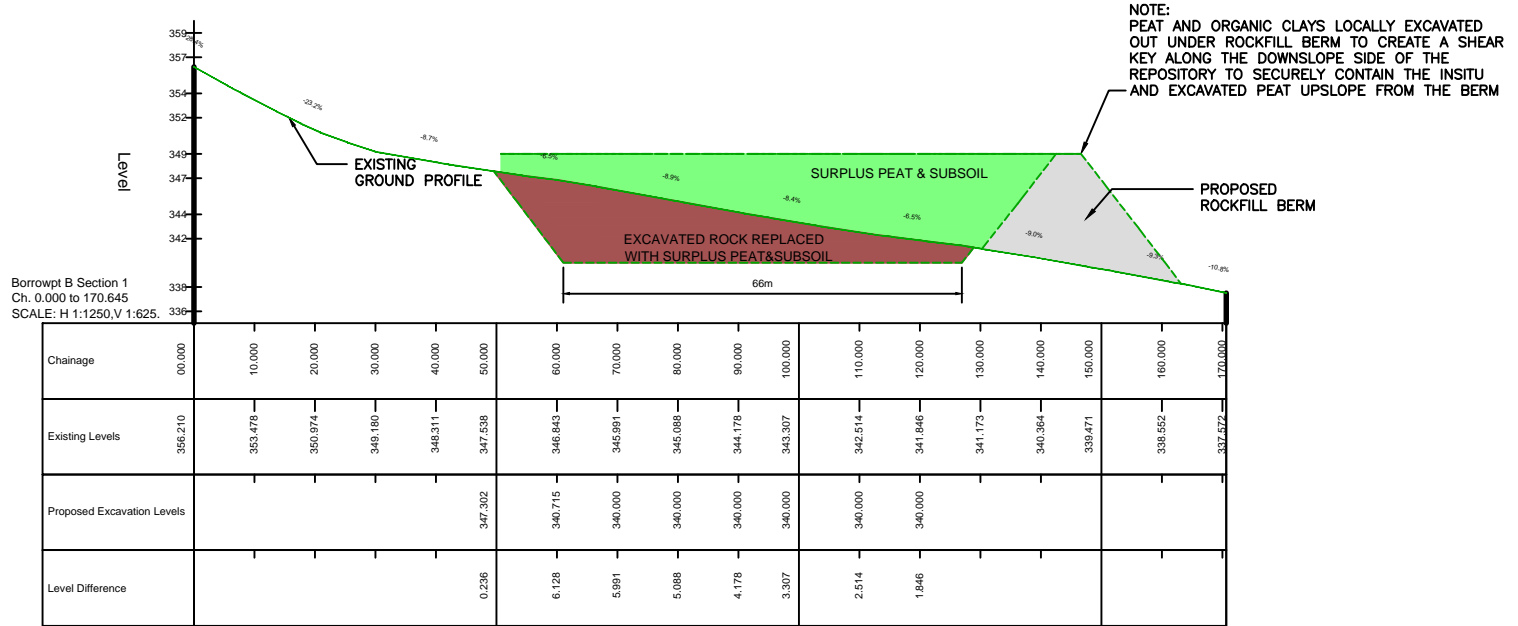
Production unit **WIND DEVELOPMENT**

Drawing title
BORROW PIT / REPOSITORY A SECTIONS

Drawing number
QR320171-MWC-P-6001



BORROW PIT / REPOSITORY B
SCALE 1:2000



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Rev	Date	Revision description	Drn	Pro	Ver	App

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Client ref.	No. of sheets	Size	Rev	Scale
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Drawing title
BORROW PIT / REPOSITORY B SECTIONS

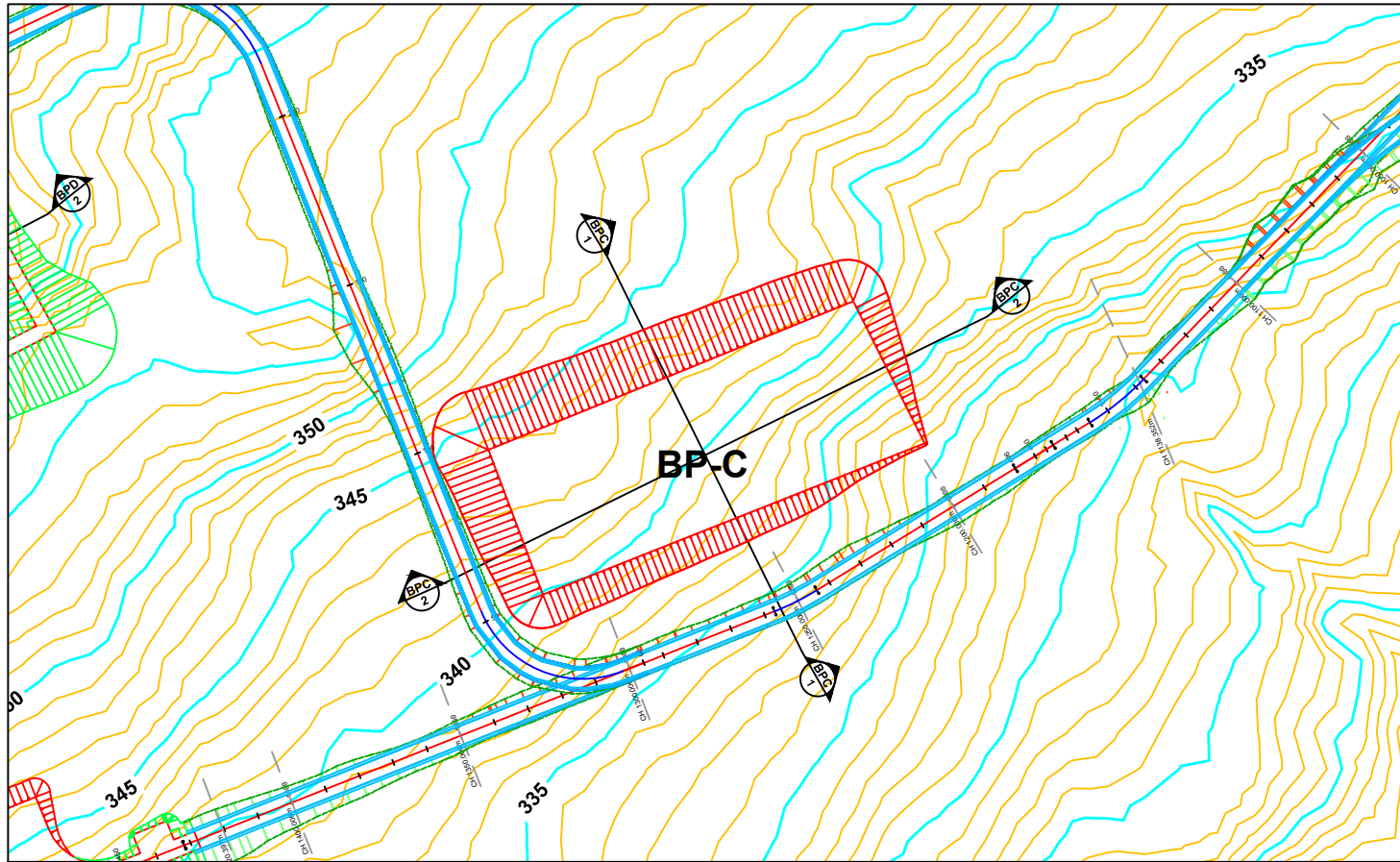
Client
ESB WIND DEVELOPMENT LTD.

Contract
PLANNING APPLICATION

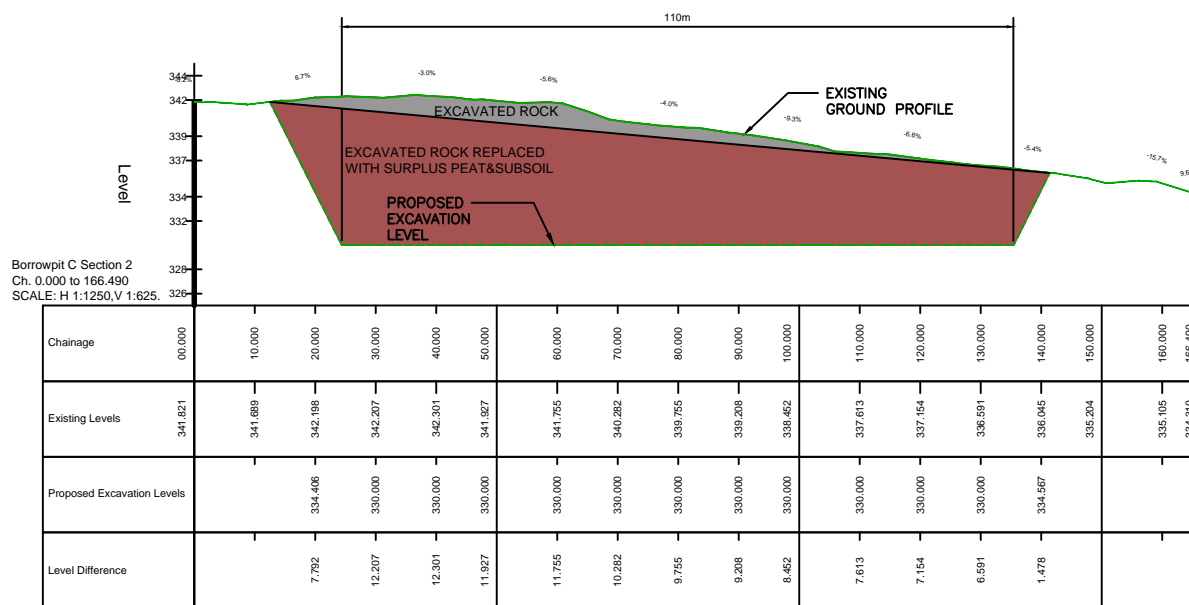
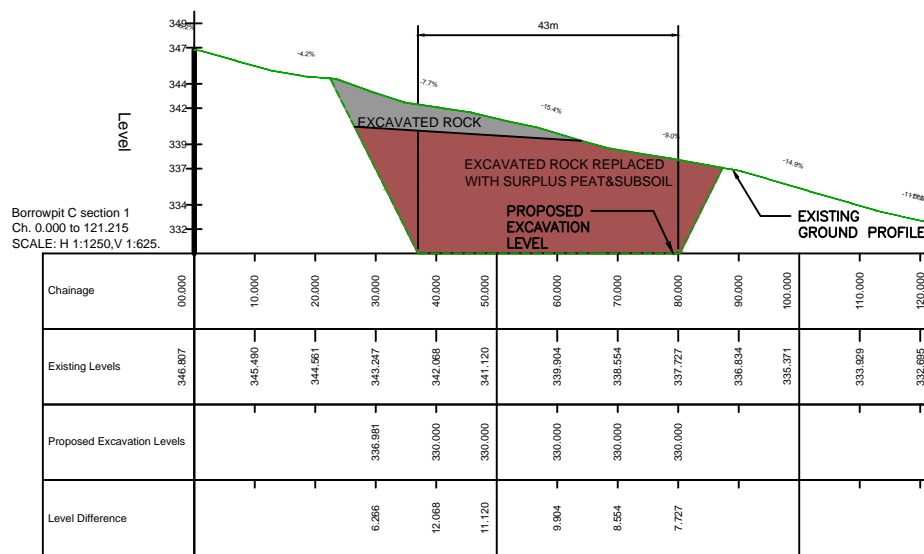
Project
GROUSEMOUNT WIND FARM

Production unit
WIND DEVELOPMENT

Drawing number
QR320171-MWC-P-6002



BORROW PIT / REPOSITORY C
SCALE 1:2000



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Client ref.		No. of sheets	Size	Rev
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Drawing title
BORROWPIT / REPOSITORY C SECTIONS

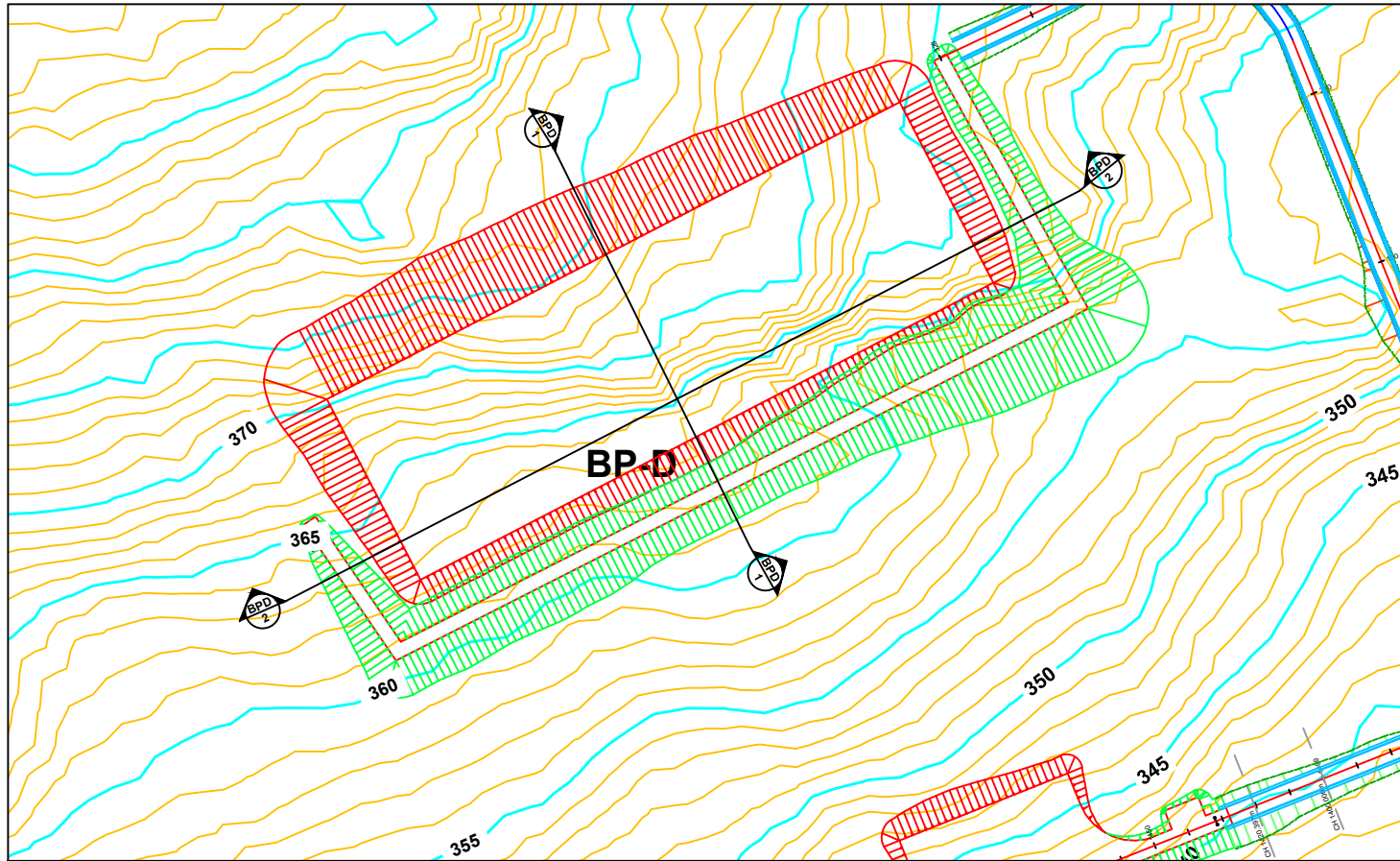
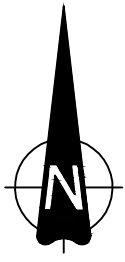
Client
ESB WIND DEVELOPMENT LTD.

Contract
PLANNING APPLICATION

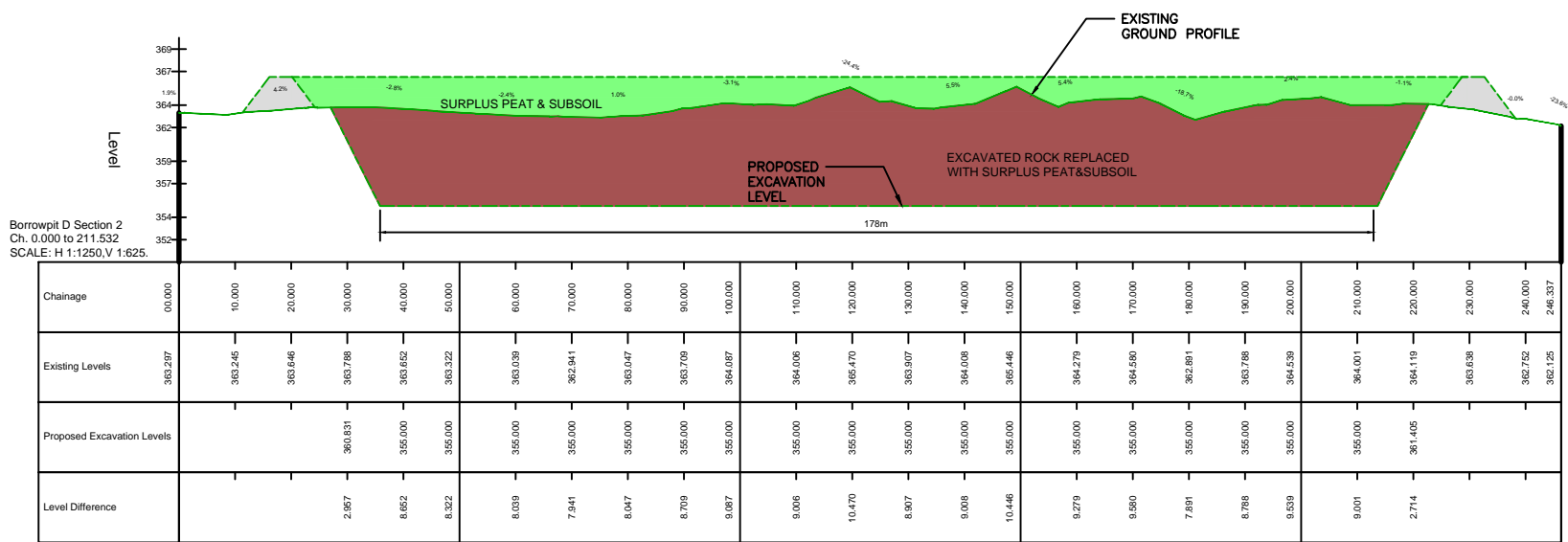
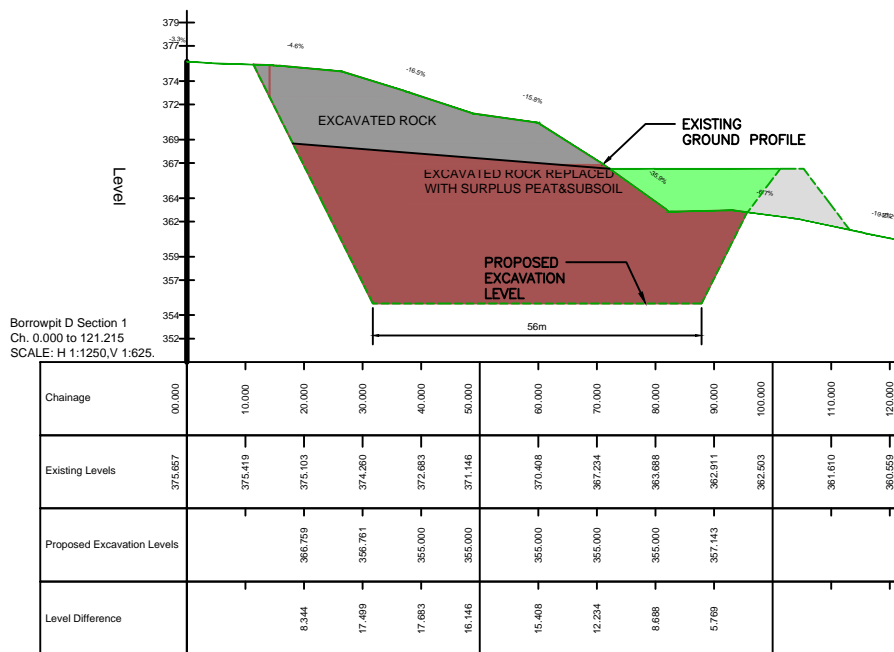
Project
GROUSEMOUNT WIND FARM

Production unit
WIND DEVELOPMENT

Drawing number
QR320171-MWC-P-6003



BORROW PIT / REPOSITORY D
SCALE 1:2000



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Client ref.	No. of sheets	Size	Rev	Scale
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Drawing title
BORROWPIT / REPOSITORY D SECTIONS

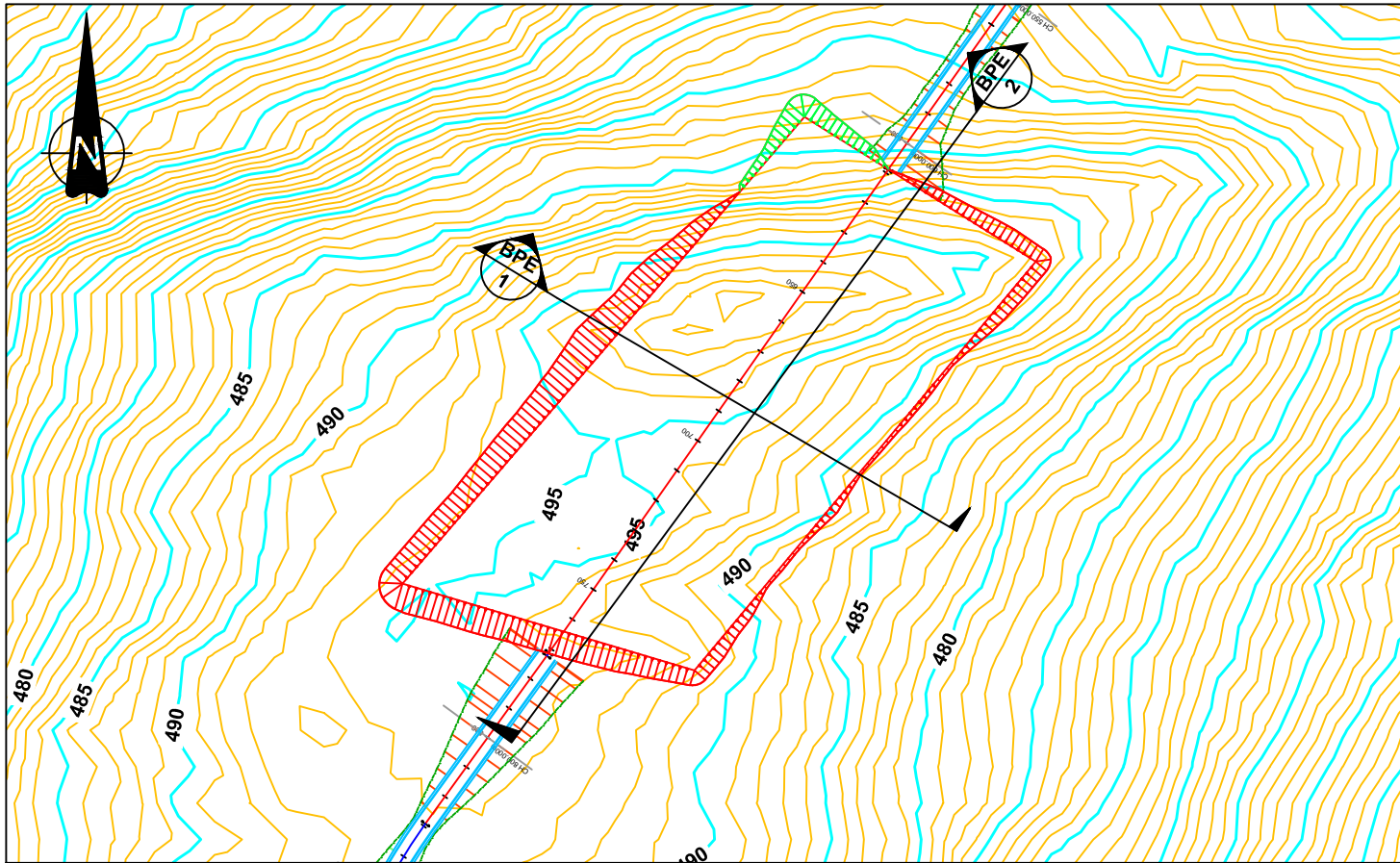
Client
ESB WIND DEVELOPMENT LTD.

Contract
PLANNING APPLICATION

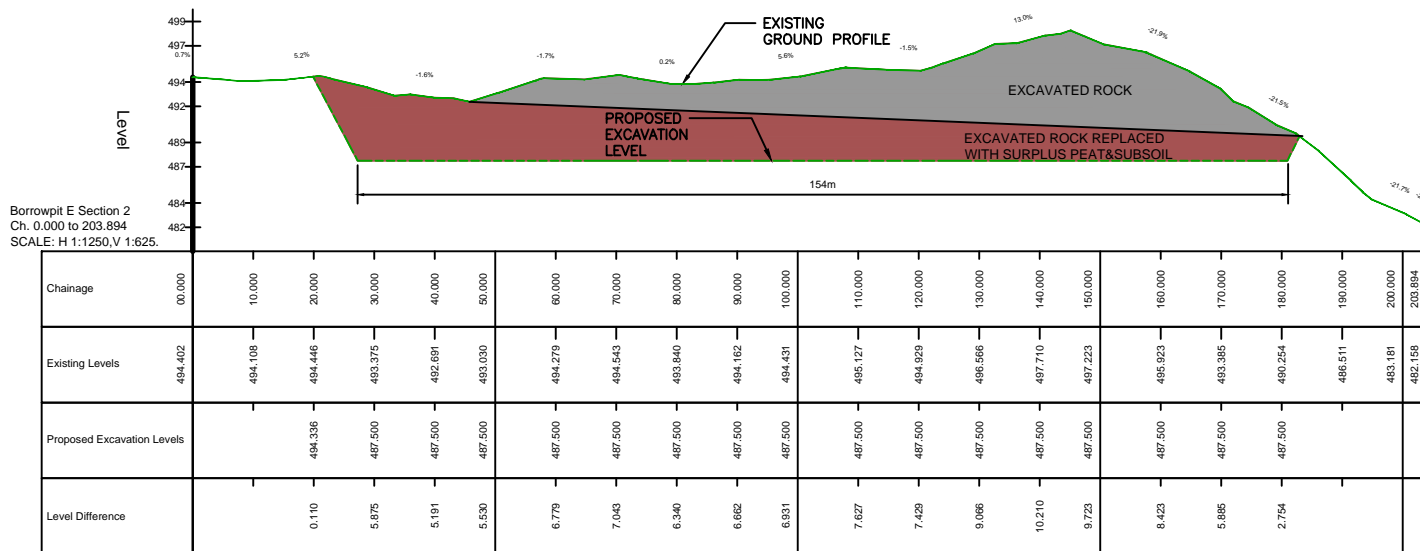
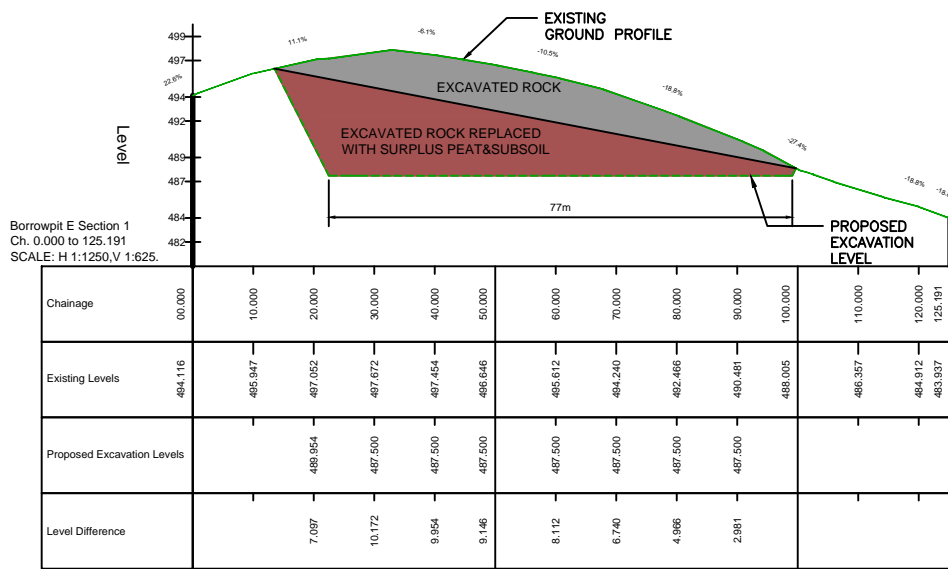
Project
GROUSEMOUNT WIND FARM

Production unit
WIND DEVELOPMENT

Drawing number
QR320171-MWC-P-6004



BORROW PIT / REPOSITORY E
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Client ref.	No. of sheets 1	Size A3	Rev 0	Scale As Shown

Drawing title
BORROWPIT / REPOSITORY E SECTIONS

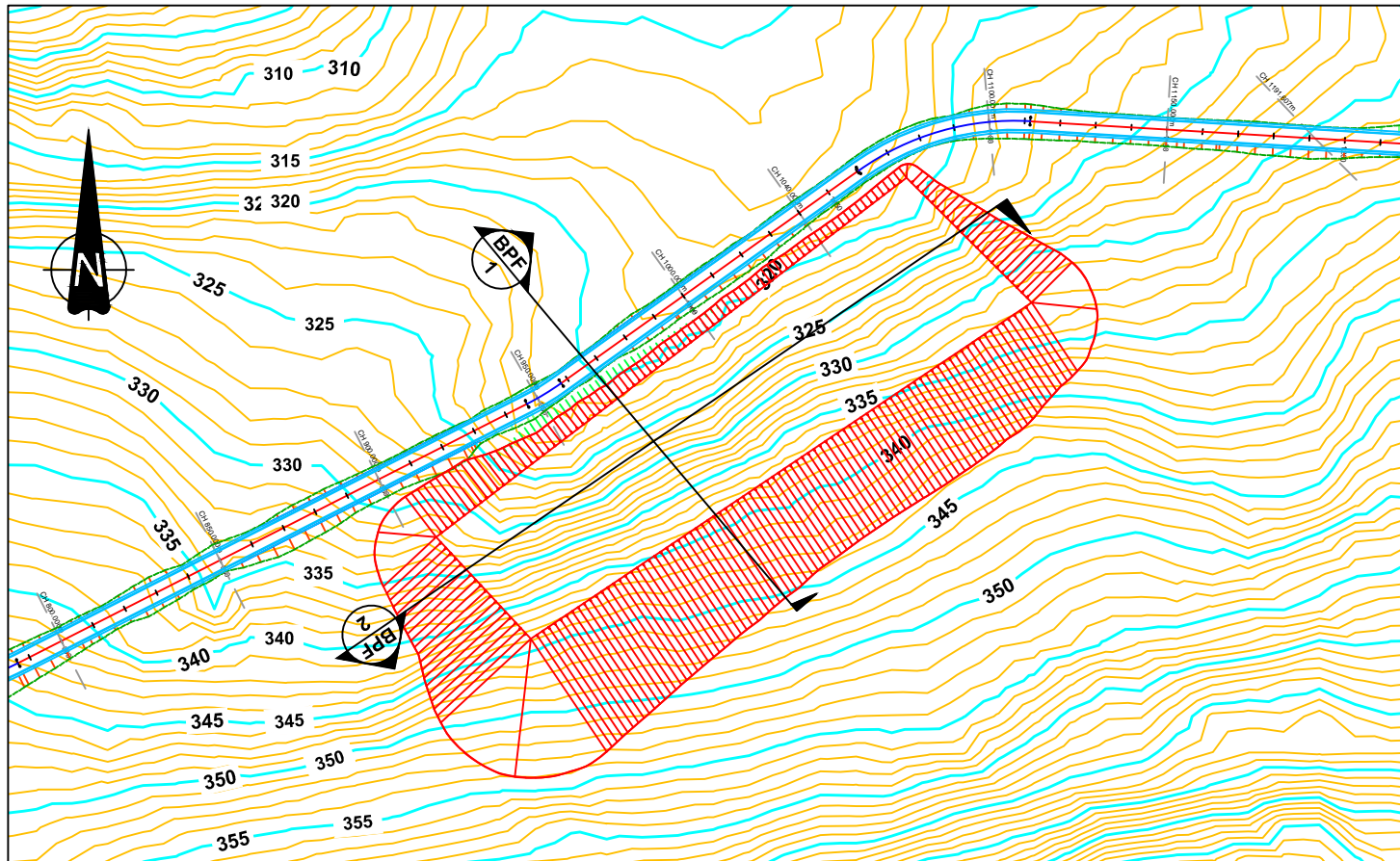
Client
ESB WIND DEVELOPMENT LTD.

Contract
PLANNING APPLICATION

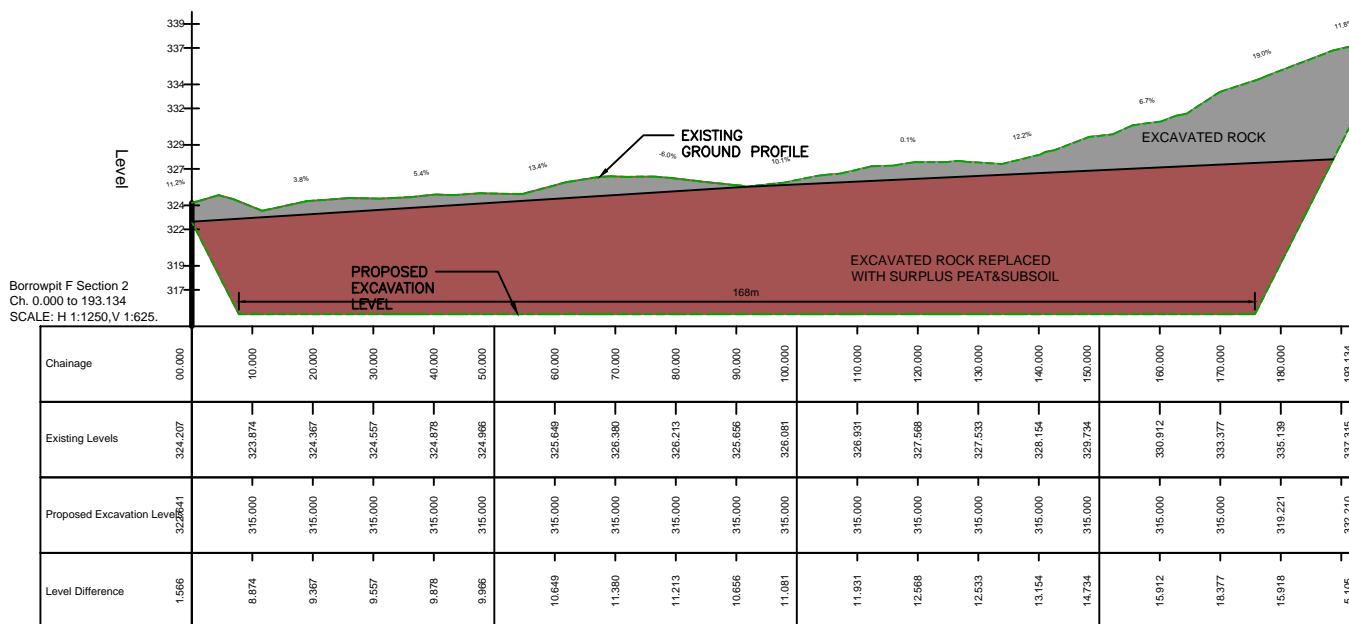
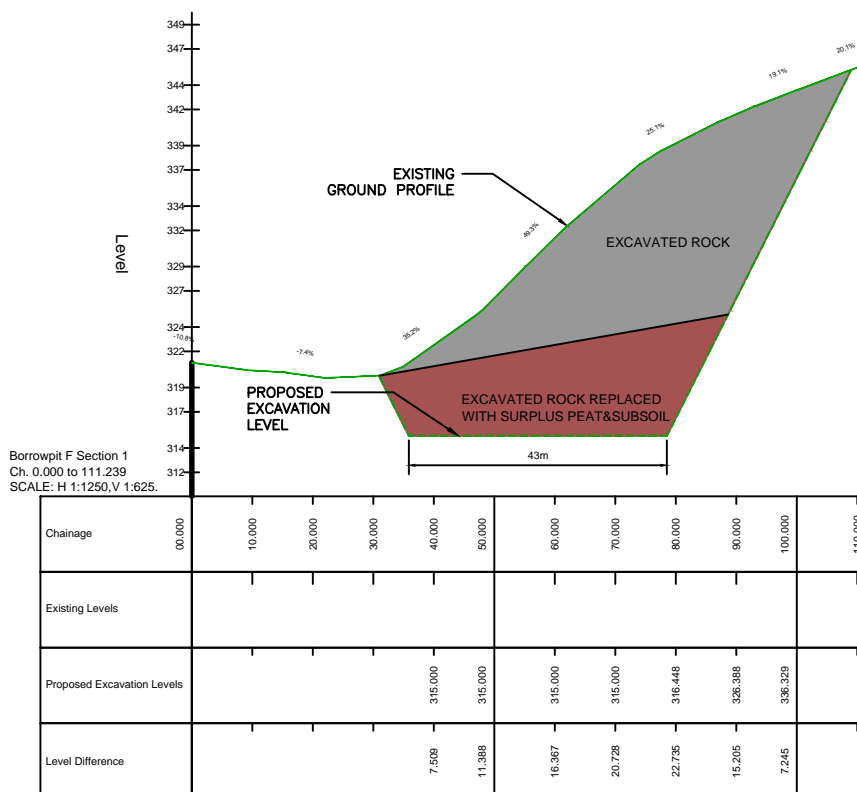
Project
GROUSEMOUNT WIND FARM

Production unit
WIND DEVELOPMENT

Drawing number
QR320171-MWC-P-6005



BORROW PIT / REPOSITORY F
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Rev	Date	Revision description	Drn	Pro	Ver	App

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Client ref.	No. of sheets	Size	Rev	Scale
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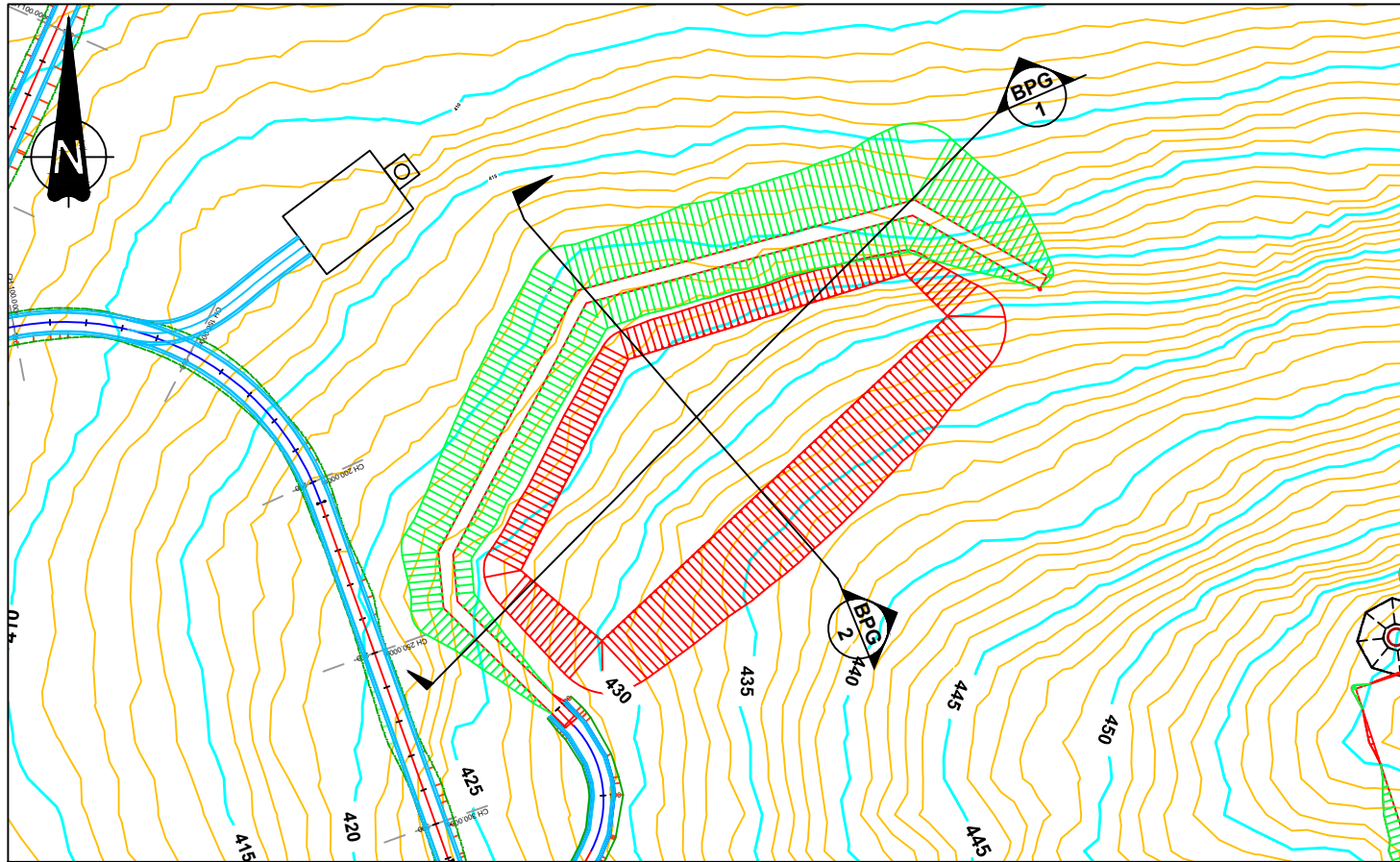
Client
ESB WIND DEVELOPMENT LTD.

Contract
PLANNING APPLICATION

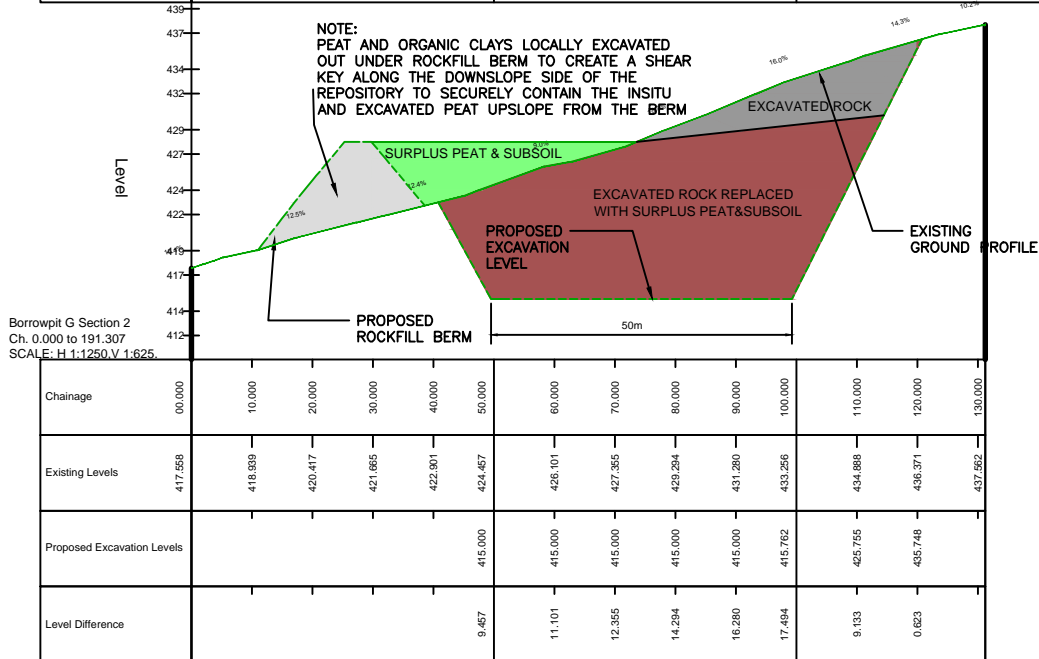
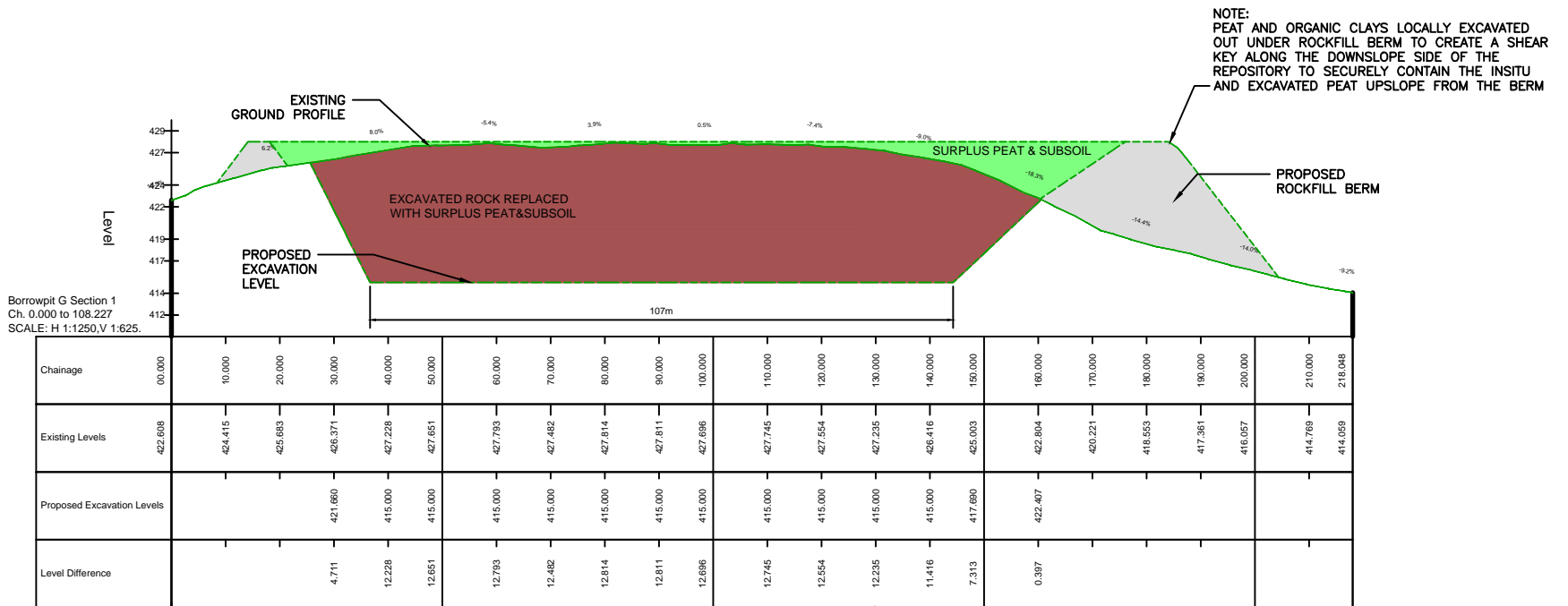
Project
GROUSEMOUNT WIND FARM

Production unit
WIND DEVELOPMENT

Drawing number
QR320171-MWC-P-6006



BORROW PIT / REPOSITORY G
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Client ref.	No. of sheets	Size	Rev	Scale
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Drawing title
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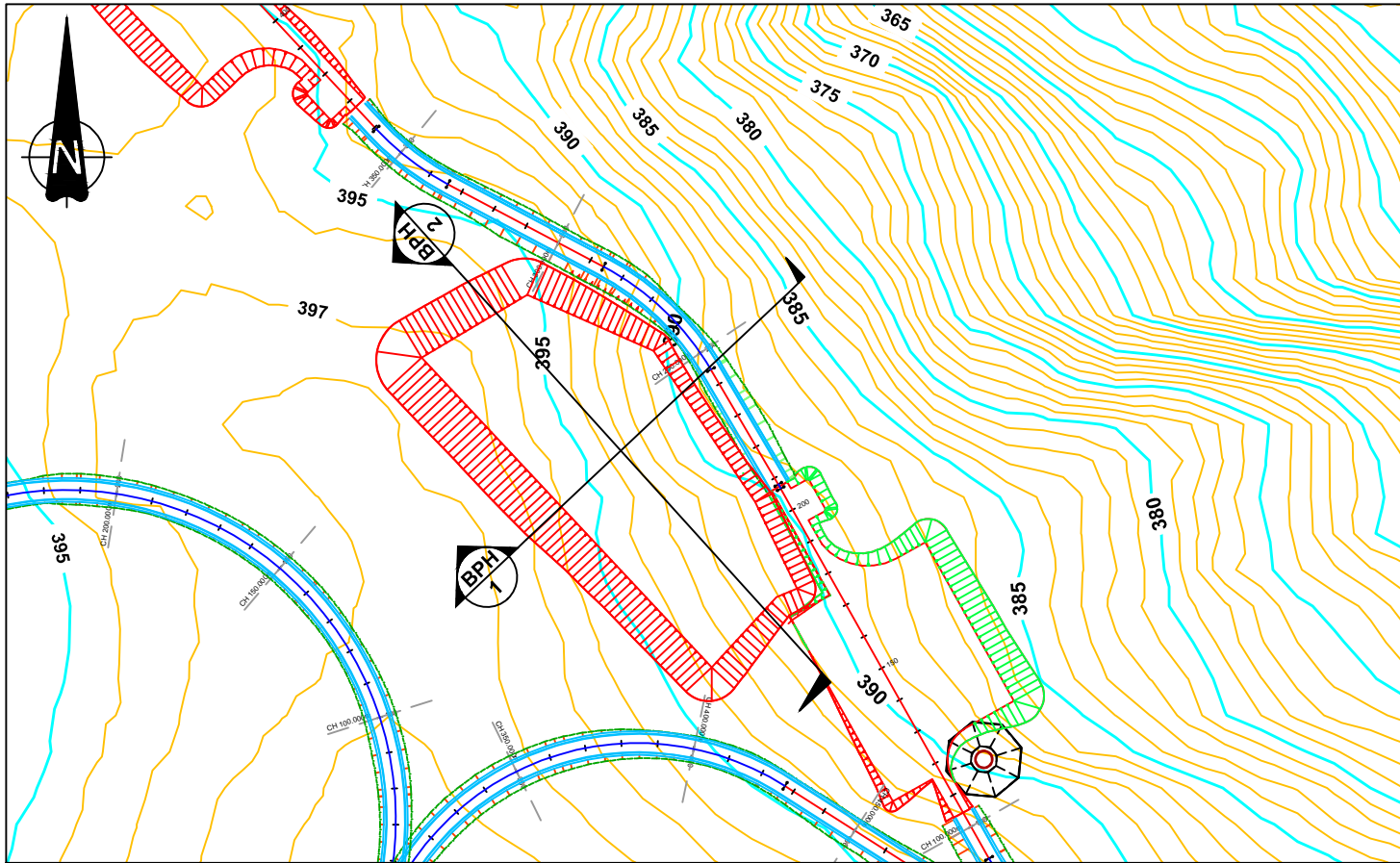
Client
ESB WIND DEVELOPMENT LTD.

Contract
PLANNING APPLICATION

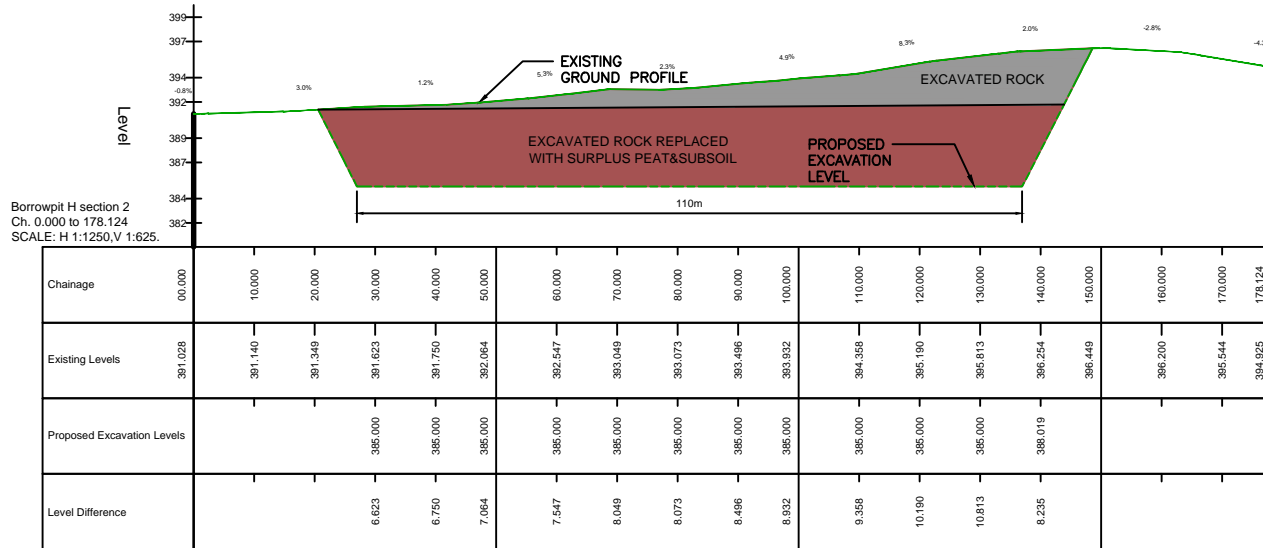
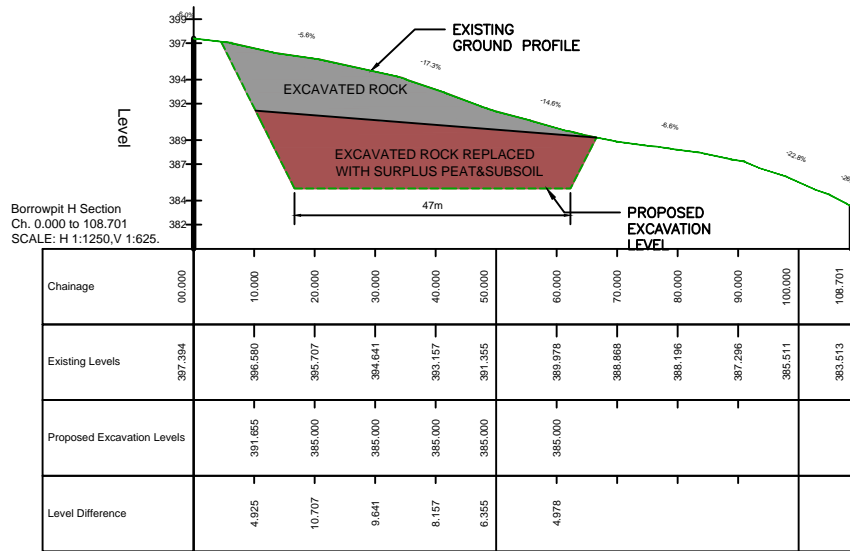
Project
GROUSEMOUNT WIND FARM

Production unit
WIND DEVELOPMENT

Drawing number
QR320171-MWC-P-6007



BORROW PIT / REPOSITORY H
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Client ref.		No. of sheets	Size	Rev
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BORROWPIT / REPOSITORY H SECTIONS

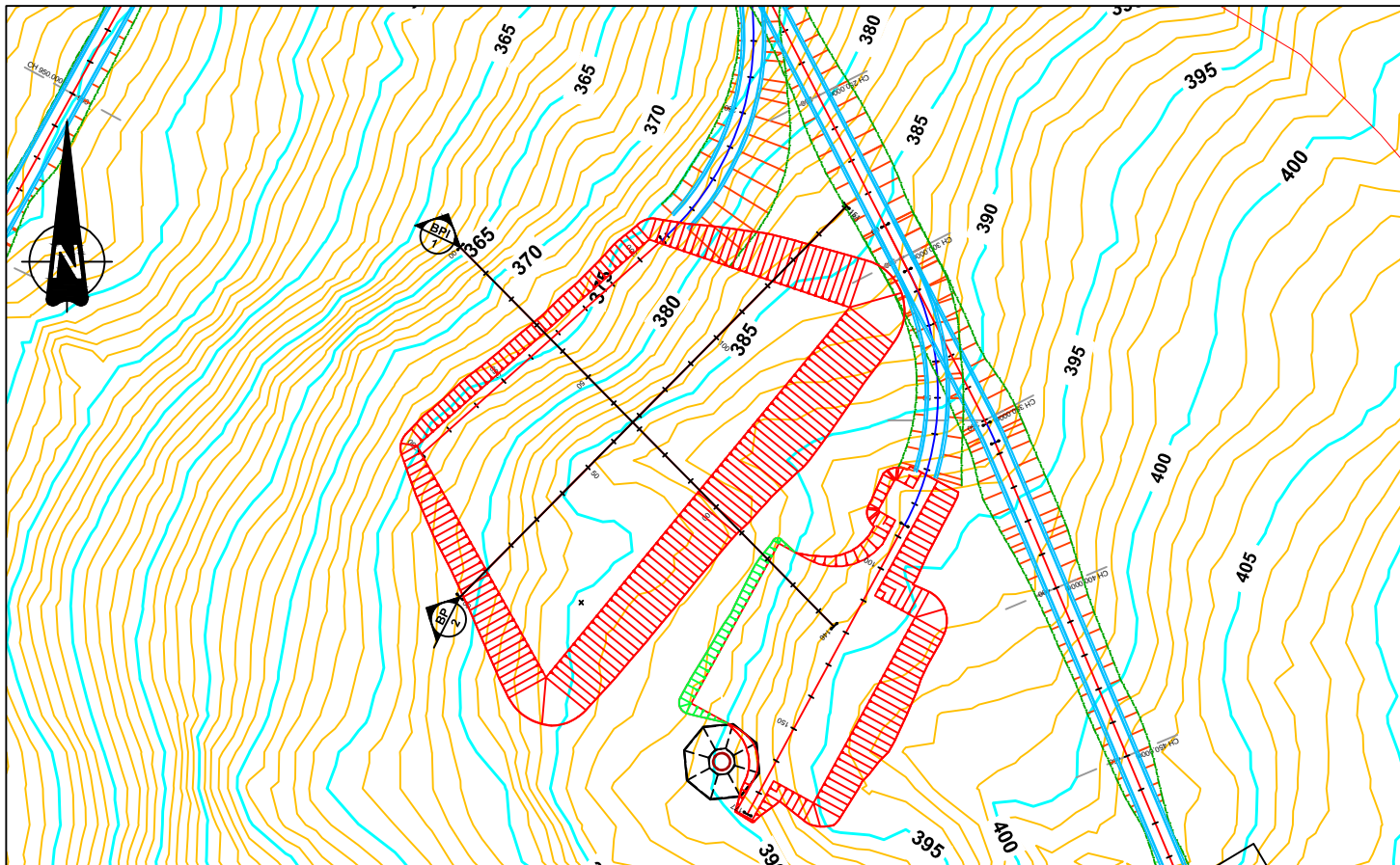
Client
ESB WIND DEVELOPMENT LTD.

Contract
PLANNING APPLICATION

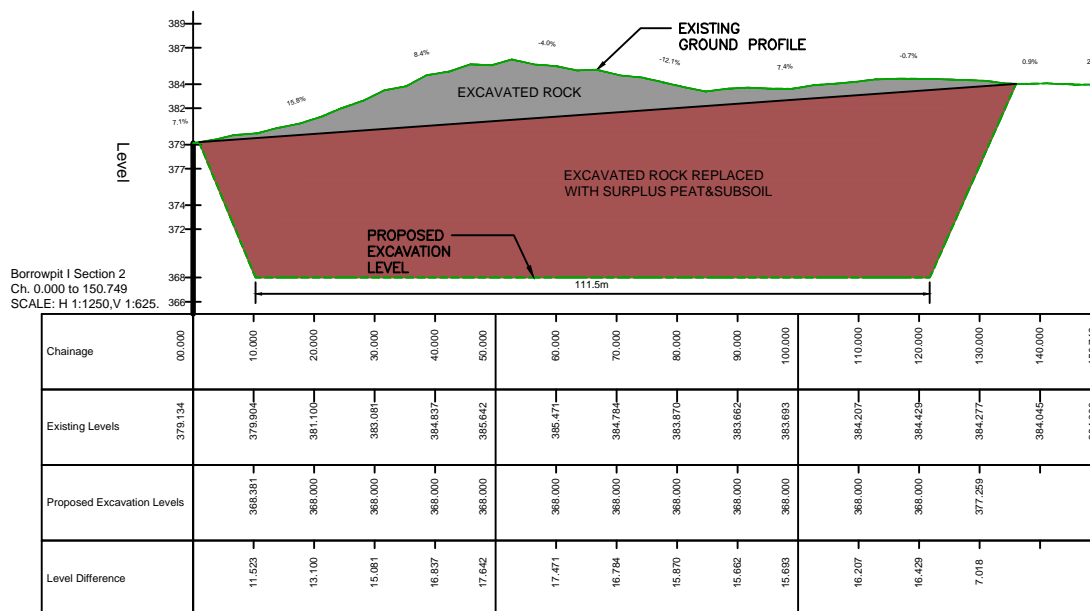
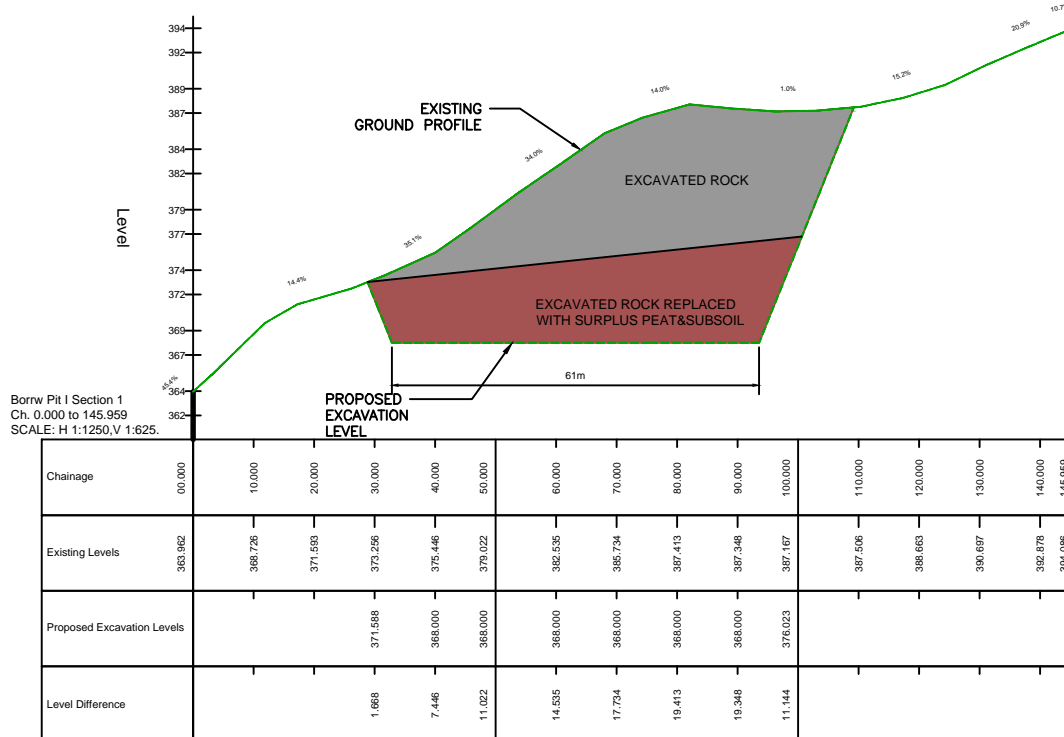
Project
GROUSEMOUNT WIND FARM

Production unit
WIND DEVELOPMENT

Drawing number
QR320171-MWC-P-6008



BORROW PIT / REPOSITORY I
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Rev	Date	Revision description	Drn	Pro	Ver	App

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LMcM	LMcM	D. Shiels	S. Shanley	19.08.2015
Client ref.	No. of sheets	Size	Rev	Scale
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Drawing title
BORROWPIT / REPOSITORY I SECTIONS

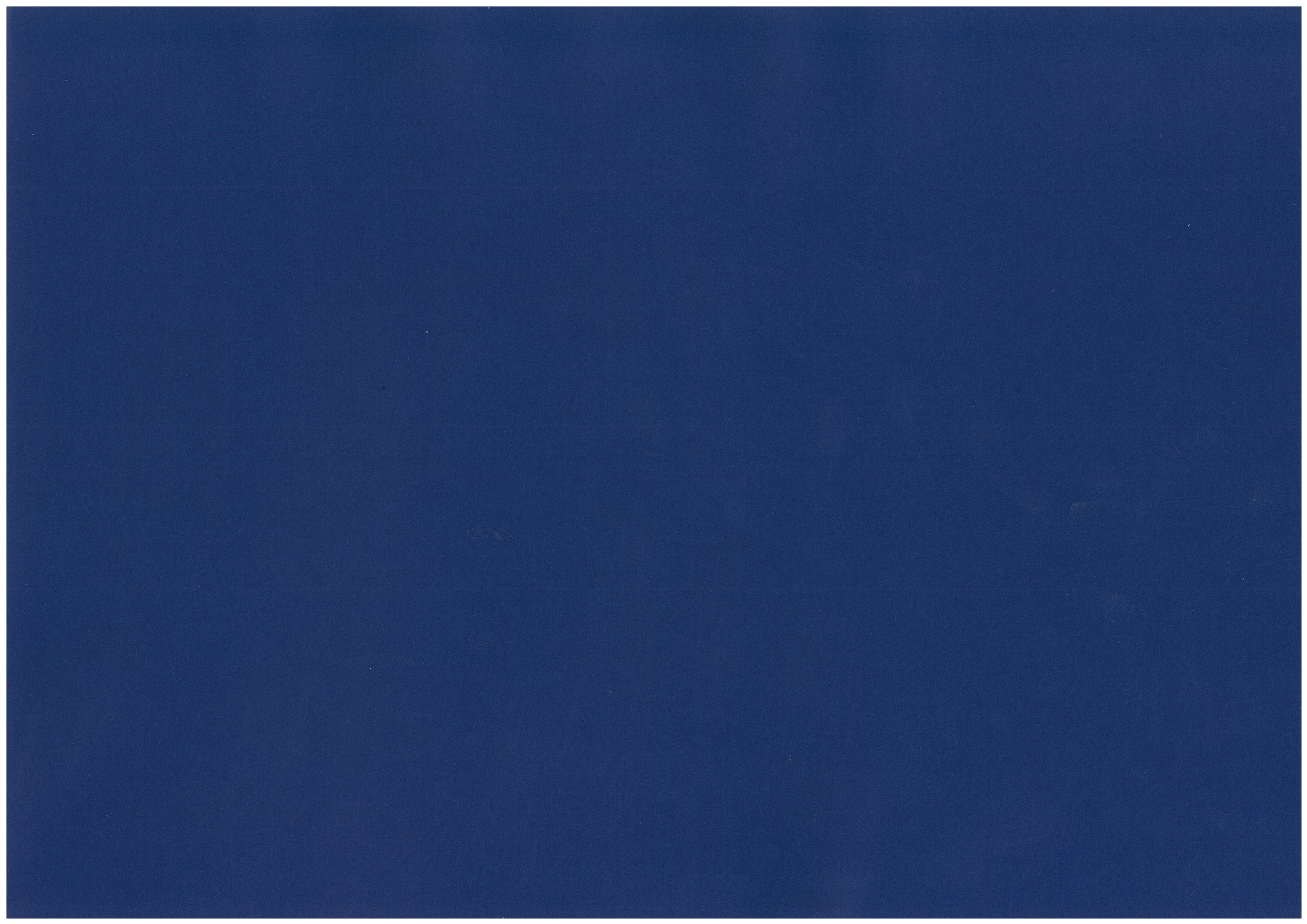
Client
ESB WIND DEVELOPMENT LTD.

Contract
PLANNING APPLICATION

Project
GROUSEMOUNT WIND FARM

Production unit
WIND DEVELOPMENT

Drawing number
QR320171-MWC-P-6009



APPENDIX C: PSRA Sheets

PSRA SHEET	PSRA SHEET	PSRA SHEET
Access Track 1: T1 - T2 Junction	T1 Turbine & Hardstanding	Substation
Access Track 2: T2 Spur	T2 Turbine & Hardstanding	Borrow Pit A
Access Track 3: T2 Junction - T3 Junction	T3 Turbine & Hardstanding	Borrow Pit B
Access Track 4: T3 Spur	T4 Turbine & Hardstanding	Borrow Pit C
Access Track 5: T3 Junction – Public Road	T5 Turbine & Hardstanding	Borrow Pit D
Access Track 6: Public Road – T6 Junction	T6 Turbine & Hardstanding	Borrow Pit E
Access Track 7: T6 Junction – T6	T7 Turbine & Hardstanding	Borrow Pit F
Access Track 8: T6 Junction – T4 Junction	T8 Turbine & Hardstanding	Borrow Pit G
Access Track 9: T4 Spur	T9 Turbine & Hardstanding	Borrow Pit H
Access Track 10: T4 Junction – T7 Junction	T10 Turbine & Hardstanding	Borrow Pit I
Access Track 11: T7 Spur	T11 Turbine & Hardstanding	Anemometer Mast 1
Access Track 12: T7 Junction – T10 Junction	T12 Turbine & Hardstanding	Anemometer Mast 2
Access Track 13: T10 Junction – T8	T13 Turbine & Hardstanding	Anemometer Mast 3
Access Track 14: T10 Junction – T9	T14 Turbine & Hardstanding	
Access Track 15: T9 Junction – T11 Junction	T15 Turbine & Hardstanding	
Access Track 16: T11 Junction – Borrow Pit G	T16 Turbine & Hardstanding	
Access Track 17: Borrow Pit G – T13	T17 Turbine & Hardstanding	
Access Track 18: T12 Spur	T18 Turbine & Hardstanding	
Access Track 19: T14 Spur	T19 Turbine & Hardstanding	
Access Track 20: Borrow Pit G – T15 Spur Ch. 900	T20 Turbine & Hardstanding	
Access Track 21: T15 Spur Ch. 900 – T15	T21 Turbine & Hardstanding	
Access Track 22: T11 Junction – Borrow Pit F	T22 Turbine & Hardstanding	
Access Track 23: Borrow Pit F – River Roughy	T23 Turbine & Hardstanding	
Access Track 24: River Roughy – T16	T24 Turbine & Hardstanding	
Access Track 25: T16 - T18	T25 Turbine & Hardstanding	
Access Track 26: T16 – T17	T26 Turbine & Hardstanding	
ACCESS TRACK 27: T17 – Ch. 1850 (Including T19 Spur)	T27 Turbine & Hardstanding	
Access Track 28: Ch. 1850 – Ch. 1400	T28 Turbine & Hardstanding	
Access Track 29: Ch. 1400 – Borrow Pit E	T29 Turbine & Hardstanding	
Access Track 30: Borrow Pit E – Main Spine Road Parts 3 & 4 Intersection	T30 Turbine & Hardstanding	

Peat Stability Risk Assessment for Grousemount Wind Farm

PSRA SHEET	PSRA SHEET	PSRA SHEET
Access Track 31: T20 Spur	T31 Turbine & Hardstanding	
Access Track 32: Main Spine Road Parts 3 & 4 Intersection – T24 Junction	T32 Turbine & Hardstanding	
Access Track 33: T22 Spur	T33 Turbine & Hardstanding	
Access Track 34: T24 Spur	T34 Turbine & Hardstanding	
Access Track 35: T24 Junction – T35 Junction	T35 Turbine & Hardstanding	
Access Track 36: T35 Spur	T36 Turbine & Hardstanding	
Access Track 37: T35 Junction – T31	T37 Turbine & Hardstanding	
Access Track 38: T31 – T30 Site Access Junction	T38 Turbine & Hardstanding	
Access Track 39: T30 Site Access (Ch. 1450 – Ch. 2350)		
Access Track 40: T30 Site Access (Ch. 650 – Ch. 1450)		
Access Track 41: T30 Site Access (Ch. 0 – Ch. 650)		
Access Track 42: T30 Site Access Junction – T29 Junction		
Access Track 43: T30 Spur		
Access Track 44: T29 Spur		
A45: T29 Junction – T27		
Access Track 46: T27 – T30 Site Access Junction		
Access Track 47: T26 Spur		
Access Track 48: T38 Spur (Ch. 80 – Ch. 300)		
Access Track 49: T38 Spur (Ch. 300 – Ch. 410)		
Access Track 50: T36 Spur		
Access Track 51: T25 Site Access (Ch. 400 – Ch. 1650)		
ACCESS TRACK 52: T25 Site Access (Ch. 230 – Ch. 400) Farmland		
Access Track 53: T25 Site Access (Ch. 0 – Ch. 230) Coillte		
Access Track 54: Everwind Wind Farm Site Entrance		
Access Track 55: Coillte Track Through Everwind Wind Farm		

Access Track 1: T1 - T2 Junction									
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment
			1	2	3				
LIKELIHOOD									
1.0 Ground Conditions									
Peat									
1.1	Peat Depth	0.7m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.
Subsoil Characteristics									
1.3	Subsoil Type	Stiff gravelly silt/ boulders / rock	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1	1	1	Trial pits carried out by IGSL in 2015.
1.4	Peat fibres continuous across transition to subsoil	No	Yes	Partially	No	3	1	3	Trial pits carried out by IGSL in 2015.
2.0 Topography									
Situation									
2.1	Elevation OD [m]	345m	<200m		>200m	3	1	3	From LiDAR
2.2	Slope Aspect	E	SW, S, SE	W, E	NW, N, NE	2	1	2	From LiDAR
Slope Angle									
2.3	Slope Angle - Ground Surface	>10°	<3°	>7°	3° - 7°	2	2	4	From LiDAR
Geomorphology									
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDAR
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDAR
3.0 Hydrology									
Hydrology									
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDAR
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDAR
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1	
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2	
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.
4.0 Other Factors									
Vegetation									
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk
Slide History									
4.3	Previous slides in locality	< 5km	> 5km	< 5km	On site	2	2	4	From Geological Survey of Ireland
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk
Land Use									
4.5	Peat Workings	None	None	Outaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk
Other Factors									
4.6	Existing roads in place	Solid Road	Solid Road	Wetted	Floating Road	1	1	1	No existing road. Value assumed.
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.
Likelihood Rating									
						Total		44	
						Max Possible		72	
						Likelihood		0.61	
									0.0-0.3 Negligible 1
									0.3-0.5 Low 2
									0.5-0.7 Medium 3
									0.7-1.0 High 4

IMPACT									
5.0 Impact Factors									
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 - 10,000)	Potential for Bog burst	2	3	6	
5.2	Downslope features	Valley	Bowl contained	Minor undrained watercourse	Valley	3	1	3	From LiDAR
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDAR
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDAR
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2	
5.6	Public roads in potential peat flow path	Local Road	No	Local Road	Regional Road	2	1	2	From aerial photography and site walk
5.7	Overhead lines in potential peat flow path	Electricity, LV	Phone Lines	Electricity, LV	Electricity MV, HV	2	1	2	From service drawings and site walk
5.8	Buildings in potential peat flow path	Dwelling	No	Farm out-houses	Dwelling	3	1	3	From aerial photography and site walk
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.
Impact Rating									
						Total		25	
						Max Possible		33	
						Impact		0.76	
									0.0-0.3 Negligible 1
									0.3-0.5 Low 2
									0.5-0.7 Medium 3
									0.7-1.0 High 4

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.61 * 0.76 = 0.46 Substantial			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 2: T2 Spur
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 2: T2 Spur

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 3: T2 Junction - T3 Junction
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 3: T2 Junction - T3 Junction

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 4: T3 Spur
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 4: T3 Spur

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 5: T3 Junction - Public Road
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 5: T3 Junction - Public Road

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Access Track 6: Public Road - T6 Junction												
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3							
LIKELIHOOD												
1.0	Ground Conditions											
Peat												
1.1	Peat Depth	1.4m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Medium dense silty gravel	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1	1	1	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.			
2.0	Topography											
Situation												
2.1	Elevation OD [m]	340m	<200m		>200m	3	1	3	From LiDar			
2.2	Slope Aspect	E	SW, S, SE	W, E	NW, N, NE	2	1	2	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	>10°	<3°	>7°	3° - 7°	2	2	4	From LiDar			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0	Hydrology											
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.			
4.0	Other Factors											
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	< 5km	> 5km	< 5km	On site	2	2	4	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	47			
								Max Possible	72			
									0.0-0.3	Negligible	1	
									0.3-0.5	Low	2	
								Likelihood	0.65	0.5-0.7	Medium	3
									0.7-1.0	High	4	

IMPACT												
5.0	Impact Factors											
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	Farm out-houses	No	Farm out-houses	Dwelling	2	1	2	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	22			
								Max Possible	33			
									0.0-0.3	Negligible	1	
									0.3-0.5	Low	2	
								Impact	0.67	0.5-0.7	Medium	3
									0.7-1.0	High	4	

RISK RATING																								
Risk Rating = Likelihood * Impact																								
Risk Rating = 0.65 * 0.67 = 0.44 Substantial																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Risk Rating</th> <th>Risk Level</th> <th>Action Required</th> </tr> </thead> <tbody> <tr> <td>0.0 - 0.18</td> <td>Insignificant</td> <td>Normal SI</td> </tr> <tr> <td>0.19 - 0.42</td> <td style="background-color: green;">Significant</td> <td>Targeted SI, design of specific mitigation measures. Part time supervision during construction.</td> </tr> <tr> <td>0.43 - 0.66</td> <td style="background-color: yellow;">Substantial</td> <td>Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.</td> </tr> <tr> <td>0.67 - 1.0</td> <td style="background-color: red;">Serious</td> <td>Avoid construction in this area.</td> </tr> </tbody> </table>										Risk Rating	Risk Level	Action Required	0.0 - 0.18	Insignificant	Normal SI	0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	0.67 - 1.0	Serious	Avoid construction in this area.
Risk Rating	Risk Level	Action Required																						
0.0 - 0.18	Insignificant	Normal SI																						
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.																						
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.																						
0.67 - 1.0	Serious	Avoid construction in this area.																						



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 7: T6 Junction - T6
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 7: T6 Junction - T6

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Access Track 9: T4 Spur										
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment
			1	2	3	4				
LIKELIHOOD										
1.0 Ground Conditions										
Peat										
1.1	Peat Depth	<1m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Sandy gravelly clay	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.	
2.0 Topography										
Situation										
2.1	Elevation OD [m]	335m	<200m		>200m	3	1	3	From LiDar	
2.2	Slope Aspect	E	SW, S, SE	W, E	NW, N, NE	2	1	2	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	>10°	<3°	>7°	3° - 7°	2	2	4	From LiDar	
Geomorphology										
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0 Hydrology										
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	200 - 300m	> 300m	200 - 300m	< 200m	2	1	2	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.	
4.0 Other Factors										
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	< 5km	> 5km	< 5km	On site	2	2	4	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
								Total	44	
								Max Possible	72	
										Likelihood Score
									0.0-0.3	Negligible
									0.3-0.5	Low
								Likelihood	0.61	
									0.5-0.7	Medium
									0.7-1.0	High

IMPACT										
5.0 Impact Factors										
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	200-500m	>500m	200-500m	<200m	2	1	2	From LiDar	
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk	
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
								Total	20	
								Max Possible	33	
										Impact Score
									0.0-0.3	Negligible
									0.3-0.5	Low
								Impact	0.61	
									0.5-0.7	Medium
									0.7-1.0	High

RISK RATING																								
Risk Rating = Likelihood * Impact																								
Risk Rating = 0.61 * 0.61 = 0.37 Significant																								
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Risk Rating	Risk Level	Action Required																						
0.0 - 0.18	Insignificant	Normal SI																						
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.																						
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.																						
0.67 - 1.0	Serious	Avoid construction in this area.																						

Access Track 12: T7 Junction - T10 Junction												
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3							
LIKELIHOOD												
1.0	Ground Conditions											
Peat												
1.1	Peat Depth	1.8m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Slowly squeezing	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	2	1	2	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Soft sandy gravelly clay / silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.			
2.0	Topography											
Situation												
2.1	Elevation OD [m]	390m	<200m		>200m	3	1	3	From LiDar			
2.2	Slope Aspect	N	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0	Hydrology											
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.			
4.0	Other Factors											
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	< 5km	> 5km	< 5km	On site	2	2	4	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	53			
								Max Possible	72			
										Likelihood Score		
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
										0.5-0.7	Medium	3
										0.7-1.0	High	4
								Likelihood	0.74			

IMPACT												
5.0	Impact Factors											
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	21			
								Max Possible	33			
										Impact Score		
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
										0.5-0.7	Medium	3
										0.7-1.0	High	4
								Impact	0.64			

RISK RATING									
Risk Rating = Likelihood * Impact									
Risk Rating = 0.74 0.64 = 0.47 Substantial									
Risk Rating	Risk Level	Action Required							
0.0 - 0.18	Insignificant	Normal SI							
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.							
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.							
0.67 - 1.0	Serious	Avoid construction in this area.							

Access Track 13: T10 Junction - T8										
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment
			1	2	3	4				
LIKELIHOOD										
1.0 Ground Conditions										
Peat										
1.1	Peat Depth	0.8m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Soft sandy gravelly silty clay	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.	
2.0 Topography										
Situation										
2.1	Elevation OD [m]	400m	<200m	>200m		3	1	3	From LiDar	
2.2	Slope Aspect	NE	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	0° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar	
Geomorphology										
2.4	General slope characteristics downslope	Convex	Concave	Planar	Convex	3	1	3	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0 Hydrology										
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.	
4.0 Other Factors										
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
						Total	47			
						Max Possible	72			
							0.0-0.3	Negligible	1	
							0.3-0.5	Low	2	
						Likelihood	0.65	0.5-0.7	Medium	3
							0.7-1.0	High	4	

IMPACT										
5.0 Impact Factors										
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar	
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk	
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
						Total	21			
						Max Possible	33			
							0.0-0.3	Negligible	1	
							0.3-0.5	Low	2	
						Impact	0.64	0.5-0.7	Medium	3
							0.7-1.0	High	4	

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.65 * 0.64 = 0.42 Significant			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	

Access Track 19: T14 Spur												
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3	4						
LIKELIHOOD												
1.0 Ground Conditions												
Peat												
1.1	Peat Depth	<1m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Soft to firm sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.			
2.0 Topography												
Situation												
2.1	Elevation OD [m]	490m	<200m		>200m	3	1	3	From LiDar			
2.2	Slope Aspect	W	SW, S, SE	W, E	NW, N, NE	2	1	2	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0 Hydrology												
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.			
4.0 Other Factors												
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	42			
								Max Possible	72			
										Likelihood Score		
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Likelihood	0.58	0.5-0.7	Medium	3
										0.7-1.0	High	4

IMPACT												
5.0 Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 - 10,000m ³)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	21			
								Max Possible	33			
										Impact Score		
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Impact	0.64	0.5-0.7	Medium	3
										0.7-1.0	High	4

RISK RATING									
Risk Rating = Likelihood * Impact									
Risk Rating = 0.58 * 0.64 = 0.37 Significant									
Risk Rating	Risk Level	Action Required							
0.0 - 0.18	Insignificant	Normal SI							
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.							
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.							
0.67 - 1.0	Serious	Avoid construction in this area.							

Access Track 20: Borrow Pit G - T15 Spur Ch. 900

No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3	4						
LIKELIHOOD												
1.0 Ground Conditions												
Peat												
1.1	Peat Depth	0.8m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Slowly squeezing	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	2	1	2	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.			
2.0 Topography												
Situation												
2.1	Elevation OD [m]	470m	<200m	>200m	>200m	3	1	3	From LiDar			
2.2	Slope Aspect	W, NW	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0 Hydrology												
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.			
4.0 Other Factors												
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	44			
								Max Possible	72			
										Likelihood Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Likelihood	0.61	0.5-0.7	Medium	3
										0.7-1.0	High	4

IMPACT

5.0 Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	21			
								Max Possible	33			
										Impact Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Impact	0.64	0.5-0.7	Medium	3
										0.7-1.0	High	4

RISK RATING

Risk Rating = Likelihood * Impact

Risk Rating = 0.61 * 0.64 = 0.39 Significant

Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 24: River Roughty - T16
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 24: River Roughty - T16

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Access Track 30: Borrow Pit E - Main Spine Road Parts 3 & 4 Intersection

No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3	4						
LIKELIHOOD												
1.0 Ground Conditions												
Peat												
1.1	Peat Depth	1.9m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Slowly squeezing	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	2	1	2	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.			
2.0 Topography												
Situation												
2.1	Elevation OD [m]	480m	<200m	>200m	>200m	3	1	3	From LiDar			
2.2	Slope Aspect	NE	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0 Hydrology												
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.			
4.0 Other Factors												
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	51			
								Max Possible	72			
										Likelihood Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Likelihood	0.71	0.5-0.7	Medium	3
										0.7-1.0	High	4

IMPACT

5.0 Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 - 10,000m ³)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	21			
								Max Possible	33			
										Impact Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Impact	0.64	0.5-0.7	Medium	3
										0.7-1.0	High	4

RISK RATING

Risk Rating = Likelihood * Impact

Risk Rating = 0.71 * 0.64 = 0.45 **Substantial**

Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 33: T22 Spur
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 33: T22 Spur

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Access Track 34: T24 Spur												
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3	4						
LIKELIHOOD												
1.0 Ground Conditions												
Peat												
1.1	Peat Depth	1.3m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.			
2.0 Topography												
Situation												
2.1	Elevation OD [m]	400m	<200m	>200m		3	1	3	From LiDar			
2.2	Slope Aspect	NW	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	0° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0 Hydrology												
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	>300m	> 300m	200 - 300m	< 200m	1	1	1	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.			
4.0 Other Factors												
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	48			
								Max Possible	72			
										Likelihood Score		
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Likelihood	0.67	0.5-0.7	Medium	3
										0.7-1.0	High	4

IMPACT												
5.0 Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 - 10,000m ³)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	>500m	>500m	200-500m	<200m	1	1	1	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	19			
								Max Possible	33			
										Impact Score		
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Impact	0.58	0.5-0.7	Medium	3
										0.7-1.0	High	4

RISK RATING																								
Risk Rating = Likelihood * Impact																								
Risk Rating = 0.67 * 0.58 = 0.38 Significant																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Risk Rating</th> <th>Risk Level</th> <th>Action Required</th> </tr> </thead> <tbody> <tr> <td>0.0 - 0.18</td> <td>Insignificant</td> <td>Normal SI</td> </tr> <tr> <td>0.19 - 0.42</td> <td style="background-color: green;">Significant</td> <td>Targeted SI, design of specific mitigation measures. Part time supervision during construction.</td> </tr> <tr> <td>0.43 - 0.66</td> <td style="background-color: yellow;">Substantial</td> <td>Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.</td> </tr> <tr> <td>0.67 - 1.0</td> <td style="background-color: red;">Serious</td> <td>Avoid construction in this area.</td> </tr> </tbody> </table>										Risk Rating	Risk Level	Action Required	0.0 - 0.18	Insignificant	Normal SI	0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	0.67 - 1.0	Serious	Avoid construction in this area.
Risk Rating	Risk Level	Action Required																						
0.0 - 0.18	Insignificant	Normal SI																						
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.																						
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.																						
0.67 - 1.0	Serious	Avoid construction in this area.																						



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 40: T31 - T30 Site Access Junction
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 40: T31 - T30 Site Access Junction

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



Peat Stability Risk Assessment Grousemount Wind Farm

Location:	Access Track 39: T30 Site Access (Ch. 1450 - Ch. 2350)
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 39: T30 Site Access (Ch. 1450 - Ch. 2350)										
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment
			1	2	3					
LIKELIHOOD										
1.0	Ground Conditions									
Peat										
1.1	Peat Depth	1.3m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Slowly squeezing	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	2	1	2	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.	
2.0	Topography									
Situation										
2.1	Elevation OD [m]	330m	<200m	>200m		3	1	3	From LiDar	
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar	
Geomorphology										
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0	Hydrology									
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.	
4.0	Other Factors									
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
								48		
								72		
									Likelihood Score	
									0.0-0.3	Negligible
									0.3-0.5	Low
									0.5-0.7	Medium
									0.7-1.0	High

IMPACT										
5.0	Impact Factors									
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar	
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk	
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
								21		
								33		
									Impact Score	
									0.0-0.3	Negligible
									0.3-0.5	Low
									0.5-0.7	Medium
									0.7-1.0	High

RISK RATING																									
Risk Rating = Likelihood * Impact																									
Risk Rating = 0.67 * 0.64 = 0.42 Significant																									
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Risk Rating</th> <th>Risk Level</th> <th>Action Required</th> </tr> </thead> <tbody> <tr> <td>0.0 - 0.18</td> <td>Insignificant</td> <td>Normal SI</td> </tr> <tr> <td>0.19 - 0.42</td> <td style="background-color: green; color: white;">Significant</td> <td>Targeted SI, design of specific mitigation measures. Part time supervision during construction.</td> </tr> <tr> <td>0.43 - 0.66</td> <td style="background-color: orange;">Substantial</td> <td>Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.</td> </tr> <tr> <td>0.67 - 1.0</td> <td style="background-color: red; color: white;">Serious</td> <td>Avoid construction in this area.</td> </tr> </tbody> </table>											Risk Rating	Risk Level	Action Required	0.0 - 0.18	Insignificant	Normal SI	0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	0.67 - 1.0	Serious	Avoid construction in this area.
Risk Rating	Risk Level	Action Required																							
0.0 - 0.18	Insignificant	Normal SI																							
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.																							
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.																							
0.67 - 1.0	Serious	Avoid construction in this area.																							



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 40: T30 Site Access (Ch. 650 - Ch. 1450)
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 40: T30 Site Access (Ch. 650 - Ch. 1450)

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



**Peat Stability Risk Assessment
Grousemount Wind Farm**

Location:	Access Track 41: T30 Site Access (Ch. 0 - Ch. 650)
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 41: T30 Site Access (Ch. 0 - Ch. 650)											
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment	
			1	2	3						
LIKELIHOOD											
1.0 Ground Conditions											
Peat											
1.1	Peat Depth	2.2m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.		
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.		
Subsoil Characteristics											
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.		
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.		
2.0 Topography											
Situation											
2.1	Elevation OD [m]	280m	<200m	>200m		3	1	3	From LiDar		
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar		
Slope Angle											
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar		
Geomorphology											
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar		
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar		
3.0 Hydrology											
Hydrology											
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar		
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar		
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1			
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk		
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2			
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.		
4.0 Other Factors											
Vegetation											
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk		
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk		
Slide History											
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland		
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk		
Land Use											
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk		
Other Factors											
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.		
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.		
Likelihood Rating											
							Total	47			
							Max Possible	72			
									Likelihood Score	Scale	
									0.0-0.3	Negligible	1
									0.3-0.5	Low	2
							Likelihood	0.65	0.5-0.7	Medium	3
									0.7-1.0	High	4

IMPACT											
5.0 Impact Factors											
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6			
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar		
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar		
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar		
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2			
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk		
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk		
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk		
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.		
Impact Rating											
							Total	21			
							Max Possible	33			
									Impact Score	Scale	
									0.0-0.3	Negligible	1
									0.3-0.5	Low	2
							Impact	0.64	0.5-0.7	Medium	3
									0.7-1.0	High	4

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating =	0.65	0.64
=	0.42	Significant

Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.

Access Track 42: T30 Site Access Junction - T29 Junction										
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment
			1	2	3					
LIKELIHOOD										
1.0	Ground Conditions									
	Peat									
1.1	Peat Depth	0.6m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.	
	Subsoil Characteristics									
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.	
2.0	Topography									
	Situation									
2.1	Elevation OD [m]	345m	<200m		>200m	3	1	3	From LiDar	
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar	
	Slope Angle									
2.3	Slope Angle - Ground Surface	0° - >7°	<3°	>7°	3° - 7°	3	2	6	From LiDar	
	Geomorphology									
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0	Hydrology									
	Hydrology									
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.	
4.0	Other Factors									
	Vegetation									
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
	Slide History									
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
	Land Use									
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
	Other Factors									
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
	Likelihood Rating									
						Total		48		
						Max Possible		72		
									Likelihood Score	
									0.0-0.3 Negligible 1	
									0.3-0.5 Low 2	
						Likelihood		0.67	0.5-0.7 Medium 3	
									0.7-1.0 High 4	

IMPACT									
5.0	Impact Factors								
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6	
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2	
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.
	Impact Rating								
						Total		21	
						Max Possible		33	
									Impact Score
									0.0-0.3 Negligible 1
									0.3-0.5 Low 2
						Impact		0.64	0.5-0.7 Medium 3
									0.7-1.0 High 4

RISK RATING									
<p align="center">Risk Rating = Likelihood * Impact</p> <p align="center"> Risk Rating = 0.67 * 0.64 = 0.42 Significant </p>									
Risk Rating	Risk Level	Action Required							
0.0 - 0.18	Insignificant	Normal SI							
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.							
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.							
0.67 - 1.0	Serious	Avoid construction in this area.							



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 43: T30 Spur
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 43: T30 Spur

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 44: T29 Spur
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 44: T29 Spur

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 45: T29 Junction - T27
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 45: T29 Junction - T27													
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment				
			1	2	3								
LIKELIHOOD													
1.0	Ground Conditions												
	Peat												
1.1	Peat Depth	0.6m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.				
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.				
	Subsoil Characteristics												
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.				
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.				
2.0	Topography												
	Situation												
2.1	Elevation OD [m]	350m	<200m	>200m		3	1	3	From LiDar				
2.2	Slope Aspect	S, SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar				
	Slope Angle												
2.3	Slope Angle - Ground Surface	0° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar				
	Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar				
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar				
3.0	Hydrology												
	Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar				
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar				
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1					
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk				
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2					
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.				
4.0	Other Factors												
	Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk				
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk				
	Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland				
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk				
	Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk				
	Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.				
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.				
	Likelihood Rating												
									Total	48			
									Max Possible	72			
											Likelihood Score		Scale
											0.0-0.3	Negligible	1
											0.3-0.5	Low	2
									Likelihood	0.67	0.5-0.7	Medium	3
											0.7-1.0	High	4

IMPACT													
5.0	Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6					
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar				
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar				
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar				
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2					
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk				
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk				
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk				
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.				
	Impact Rating												
									Total	21			
									Max Possible	33			
											Impact Score		Scale
											0.0-0.3	Negligible	1
											0.3-0.5	Low	2
									Impact	0.64	0.5-0.7	Medium	3
											0.7-1.0	High	4

RISK RATING											
Risk Rating = Likelihood * Impact											
Risk Rating = 0.67 * 0.64 = 0.42 Significant											
Risk Rating	Risk Level	Action Required									
0.0 - 0.18	Insignificant	Normal SI									
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.									
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.									
0.67 - 1.0	Serious	Avoid construction in this area.									



**Peat Stability Risk Assessment
Grousemount Wind Farm**

Location:	Access Track 46: T27 - T30 Site Access Junction
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 46: T27 - T30 Site Access Junction

No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3							
LIKELIHOOD												
1.0 Ground Conditions												
Peat												
1.1	Peat Depth	1.2m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Slowly squeezing	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	2	1	2	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.			
2.0 Topography												
Situation												
2.1	Elevation OD [m]	350m	<200m	>200m	>200m	3	1	3	From LiDar			
2.2	Slope Aspect	E	SW, S, SE	W, E	NW, N, NE	2	1	2	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0 Hydrology												
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.			
4.0 Other Factors												
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	50			
								Max Possible	72			
									0.0-0.3	Negligible	1	
									0.3-0.5	Low	2	
								Likelihood	0.69	0.5-0.7	Medium	3
									0.7-1.0	High	4	

IMPACT

5.0 Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	21			
								Max Possible	33			
									0.0-0.3	Negligible	1	
									0.3-0.5	Low	2	
								Impact	0.64	0.5-0.7	Medium	3
									0.7-1.0	High	4	

RISK RATING

Risk Rating = Likelihood * Impact

Risk Rating = 0.69 * 0.64 = 0.44 Substantial

Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.

Access Track 47: T26 Spur													
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment			
			1	2	3	4							
LIKELIHOOD													
1.0	Ground Conditions												
Peat													
1.1	Peat Depth	0.9m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.				
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.				
Subsoil Characteristics													
1.3	Subsoil Type	Sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.				
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.				
2.0	Topography												
Situation													
2.1	Elevation OD [m]	380m	<200m	>200m		3	1	3	From LiDar				
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar				
Slope Angle													
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar				
Geomorphology													
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar				
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar				
3.0	Hydrology												
Hydrology													
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar				
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar				
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1					
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk				
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2					
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.				
4.0	Other Factors												
Vegetation													
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk				
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk				
Slide History													
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland				
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk				
Land Use													
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk				
Other Factors													
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.				
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.				
Likelihood Rating													
								Total	44				
								Max Possible	72				
											Likelihood Score	Scale	
											0.0-0.3	Negligible	1
											0.3-0.5	Low	2
											0.5-0.7	Medium	3
											0.7-1.0	High	4
								Likelihood	0.61				

IMPACT													
5.0	Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6					
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar				
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar				
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar				
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2					
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk				
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk				
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk				
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.				
Impact Rating													
								Total	21				
								Max Possible	33				
											Impact Score	Scale	
											0.0-0.3	Negligible	1
											0.3-0.5	Low	2
											0.5-0.7	Medium	3
											0.7-1.0	High	4
								Impact	0.64				

RISK RATING									
Risk Rating = Likelihood * Impact									
Risk Rating = 0.61 0.64 = 0.39 Significant									
Risk Rating	Risk Level	Action Required							
0.0 - 0.18	Insignificant	Normal SI							
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.							
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.							
0.67 - 1.0	Serious	Avoid construction in this area.							



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 48: T38 Spur (Ch. 80 - Ch. 300)
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 48: T38 Spur (Ch. 80 - Ch. 300)

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Access Track 49: T38 Spur (Ch. 300 - Ch. 410)

No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3	4						
LIKELIHOOD												
1.0 Ground Conditions												
Peat												
1.1	Peat Depth	0.8m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.			
2.0 Topography												
Situation												
2.1	Elevation OD [m]	390m	<200m	>200m		3	1	3	From LiDar			
2.2	Slope Aspect	N	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0 Hydrology												
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.			
4.0 Other Factors												
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	46			
								Max Possible	72			
										Likelihood Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Likelihood	0.64	0.5-0.7	Medium	3
										0.7-1.0	High	4

IMPACT												
5.0 Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	21			
								Max Possible	33			
										Impact Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Impact	0.64	0.5-0.7	Medium	3
										0.7-1.0	High	4

RISK RATING

Risk Rating = Likelihood * Impact

Risk Rating = 0.64 * 0.64 = 0.41 **Significant**

Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.

Location:	Access Track 50: T36 Spur
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 50: T36 Spur										
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment
			1	2	3					
LIKELIHOOD										
1.0	Ground Conditions									
	Peat									
1.1	Peat Depth	0.8m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.	
	Subsoil Characteristics									
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.	
2.0	Topography									
	Situation									
2.1	Elevation OD [m]	370m	<200m		>200m	3	1	3	From LiDar	
2.2	Slope Aspect	E	SW, S, SE	W, E	NW, N, NE	2	1	2	From LiDar	
	Slope Angle									
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar	
	Geomorphology									
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0	Hydrology									
	Hydrology									
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.	
4.0	Other Factors									
	Vegetation									
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
	Slide History									
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
	Land Use									
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
	Other Factors									
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
						Total	49			
						Max Possible	72			
								Likelihood Score	Scale	
								0.0-0.3	Negligible	
								0.3-0.5	Low	
						Likelihood	0.68	0.5-0.7	Medium	
								0.7-1.0	High	

IMPACT									
5.0	Impact Factors								
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6	
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2	
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.
Impact Rating									
						Total	21		
						Max Possible	33		
								Impact Score	Scale
								0.0-0.3	Negligible
								0.3-0.5	Low
						Impact	0.64	0.5-0.7	Medium
								0.7-1.0	High

RISK RATING

Risk Rating = Likelihood * Impact
Risk Rating = 0.68 * 0.64 = 0.43 Substantial

Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 52: T25 Site Access (Ch. 230 - Ch. 400) farmland
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 52: T25 Site Access (Ch. 230 - Ch. 400) farmland

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 53: T25 Site Access (Ch. 0 - Ch. 230) Coillte land
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 53: T25 Site Access (Ch. 0 - Ch. 230) Coillte land

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Access Track 54: Everwind Wind Farm Site Entrance
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Access Track 54: Everwind Wind Farm Site Entrance

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Access Track 55: Coillte track through Everwind									
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment
			1	2	3				
LIKELIHOOD									
1.0	Ground Conditions								
	Peat								
1.1	Peat Depth	0.8m	<1m	>3m	1-3m	1	2	2	Based on peat probes.
1.2	Peat Condition in Trial Pits	Stands well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits have yet to be excavated. Assumed that the trial pit would stand well based on nearby drains.
	Subsoil Characteristics								
1.3	Subsoil Type		Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay		1	0	Trial pits have yet to be excavated
1.4	Peat fibres continuous across transition to subsoil		Yes	Partially	No		1	0	Trial pits have yet to be excavated
2.0	Topography								
	Situation								
2.1	Elevation OD [m]	380m	<200m		>200m	3	1	3	From LiDar
2.2	Slope Aspect	SW	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar
	Slope Angle								
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar
	Geomorphology								
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar
3.0	Hydrology								
	Hydrology								
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1	
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2	
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.
4.0	Other Factors								
	Vegetation								
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk
	Slide History								
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk
	Land Use								
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk
	Other Factors								
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.
	Likelihood Rating								
						Total	39		
						Max Possible	66		
								Likelihood Score	Scale
								0.0-0.3	Negligible
								0.3-0.5	Low
						Likelihood	0.59	0.5-0.7	Medium
								0.7-1.0	High

IMPACT									
5.0	Impact Factors								
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 - 10,000m ³)	Potential for Bog burst	2	3	6	
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2	
5.6	Public roads in potential peat flow path	Local Road	No	Local Road	Regional Road	2	1	2	From aerial photography and site walk
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.
	Impact Rating								
						Total	22		
						Max Possible	33		
								Impact Score	Scale
								0.0-0.3	Negligible
								0.3-0.5	Low
						Impact	0.67	0.5-0.7	Medium
								0.7-1.0	High

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.59 * 0.67 = 0.39 Significant			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	



International

**Peat Stability Risk Assessment
Grousemount Wind Farm**

Location:	T1 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T1 Turbine & Hardstanding

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



International

**Peat Stability Risk Assessment
Grousemount Wind Farm**

Location:	T2 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T2 Turbine & Hardstanding

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

T3 Turbine & Hardstanding																				
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment										
			1	2	3															
LIKELIHOOD																				
1.0 Ground Conditions																				
Peat																				
1.1	Peat Depth	<1m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.											
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.											
Subsoil Characteristics																				
1.3	Subsoil Type	Boulders / bedrock	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1.5	1	1.5	Trial pits carried out by IGSL in 2015.											
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.											
2.0 Topography																				
Situation																				
2.1	Elevation OD [m]	330m	<200m		>200m	3	1	3	From LiDar											
2.2	Slope Aspect	SW	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar											
Slope Angle																				
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar											
Geomorphology																				
2.4	General slope characteristics downslope	Convex	Concave	Planar	Convex	3	1	3	From LiDar											
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar											
3.0 Hydrology																				
Hydrology																				
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar											
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar											
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1												
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk											
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2												
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.											
4.0 Other Factors																				
Vegetation																				
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk											
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk											
Slide History																				
4.3	Previous slides in locality	< 5km	> 5km	< 5km	On site	2	2	4	From Geological Survey of Ireland. Fuhny Landslide occurred within 5km north-east of the site in 1997. (GSI Event ID #91).											
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk											
Land Use																				
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk											
Other Factors																				
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.											
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.											
Likelihood Rating																				
								Total	42.5											
								Max Possible	72											
								Likelihood	0.59											
								<table border="1"> <tr> <th>Likelihood Score</th> <th>Scale</th> </tr> <tr> <td>0.0-0.3</td> <td>Negligible</td> </tr> <tr> <td>0.3-0.5</td> <td>Low</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium</td> </tr> <tr> <td>0.7-1.0</td> <td>High</td> </tr> </table>			Likelihood Score	Scale	0.0-0.3	Negligible	0.3-0.5	Low	0.5-0.7	Medium	0.7-1.0	High
Likelihood Score	Scale																			
0.0-0.3	Negligible																			
0.3-0.5	Low																			
0.5-0.7	Medium																			
0.7-1.0	High																			

IMPACT																				
5.0 Impact Factors																				
5.1	Volume of peat in potential peat flow	Small volume (<1,000m ³)	Small volume (<1,000m ³)	Medium (1,000 - 10,000m ³)	Potential for Bog burst	1	3	3												
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar											
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar											
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar											
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2												
5.6	Public roads in potential peat flow path	Local Road	No	Local Road	Regional Road	2	1	2	From aerial photography and site walk											
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk											
5.8	Buildings in potential peat flow path	Dwelling	No	Farm out-houses	Dwelling	3	1	3	From aerial photography and site walk											
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.											
Impact Rating																				
								Total	21											
								Max Possible	33											
								Impact	0.64											
								<table border="1"> <tr> <th>Impact Score</th> <th>Scale</th> </tr> <tr> <td>0.0-0.3</td> <td>Negligible</td> </tr> <tr> <td>0.3-0.5</td> <td>Low</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium</td> </tr> <tr> <td>0.7-1.0</td> <td>High</td> </tr> </table>			Impact Score	Scale	0.0-0.3	Negligible	0.3-0.5	Low	0.5-0.7	Medium	0.7-1.0	High
Impact Score	Scale																			
0.0-0.3	Negligible																			
0.3-0.5	Low																			
0.5-0.7	Medium																			
0.7-1.0	High																			

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating =	0.59	0.64
=	0.38	Significant
Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.



International

**Peat Stability Risk Assessment
Grousemount Wind Farm**

Location:	T4 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T4 Turbine & Hardstanding

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Location:	T5 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T5 Turbine & Hardstanding																				
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment										
			1	2	3															
LIKELIHOOD																				
1.0 Ground Conditions																				
Peat																				
1.1	Peat Depth	<1m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.											
1.2	Peat Condition in Trial Pits	Slowly squeezing	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	2	1	2	Trial pits carried out by IGSL in 2015.											
Subsoil Characteristics																				
1.3	Subsoil Type	Soft slightly gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.											
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.											
2.0 Topography																				
Situation																				
2.1	Elevation OD [m]	390m	<200m		>200m	3	1	3	From LiDar											
2.2	Slope Aspect	NW	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar											
Slope Angle																				
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case scenario assumed.											
Geomorphology																				
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar											
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar											
3.0 Hydrology																				
Hydrology																				
3.1	In broad valley upslope from defined watercourse	Yes, slopes $\geq 3^\circ$	No	Yes, slopes < 3°	Yes, slopes $\geq 3^\circ$	3	1	3	From LiDar											
3.2	Distance from head of defined watercourse	200 - 300m	> 300m	200 - 300m	< 200m	2	1	2	From LiDar											
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1												
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk											
3.5	Existing drainage ditches	Down slope	Down slope	Varied / Oblique	Across slope	1	1	1												
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.											
4.0 Other Factors																				
Vegetation																				
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk											
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk											
Slide History																				
4.3	Previous slides in locality	< 5km	> 5km	< 5km	On site	2	2	4	From Geological Survey of Ireland. Fuhny Landslide occurred within 5km north-east of the site in 1997. (GSI Event ID #91).											
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk											
Land Use																				
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk											
Other Factors																				
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.											
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.											
Likelihood Rating																				
								Total	46											
								Max Possible	72											
								Likelihood	0.64											
										<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Likelihood Score</th> <th>Scale</th> </tr> <tr> <td>0.0-0.3</td> <td>Negligible 1</td> </tr> <tr> <td>0.3-0.5</td> <td>Low 2</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium 3</td> </tr> <tr> <td>0.7-1.0</td> <td>High 4</td> </tr> </table>	Likelihood Score	Scale	0.0-0.3	Negligible 1	0.3-0.5	Low 2	0.5-0.7	Medium 3	0.7-1.0	High 4
Likelihood Score	Scale																			
0.0-0.3	Negligible 1																			
0.3-0.5	Low 2																			
0.5-0.7	Medium 3																			
0.7-1.0	High 4																			

IMPACT																				
5.0 Impact Factors																				
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 -)	Potential for Bog burst	2	3	6												
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar											
5.3	Proximity to defined valley	200-500m	>500m	200-500m	<200m	2	1	2	From LiDar											
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar											
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2												
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk											
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk											
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk											
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.											
Impact Rating																				
								Total	20											
								Max Possible	33											
								Impact	0.61											
										<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <th>Impact Score</th> <th>Scale</th> </tr> <tr> <td>0.0-0.3</td> <td>Negligible 1</td> </tr> <tr> <td>0.3-0.5</td> <td>Low 2</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium 3</td> </tr> <tr> <td>0.7-1.0</td> <td>High 4</td> </tr> </table>	Impact Score	Scale	0.0-0.3	Negligible 1	0.3-0.5	Low 2	0.5-0.7	Medium 3	0.7-1.0	High 4
Impact Score	Scale																			
0.0-0.3	Negligible 1																			
0.3-0.5	Low 2																			
0.5-0.7	Medium 3																			
0.7-1.0	High 4																			

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.64 * 0.61 = 0.39 Significant			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	

Location:	T6 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

		T6 Turbine & Hardstanding																							
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment																
			1	2	3																				
LIKELIHOOD																									
1.0 Ground Conditions																									
Peat																									
1.1	Peat Depth	0.5m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.																
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.																
Subsoil Characteristics																									
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.																
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.																
2.0 Topography																									
Situation																									
2.1	Elevation OD [m]	415m	<200m		>200m	3	1	3	From LiDar																
2.2	Slope Aspect	SW	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar																
Slope Angle																									
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar																
Geomorphology																									
2.4	General slope characteristics downslope	Concave	Concave	Planar	Convex	1	1	1	From LiDar																
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar																
3.0 Hydrology																									
Hydrology																									
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar																
3.2	Distance from head of defined watercourse	>300m	> 300m	200 - 300m	< 200m	1	1	1	From LiDar																
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1																	
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk																
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2																	
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.																
4.0 Other Factors																									
Vegetation																									
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk																
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk																
Slide History																									
4.3	Previous slides in locality	< 5km	> 5km	< 5km	On site	2	2	4	From Geological Survey of Ireland. Fuhny Landslide occurred within 5km north-east of the site in 1997. (GSI Event ID #91).																
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk																
Land Use																									
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk																
Other Factors																									
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.																
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.																
Likelihood Rating																									
								Total	40																
								Max Possible	72																
								Likelihood	0.56																
										<table border="1"> <tr> <th colspan="2">Likelihood Score</th> <th>Scale</th> </tr> <tr> <td>0.0-0.3</td> <td>Negligible</td> <td>1</td> </tr> <tr> <td>0.3-0.5</td> <td>Low</td> <td>2</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium</td> <td>3</td> </tr> <tr> <td>0.7-1.0</td> <td>High</td> <td>4</td> </tr> </table>	Likelihood Score		Scale	0.0-0.3	Negligible	1	0.3-0.5	Low	2	0.5-0.7	Medium	3	0.7-1.0	High	4
Likelihood Score		Scale																							
0.0-0.3	Negligible	1																							
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IMPACT																									
5.0 Impact Factors																									
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 -)	Potential for Bog burst	2	3	6																	
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar																
5.3	Proximity to defined valley	200-500m	>500m	200-500m	<200m	2	1	2	From LiDar																
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar																
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2																	
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk																
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk																
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk																
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.																
Impact Rating																									
								Total	20																
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								Impact	0.61																
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Impact Score		Scale																							
0.0-0.3	Negligible	1																							
0.3-0.5	Low	2																							
0.5-0.7	Medium	3																							
0.7-1.0	High	4																							

RISK RATING																		
Risk Rating = Likelihood * Impact																		
Risk Rating = 0.56 * 0.61 = 0.34 Significant																		
<table border="1"> <tr> <th>Risk Rating</th> <th>Risk Level</th> <th>Action Required</th> </tr> <tr> <td>0.0 - 0.18</td> <td>Insignificant</td> <td>Normal SI</td> </tr> <tr> <td>0.19 - 0.42</td> <td>Significant</td> <td>Targeted SI, design of specific mitigation measures. Part time supervision during construction.</td> </tr> <tr> <td>0.43 - 0.66</td> <td>Substantial</td> <td>Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.</td> </tr> <tr> <td>0.67 - 1.0</td> <td>Serious</td> <td>Avoid construction in this area.</td> </tr> </table>				Risk Rating	Risk Level	Action Required	0.0 - 0.18	Insignificant	Normal SI	0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	0.67 - 1.0	Serious	Avoid construction in this area.
Risk Rating	Risk Level	Action Required																
0.0 - 0.18	Insignificant	Normal SI																
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.																
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.																
0.67 - 1.0	Serious	Avoid construction in this area.																

Location:	T7 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment	
			1	2	3	4					
LIKELIHOOD											
1.0 Ground Conditions											
Peat											
1.1	Peat Depth	1m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.		
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.		
Subsoil Characteristics											
1.3	Subsoil Type	Boulders / bedrock	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1.5	1	1.5	Trial pits carried out by IGSL in 2015.		
1.4	Peat fibres continuous across transition to subsoil	No	Yes	Partially	No	3	1	3	Trial pits carried out by IGSL in 2015.		
2.0 Topography											
Situation											
2.1	Elevation OD [m]	380m	<200m	>200m		3	1	3	From LiDar		
2.2	Slope Aspect	W	SW, S, SE	W, E	NW, N, NE	2	1	2	From LiDar		
Slope Angle											
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar		
Geomorphology											
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar		
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar		
3.0 Hydrology											
Hydrology											
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar		
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar		
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1			
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk		
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2			
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.		
4.0 Other Factors											
Vegetation											
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk		
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk		
Slide History											
4.3	Previous slides in locality	< 5km	> 5km	< 5km	On site	2	2	4	From Geological Survey of Ireland. Fuhny Landslide occurred within 5km north-east of the site in 1997 (GSI Event ID #91).		
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk		
Land Use											
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk		
Other Factors											
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.		
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.		
Likelihood Rating											
								Total	48.5		
								Max Possible	72		
								Likelihood	0.67		
									Likelihood Score	Scale	
									0.0-0.3	Negligible	1
									0.3-0.5	Low	2
									0.5-0.7	Medium	3
									0.7-1.0	High	4

IMPACT											
5.0 Impact Factors											
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 - 10,000m ³)	Potential for Bog burst	2	3	6			
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar		
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar		
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar		
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2			
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk		
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk		
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk		
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.		
Impact Rating											
								Total	21		
								Max Possible	33		
								Impact	0.64		
									Impact Score	Scale	
									0.0-0.3	Negligible	1
									0.3-0.5	Low	2
									0.5-0.7	Medium	3
									0.7-1.0	High	4

RISK RATING																									
Risk Rating = Likelihood * Impact																									
Risk Rating = 0.67 * 0.64 = 0.43 Substantial																									
<table border="1"> <thead> <tr> <th>Risk Rating</th> <th>Risk Level</th> <th>Action Required</th> </tr> </thead> <tbody> <tr> <td>0.0 - 0.18</td> <td>Insignificant</td> <td>Normal SI</td> </tr> <tr> <td>0.19 - 0.42</td> <td>Significant</td> <td>Targeted SI, design of specific mitigation measures. Part time supervision during construction.</td> </tr> <tr> <td>0.43 - 0.66</td> <td>Substantial</td> <td>Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.</td> </tr> <tr> <td>0.67 - 1.0</td> <td>Serious</td> <td>Avoid construction in this area.</td> </tr> </tbody> </table>											Risk Rating	Risk Level	Action Required	0.0 - 0.18	Insignificant	Normal SI	0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	0.67 - 1.0	Serious	Avoid construction in this area.
Risk Rating	Risk Level	Action Required																							
0.0 - 0.18	Insignificant	Normal SI																							
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.																							
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.																							
0.67 - 1.0	Serious	Avoid construction in this area.																							

		T8 Turbine & Hardstanding								
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment	
			1	2	3					
LIKELIHOOD										
1.0 Ground Conditions										
Peat										
1.1	Peat Depth	0.7m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Soft sandy gravely silty clay	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.	
2.0 Topography										
Situation										
2.1	Elevation OD [m]	400m	<200m		>200m	3	1	3	From LiDar	
2.2	Slope Aspect	N	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case scenario assumed.	
Geomorphology										
2.4	General slope characteristics downslope	Convex	Concave	Planar	Convex	3	1	3	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0 Hydrology										
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	>300m	> 300m	200 - 300m	< 200m	1	1	1	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Down slope	Down slope	Varied / Oblique	Across slope	1	1	1		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.	
4.0 Other Factors										
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
								Total	44	
								Max Possible	72	
								Likelihood	0.61	
										0.0-0.3 Negligible 1
										0.3-0.5 Low 2
										0.5-0.7 Medium 3
										0.7-1.0 High 4

IMPACT										
5.0 Impact Factors										
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 -)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	>500m	>500m	200-500m	<200m	1	1	1	From LiDar	
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk	
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
								Total	19	
								Max Possible	33	
								Impact	0.58	
										0.0-0.3 Negligible 1
										0.3-0.5 Low 2
										0.5-0.7 Medium 3
										0.7-1.0 High 4

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.61 * 0.58 = 0.35 Significant			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	

		T9 Turbine & Hardstanding												
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment				
			1	2	3	4								
LIKELIHOOD														
1.0 Ground Conditions														
Peat														
1.1	Peat Depth	1.5m	<1m		>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.				
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable		1	1	1	Trial pits carried out by IGSL in 2015.				
Subsoil Characteristics														
1.3	Subsoil Type	Boulders / bedrock	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1.5	1	1.5	1.5	Trial pits carried out by IGSL in 2015.				
1.4	Peat fibres continuous across transition to subsoil	No	Yes	Partially	No	3	1	3	3	Trial pits carried out by IGSL in 2015.				
2.0 Topography														
Situation														
2.1	Elevation OD [m]	380m	<200m		>200m	3	1	3	3	From LiDar				
2.2	Slope Aspect	W	SW, S, SE	W, E	NW, N, NE	2	1	2	2	From LiDar				
Slope Angle														
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	6	From LiDar. Worst case scenario assumed.				
Geomorphology														
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	2	From LiDar				
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	1	From LiDar				
3.0 Hydrology														
Hydrology														
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	3	From LiDar				
3.2	Distance from head of defined watercourse	>300m	> 300m	200 - 300m	< 200m	1	1	1	1	From LiDar				
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1	1					
3.4	Evidence of piping	No	No	-	Yes	1	1	1	1	From site walk				
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2	2					
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	3	From Met Eireann. Based on average rainfall from 1985 - 2014.				
4.0 Other Factors														
Vegetation														
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	2	From aerial photography and site walk				
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	0	From aerial photography and site walk				
Slide History														
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	2	From Geological Survey of Ireland				
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	1	From site walk				
Land Use														
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	1	From aerial photography and site walk				
Other Factors														
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	1	No existing road. Value assumed.				
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	3	Worst case assumed.				
Likelihood Rating														
									Total	46.5				
									Max Possible	72		0.0-0.3	Negligible	1
									Likelihood	0.65		0.3-0.5	Low	2
												0.5-0.7	Medium	3
												0.7-1.0	High	4

IMPACT														
5.0 Impact Factors														
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 - 10,000m ³)	Potential for Bog burst	2	3	6						
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	3	From LiDar				
5.3	Proximity to defined valley	200-500m	>500m	200-500m	<200m	2	1	2	2	From LiDar				
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	3	From LiDar				
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2	2					
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	1	From aerial photography and site walk				
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	1	From service drawings and site walk				
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	1	From aerial photography and site walk				
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	1	Based on contractor facilities on site during construction.				
Impact Rating														
									Total	20				
									Max Possible	33		0.0-0.3	Negligible	1
									Impact	0.61		0.3-0.5	Low	2
												0.5-0.7	Medium	3
												0.7-1.0	High	4

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.65 * 0.61 = 0.39 Significant			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	

		T10 Turbine & Hardstanding								
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment	
			1	2	3					
LIKELIHOOD										
1.0 Ground Conditions										
Peat										
1.1	Peat Depth	1.0 - 1.7m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Silty Sandy Gravel	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1	1	1	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.	
2.0 Topography										
Situation										
2.1	Elevation OD [m]	395m	<200m		>200m	3	1	3	From LiDar	
2.2	Slope Aspect	NE	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	0° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case scenario assumed.	
Geomorphology										
2.4	General slope characteristics downslope	Convex	Concave	Planar	Convex	3	1	3	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0 Hydrology										
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.	
4.0 Other Factors										
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
								Total	49	
								Max Possible	72	
								Likelihood	0.68	
										0.0-0.3 Negligible 1
										0.3-0.5 Low 2
										0.5-0.7 Medium 3
										0.7-1.0 High 4

IMPACT										
5.0 Impact Factors										
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 -)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	200-500m	>500m	200-500m	<200m	2	1	2	From LiDar	
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk	
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
								Total	20	
								Max Possible	33	
								Impact	0.61	
										0.0-0.3 Negligible 1
										0.3-0.5 Low 2
										0.5-0.7 Medium 3
										0.7-1.0 High 4

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating = 0.68 * 0.61 = 0.41 Significant		
Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	T11 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

		T11 Turbine & Hardstanding								
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment	
			1	2	3					
LIKELIHOOD										
1.0 Ground Conditions										
Peat										
1.1	Peat Depth	0.8m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Soft sandy gravely silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.	
2.0 Topography										
Situation										
2.1	Elevation OD [m]	400m	<200m	>200m		3	1	3	From LiDar	
2.2	Slope Aspect	SW	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	0° - 5°	<3°	>7°	3° - 7°	3	2	6	From LiDar	
Geomorphology										
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0 Hydrology										
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	>300m	> 300m	200 - 300m	< 200m	1	1	1	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.	
4.0 Other Factors										
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
						Total		42		
						Max Possible		72		
						Likelihood		0.58		
								Likelihood Score	Scale	
								0.0-0.3	Negligible	1
								0.3-0.5	Low	2
								0.5-0.7	Medium	3
								0.7-1.0	High	4

IMPACT										
5.0 Impact Factors										
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 -)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	>500m	>500m	200-500m	<200m	1	1	1	From LiDar	
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk	
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
						Total		19		
						Max Possible		33		
						Impact		0.58		
								Impact Score	Scale	
								0.0-0.3	Negligible	1
								0.3-0.5	Low	2
								0.5-0.7	Medium	3
								0.7-1.0	High	4

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.58 * 0.58 = 0.34 Significant			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	T12 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T12 Turbine & Hardstanding

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	T14 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T14 Turbine & Hardstanding

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Location:	T15 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

		T15 Turbine & Hardstanding										
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3							
LIKELIHOOD												
1.0 Ground Conditions												
Peat												
1.1	Peat Depth	1.2m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Soft sandy gravely silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.			
2.0 Topography												
Situation												
2.1	Elevation OD [m]	450m	<200m		>200m	3	1	3	From LiDar			
2.2	Slope Aspect	NW	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0 Hydrology												
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	200 - 300m	> 300m	200 - 300m	< 200m	2	1	2	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.			
4.0 Other Factors												
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	47			
								Max Possible	72			
								Likelihood	0.65			
										Likelihood Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
										0.5-0.7	Medium	3
										0.7-1.0	High	4

IMPACT												
5.0 Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 -)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	200-500m	>500m	200-500m	<200m	2	1	2	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	20			
								Max Possible	33			
								Impact	0.61			
										Impact Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
										0.5-0.7	Medium	3
										0.7-1.0	High	4

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.65 * 0.61 = 0.40 Significant			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	

		T16 Turbine & Hardstanding									
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment	
			1	2	3						
LIKELIHOOD											
1.0 Ground Conditions											
Peat											
1.1	Peat Depth	0.7m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.		
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.		
Subsoil Characteristics											
1.3	Subsoil Type	Soft to firm sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.		
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.		
2.0 Topography											
Situation											
2.1	Elevation OD [m]	410m	<200m		>200m	3	1	3	From LiDar		
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar		
Slope Angle											
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar		
Geomorphology											
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar		
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar		
3.0 Hydrology											
Hydrology											
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar		
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar		
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1			
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk		
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2			
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.		
4.0 Other Factors											
Vegetation											
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk		
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk		
Slide History											
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland		
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk		
Land Use											
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk		
Other Factors											
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.		
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.		
Likelihood Rating											
								Total	42		
								Max Possible	72		
								Likelihood	0.58		
									0.0-0.3	Negligible	1
									0.3-0.5	Low	2
									0.5-0.7	Medium	3
									0.7-1.0	High	4

IMPACT											
5.0 Impact Factors											
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 -)	Potential for Bog burst	2	3	6			
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar		
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar		
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar		
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2			
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk		
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk		
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk		
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.		
Impact Rating											
								Total	21		
								Max Possible	33		
								Impact	0.64		
									0.0-0.3	Negligible	1
									0.3-0.5	Low	2
									0.5-0.7	Medium	3
									0.7-1.0	High	4

RISK RATING										
Risk Rating = Likelihood * Impact										
Risk Rating = 0.58 * 0.64 = 0.37 Significant										
	Risk Rating	Risk Level	Action Required							
	0.0 - 0.18	Insignificant	Normal SI							
	0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.							
	0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.							
	0.67 - 1.0	Serious	Avoid construction in this area.							

T18 Turbine & Hardstanding																								
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment															
			1	2	3																			
LIKELIHOOD																								
1.0 Ground Conditions																								
Peat																								
1.1	Peat Depth	0.6m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.															
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.															
Subsoil Characteristics																								
1.3	Subsoil Type	Soft sandy gravely silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.															
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.															
2.0 Topography																								
Situation																								
2.1	Elevation OD [m]	410m	<200m	>200m		3	1	3	From LiDar															
2.2	Slope Aspect	E	SW, S, SE	W, E	NW, N, NE	2	1	2	From LiDar															
Slope Angle																								
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar															
Geomorphology																								
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar															
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar															
3.0 Hydrology																								
Hydrology																								
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar															
3.2	Distance from head of defined watercourse	>300m	> 300m	200 - 300m	< 200m	1	1	1	From LiDar															
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1																
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk															
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2																
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.															
4.0 Other Factors																								
Vegetation																								
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk															
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk															
Slide History																								
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland															
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk															
Land Use																								
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk															
Other Factors																								
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.															
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.															
Likelihood Rating																								
							Total	40																
							Max Possible	72																
							Likelihood	0.56																
									<table border="1"> <tr> <th colspan="2">Likelihood Score</th> <th>Scale</th> </tr> <tr> <td>0.0-0.3</td> <td>Negligible</td> <td>1</td> </tr> <tr> <td>0.3-0.5</td> <td>Low</td> <td>2</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium</td> <td>3</td> </tr> <tr> <td>0.7-1.0</td> <td>High</td> <td>4</td> </tr> </table>	Likelihood Score		Scale	0.0-0.3	Negligible	1	0.3-0.5	Low	2	0.5-0.7	Medium	3	0.7-1.0	High	4
Likelihood Score		Scale																						
0.0-0.3	Negligible	1																						
0.3-0.5	Low	2																						
0.5-0.7	Medium	3																						
0.7-1.0	High	4																						

IMPACT																								
5.0 Impact Factors																								
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 - 10,000m ³)	Potential for Bog burst	2	3	6																
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar															
5.3	Proximity to defined valley	>500m	>500m	200-500m	<200m	1	1	1	From LiDar															
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar															
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2																
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk															
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk															
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk															
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.															
Impact Rating																								
							Total	19																
							Max Possible	33																
							Impact	0.58																
									<table border="1"> <tr> <th colspan="2">Impact Score</th> <th>Scale</th> </tr> <tr> <td>0.0-0.3</td> <td>Negligible</td> <td>1</td> </tr> <tr> <td>0.3-0.5</td> <td>Low</td> <td>2</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium</td> <td>3</td> </tr> <tr> <td>0.7-1.0</td> <td>High</td> <td>4</td> </tr> </table>	Impact Score		Scale	0.0-0.3	Negligible	1	0.3-0.5	Low	2	0.5-0.7	Medium	3	0.7-1.0	High	4
Impact Score		Scale																						
0.0-0.3	Negligible	1																						
0.3-0.5	Low	2																						
0.5-0.7	Medium	3																						
0.7-1.0	High	4																						

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating = 0.56 * 0.58 = 0.32 Significant		
Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.



International

**Peat Stability Risk Assessment
Grousemount Wind Farm**

Location:	T19 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T19 Turbine & Hardstanding

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Location:	T20 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T20 Turbine & Hardstanding											
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment		
			1	2	3						
LIKELIHOOD											
1.0 Ground Conditions											
Peat											
1.1	Peat Depth	0.5m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.		
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.		
Subsoil Characteristics											
1.3	Subsoil Type	Soft sandy gravely silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.		
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.		
2.0 Topography											
Situation											
2.1	Elevation OD [m]	370m	<200m		>200m	3	1	3	From LiDar		
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar		
Slope Angle											
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar		
Geomorphology											
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar		
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar		
3.0 Hydrology											
Hydrology											
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar		
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar		
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1			
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk		
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2			
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.		
4.0 Other Factors											
Vegetation											
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk		
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk		
Slide History											
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland		
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk		
Land Use											
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk		
Other Factors											
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.		
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.		
Likelihood Rating											
							Total	42			
							Max Possible	72			
							Likelihood	0.58			
									Likelihood Score	Scale	
									0.0-0.3	Negligible	1
									0.3-0.5	Low	2
									0.5-0.7	Medium	3
									0.7-1.0	High	4

IMPACT											
5.0 Impact Factors											
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 -	Potential for Bog burst	2	3	6			
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar		
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar		
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar		
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2			
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk		
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk		
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk		
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.		
Impact Rating											
							Total	21			
							Max Possible	33			
							Impact	0.64			
									Impact Score	Scale	
									0.0-0.3	Negligible	1
									0.3-0.5	Low	2
									0.5-0.7	Medium	3
									0.7-1.0	High	4

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating =	0.58	0.64
	=	0.37 Significant
Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.

		T21 Turbine & Hardstanding								
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment	
			1	2	3					
LIKELIHOOD										
1.0 Ground Conditions										
Peat										
1.1	Peat Depth	0.5m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Soft sandy gravely silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1	1	1	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.	
2.0 Topography										
Situation										
2.1	Elevation OD [m]	350m	<200m		>200m	3	1	3	From LiDar	
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar	
Geomorphology										
2.4	General slope characteristics downslope	Convex	Concave	Planar	Convex	3	1	3	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0 Hydrology										
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Across slope	Down slope	Varied / Oblique	Across slope	3	1	3		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.	
4.0 Other Factors										
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
								Total	42	
								Max Possible	72	
								Likelihood	0.58	
										0.0-0.3 Negligible 1
										0.3-0.5 Low 2
										0.5-0.7 Medium 3
										0.7-1.0 High 4

IMPACT										
5.0 Impact Factors										
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 -)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar	
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk	
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
								Total	21	
								Max Possible	33	
								Impact	0.64	
										0.0-0.3 Negligible 1
										0.3-0.5 Low 2
										0.5-0.7 Medium 3
										0.7-1.0 High 4

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.58 * 0.64 = 0.37 Significant			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	

T22 Turbine & Hardstanding												
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment			
			1	2	3							
LIKELIHOOD												
1.0 Ground Conditions												
Peat												
1.1	Peat Depth	2.2m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.			
2.0 Topography												
Situation												
2.1	Elevation OD [m]	390m	<200m	>200m		3	1	3	From LiDar			
2.2	Slope Aspect	NW	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	0° - 7°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case assumed.			
Geomorphology												
2.4	General slope characteristics downslope	Convex	Concave	Planar	Convex	3	1	3	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0 Hydrology												
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.			
4.0 Other Factors												
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	No	Farm out-houses	Dwelling	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	51			
								Max Possible	72			
								Likelihood	0.71			
										Likelihood Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
										0.5-0.7	Medium	3
										0.7-1.0	High	4

IMPACT												
5.0 Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 -)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	Farm out-houses	-	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	21			
								Max Possible	33			
								Impact	0.64			
										Impact Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
										0.5-0.7	Medium	3
										0.7-1.0	High	4

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.71 * 0.64 = 0.45 Substantial			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	

T23 Turbine & Hardstanding																									
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment															
			1	2	3	4																			
LIKELIHOOD																									
1.0 Ground Conditions																									
Peat																									
1.1	Peat Depth	1.3m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.																
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.																
Subsoil Characteristics																									
1.3	Subsoil Type	Soft sandy gravely silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.																
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.																
2.0 Topography																									
Situation																									
2.1	Elevation OD [m]	390m	<200m		>200m	3	1	3	From LiDar																
2.2	Slope Aspect	NE	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar																
Slope Angle																									
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar																
Geomorphology																									
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar																
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar																
3.0 Hydrology																									
Hydrology																									
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar																
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar																
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1																	
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk																
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2																	
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.																
4.0 Other Factors																									
Vegetation																									
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk																
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk																
Slide History																									
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland																
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk																
Land Use																									
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk																
Other Factors																									
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.																
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.																
Likelihood Rating																									
								Total	48																
								Max Possible	72																
								Likelihood	0.67																
										<table border="1"> <tr> <th colspan="2">Likelihood Score</th> <th>Scale</th> </tr> <tr> <td>0.0-0.3</td> <td>Negligible</td> <td>1</td> </tr> <tr> <td>0.3-0.5</td> <td>Low</td> <td>2</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium</td> <td>3</td> </tr> <tr> <td>0.7-1.0</td> <td>High</td> <td>4</td> </tr> </table>	Likelihood Score		Scale	0.0-0.3	Negligible	1	0.3-0.5	Low	2	0.5-0.7	Medium	3	0.7-1.0	High	4
Likelihood Score		Scale																							
0.0-0.3	Negligible	1																							
0.3-0.5	Low	2																							
0.5-0.7	Medium	3																							
0.7-1.0	High	4																							

IMPACT																									
5.0 Impact Factors																									
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 -)	Potential for Bog burst	2	3	6																	
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar																
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar																
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar																
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2																	
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk																
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk																
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk																
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.																
Impact Rating																									
								Total	21																
								Max Possible	33																
								Impact	0.64																
										<table border="1"> <tr> <th colspan="2">Impact Score</th> <th>Scale</th> </tr> <tr> <td>0.0-0.3</td> <td>Negligible</td> <td>1</td> </tr> <tr> <td>0.3-0.5</td> <td>Low</td> <td>2</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium</td> <td>3</td> </tr> <tr> <td>0.7-1.0</td> <td>High</td> <td>4</td> </tr> </table>	Impact Score		Scale	0.0-0.3	Negligible	1	0.3-0.5	Low	2	0.5-0.7	Medium	3	0.7-1.0	High	4
Impact Score		Scale																							
0.0-0.3	Negligible	1																							
0.3-0.5	Low	2																							
0.5-0.7	Medium	3																							
0.7-1.0	High	4																							

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.67 * 0.64 = 0.42 Significant			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	

T24 Turbine & Hardstanding												
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment			
			1	2	3							
LIKELIHOOD												
1.0 Ground Conditions												
Peat												
1.1	Peat Depth	1.7m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Slowly squeezing	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	2	1	2	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Gravel	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1	1	1	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.			
2.0 Topography												
Situation												
2.1	Elevation OD [m]	400m	<200m		>200m	3	1	3	From LiDar			
2.2	Slope Aspect	NW	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case assumed.			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0 Hydrology												
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Across slope	Down slope	Varied / Oblique	Across slope	3	1	3				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.			
4.0 Other Factors												
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	50			
								Max Possible	72			
								Likelihood	0.69			
										Likelihood Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
										0.5-0.7	Medium	3
										0.7-1.0	High	4

IMPACT												
5.0 Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 -)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	21			
								Max Possible	33			
								Impact	0.64			
										Impact Score	Scale	
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
										0.5-0.7	Medium	3
										0.7-1.0	High	4

RISK RATING			
Risk Rating = Likelihood * Impact			
Risk Rating = 0.69 * 0.64 = 0.44 Substantial			
Risk Rating	Risk Level	Action Required	
0.0 - 0.18	Insignificant	Normal SI	
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
0.67 - 1.0	Serious	Avoid construction in this area.	

T25 Turbine & Hardstanding										
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment
			1	2	3					
LIKELIHOOD										
1.0	Ground Conditions									
	Peat									
1.1	Peat Depth	0.5m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.	
	Subsoil Characteristics									
1.3	Subsoil Type	Soft sandy gravely silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.	
2.0	Topography									
	Situation									
2.1	Elevation OD [m]	335m	<200m		>200m	3	1	3	From LiDar	
2.2	Slope Aspect	E	SW, S, SE	W, E	NW, N, NE	2	1	2	From LiDar	
	Slope Angle									
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar	
	Geomorphology									
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0	Hydrology									
	Hydrology									
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.	
4.0	Other Factors									
	Vegetation									
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
	Slide History									
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
	Land Use									
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
	Other Factors									
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
								Total	43	
								Max Possible	72	
								Likelihood	0.60	
								Likelihood Score		Scale
								0.0-0.3	Negligible	1
								0.3-0.5	Low	2
								0.5-0.7	Medium	3
								0.7-1.0	High	4

IMPACT										
5.0	Impact Factors									
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 -)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar	
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	Electricity, LV	Phone Lines	Electricity, LV	Electricity MV, HV	2	1	2	From service drawings and site walk	
5.8	Buildings in potential peat flow path	Dwelling	No	Farm out-houses	Dwelling	3	1	3	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
								Total	24	
								Max Possible	33	
								Impact	0.73	
								Impact Score		Scale
								0.0-0.3	Negligible	1
								0.3-0.5	Low	2
								0.5-0.7	Medium	3
								0.7-1.0	High	4

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating = 0.60 * 0.73 = 0.43 Substantial		
Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.

T26 Turbine & Hardstanding										
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment	
			1	2	3					
LIKELIHOOD										
1.0 Ground Conditions										
Peat										
1.1	Peat Depth	0.5m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.	
2.0 Topography										
Situation										
2.1	Elevation OD [m]	390m	<200m	>200m		3	1	3	From LiDar	
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	0° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case assumed.	
Geomorphology										
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0 Hydrology										
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.	
4.0 Other Factors										
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
								Total	44	
								Max Possible	72	
								Likelihood	0.61	
								Likelihood Score		Scale
								0.0-0.3	Negligible	1
								0.3-0.5	Low	2
								0.5-0.7	Medium	3
								0.7-1.0	High	4

IMPACT										
5.0 Impact Factors										
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 -)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar	
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk	
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
								Total	21	
								Max Possible	33	
								Impact	0.64	
								Impact Score		Scale
								0.0-0.3	Negligible	1
								0.3-0.5	Low	2
								0.5-0.7	Medium	3
								0.7-1.0	High	4

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating =	0.61	0.64
=	0.39	Significant
Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.



International

**Peat Stability Risk Assessment
Grousemount Wind Farm**

Location:	T27 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T27 Turbine & Hardstanding

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

T30 Turbine & Hardstanding																					
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment												
			1	2	3																
LIKELIHOOD																					
1.0 Ground Conditions																					
Peat																					
1.1	Peat Depth	<1m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.												
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.												
Subsoil Characteristics																					
1.3	Subsoil Type	Boulders / bedrock	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1.5	1	1.5	Trial pits carried out by IGSL in 2015.												
1.4	Peat fibres continuous across transition to subsoil	No	Yes	Partially	No	3	1	3	Trial pits carried out by IGSL in 2015.												
2.0 Topography																					
Situation																					
2.1	Elevation OD [m]	350m	<200m		>200m	3	1	3	From LiDar												
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar												
Slope Angle																					
2.3	Slope Angle - Ground Surface	0° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case assumed.												
Geomorphology																					
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar												
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar												
3.0 Hydrology																					
Hydrology																					
3.1	In broad valley upslope from defined watercourse	Yes, slopes $\geq 3^\circ$	No	Yes, slopes $< 3^\circ$	Yes, slopes $\geq 3^\circ$	3	1	3	From LiDar												
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar												
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1													
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk												
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2													
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.												
4.0 Other Factors																					
Vegetation																					
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk												
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk												
Slide History																					
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland												
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk												
Land Use																					
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk												
Other Factors																					
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.												
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.												
Likelihood Rating																					
						Total		43.5													
						Max Possible		72													
						Likelihood		0.60													
									<table border="1"> <tr> <td>0.0-0.3</td> <td>Negligible</td> <td>1</td> </tr> <tr> <td>0.3-0.5</td> <td>Low</td> <td>2</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium</td> <td>3</td> </tr> <tr> <td>0.7-1.0</td> <td>High</td> <td>4</td> </tr> </table>	0.0-0.3	Negligible	1	0.3-0.5	Low	2	0.5-0.7	Medium	3	0.7-1.0	High	4
0.0-0.3	Negligible	1																			
0.3-0.5	Low	2																			
0.5-0.7	Medium	3																			
0.7-1.0	High	4																			

IMPACT																					
5.0 Impact Factors																					
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 -)	Potential for Bog burst	2	3	6													
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar												
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar												
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar												
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2													
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk												
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk												
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk												
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.												
Impact Rating																					
						Total		21													
						Max Possible		33													
						Impact		0.64													
									<table border="1"> <tr> <td>0.0-0.3</td> <td>Negligible</td> <td>1</td> </tr> <tr> <td>0.3-0.5</td> <td>Low</td> <td>2</td> </tr> <tr> <td>0.5-0.7</td> <td>Medium</td> <td>3</td> </tr> <tr> <td>0.7-1.0</td> <td>High</td> <td>4</td> </tr> </table>	0.0-0.3	Negligible	1	0.3-0.5	Low	2	0.5-0.7	Medium	3	0.7-1.0	High	4
0.0-0.3	Negligible	1																			
0.3-0.5	Low	2																			
0.5-0.7	Medium	3																			
0.7-1.0	High	4																			

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating = 0.60 * 0.64 = 0.38 Significant		
Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	T32 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T32 Turbine & Hardstanding

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

		T34 Turbine & Hardstanding							
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment
			1	2	3				
LIKELIHOOD									
1.0 Ground Conditions									
Peat									
1.1	Peat Depth	0.6m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.
Subsoil Characteristics									
1.3	Subsoil Type	Sandy gravel	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1	1	1	Trial pits carried out by IGSL in 2015.
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.
2.0 Topography									
Situation									
2.1	Elevation OD [m]	400m	<200m	>200m		3	1	3	From LiDar
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar
Slope Angle									
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar
Geomorphology									
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar
3.0 Hydrology									
Hydrology									
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1	
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2	
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.
4.0 Other Factors									
Vegetation									
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk
Slide History									
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk
Land Use									
4.5	Peat Workings		None	Cutaway/Turbary	Machine Cut	0	1	0	From aerial photography and site walk
Other Factors									
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.
Likelihood Rating									
							Total	43	
							Max Possible	69	
							Likelihood	0.62	
									0.0-0.3 Negligible 1
									0.3-0.5 Low 2
									0.5-0.7 Medium 3
									0.7-1.0 High 4

IMPACT									
5.0 Impact Factors									
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 -)	Potential for Bog burst	2	3	6	
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar
5.3	Proximity to defined valley	>500m	>500m	200-500m	<200m	1	1	1	From LiDar
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2	
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.
Impact Rating									
							Total	19	
							Max Possible	33	
							Impact	0.58	
									0.0-0.3 Negligible 1
									0.3-0.5 Low 2
									0.5-0.7 Medium 3
									0.7-1.0 High 4

RISK RATING									
Risk Rating = Likelihood * Impact									
Risk Rating = 0.62 * 0.58 = 0.36 Significant									
Risk Rating	Risk Level	Action Required							
0.0 - 0.18	Insignificant	Normal SI							
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.							
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.							
0.67 - 1.0	Serious	Avoid construction in this area.							



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	T36 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T36 Turbine & Hardstanding

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Location:	T37 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T37 Turbine & Hardstanding									
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment
			1	2	3				
LIKELIHOOD									
1.0 Ground Conditions									
Peat									
1.1	Peat Depth	1m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.
Subsoil Characteristics									
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.
2.0 Topography									
Situation									
2.1	Elevation OD [m]	400m	<200m		>200m	3	1	3	From LiDar
2.2	Slope Aspect	NW	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar
Slope Angle									
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar
Geomorphology									
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar
3.0 Hydrology									
Hydrology									
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1	
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2	
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.
4.0 Other Factors									
Vegetation									
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk
Slide History									
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk
Land Use									
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk
Other Factors									
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.
Likelihood Rating									
							Total	47	
							Max Possible	72	
							Likelihood	0.65	
							Likelihood Score		Scale
							0.0-0.3	Negligible	1
							0.3-0.5	Low	2
							0.5-0.7	Medium	3
							0.7-1.0	High	4

IMPACT									
5.0 Impact Factors									
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 -)	Potential for Bog burst	2	3	6	
5.2	Downslope features	Contained	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar
5.4	Valley profile	Flat	Flat	Intermediate	Sleep	3	1	3	From LiDar
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2	
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.
Impact Rating									
							Total	21	
							Max Possible	33	
							Impact	0.64	
							Impact Score		Scale
							0.0-0.3	Negligible	1
							0.3-0.5	Low	2
							0.5-0.7	Medium	3
							0.7-1.0	High	4

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating = 0.65 * 0.64 = 0.42 Significant		
Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.

Location:	T38 Turbine & Hardstanding
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

T38 Turbine & Hardstanding										
No.	Likelihood/ Impact Factors	Value	Rating			Rating Value	Weighting	Score	Comment	
			1	2	3					
LIKELIHOOD										
1.0 Ground Conditions										
Peat										
1.1	Peat Depth	0.6 - 2.4m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undruggable	1	1	1	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Cobbles & boulders	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1	1	1	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil		Yes	Partially	No		1	0	Trial pits carried out by IGSL in 2015.	
2.0 Topography										
Situation										
2.1	Elevation OD [m]	390m	<200m		>200m	3	1	3	From LiDar	
2.2	Slope Aspect	N	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	>7°	<3°	>7°	3° - 7°	2	2	4	From LiDar	
Geomorphology										
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0 Hydrology										
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Eireann. Based on average rainfall from 1985 - 2014.	
4.0 Other Factors										
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
								Total	44	
								Max Possible	69	
								Likelihood	0.64	
								Likelihood Score		Scale
								0.0-0.3	Negligible	1
								0.3-0.5	Low	2
								0.5-0.7	Medium	3
								0.7-1.0	High	4

IMPACT										
5.0 Impact Factors										
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 - 10,000m ³)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Contained	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar	
5.4	Valley profile	Flat	Flat	Intermediate	Sleep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk	
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
								Total	21	
								Max Possible	33	
								Impact	0.64	
								Impact Score		Scale
								0.0-0.3	Negligible	1
								0.3-0.5	Low	2
								0.5-0.7	Medium	3
								0.7-1.0	High	4

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating =	0.64	0.64
	=	0.41
		Significant
Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.

Location:	Substation
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment				
			1	2	3	4								
			LIKELIHOOD											
1.0	Ground Conditions													
	Peat													
1.1	Peat Depth	1-3m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.					
1.2	Peat Condition in Trial Pits	Slowly squeezing	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	2	1	2	Trial pits carried out by IGSL in 2015.					
	Subsoil Characteristics													
1.3	Subsoil Type	Soft sandy gravelly silt / clay	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.					
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.					
2.0	Topography													
	Situation													
2.1	Elevation OD [m]	350m	<200m	>200m		3	1	3	From LiDar					
2.2	Slope Aspect	N	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar					
	Slope Angle													
2.3	Slope Angle - Ground Surface	0° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case assumed.					
	Geomorphology													
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar					
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar					
3.0	Hydrology													
	Hydrology													
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar					
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar					
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1						
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk					
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2						
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.					
4.0	Other Factors													
	Vegetation													
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk					
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk					
	Slide History													
4.3	Previous slides in locality	< 5km	> 5km	< 5km	On site	2	2	4	From Geological Survey of Ireland. Fuhiry Landslide occurred within 5km north-east of the site in 1997 (GSI Event ID #91).					
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk					
	Land Use													
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk					
	Other Factors													
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.					
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.					
Likelihood Rating														
									Total	53		Likelihood Score	Scale	
									Max Possible	72		0.0-0.3	Negligible	1
												0.3-0.5	Low	2
									Likelihood	0.74		0.5-0.7	Medium	3
												0.7-1.0	High	4

IMPACT														
5.0	Impact Factors													
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6						
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar					
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar					
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar					
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2						
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk					
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk					
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk					
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.					
Impact Rating														
									Total	21		Impact Score	Scale	
									Max Possible	33		0.0-0.3	Negligible	1
												0.3-0.5	Low	2
									Impact	0.64		0.5-0.7	Medium	3
												0.7-1.0	High	4

RISK RATING				
Risk Rating = Likelihood * Impact				
Risk Rating = 0.74 0.64 = 0.47 Substantial				
	Risk Rating	Risk Level	Action Required	
	0.0 - 0.18	Insignificant	Normal SI	
	0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	
	0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	
	0.67 - 1.0	Serious	Avoid construction in this area.	

Borrow Pit D												
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3	4						
LIKELIHOOD												
1.0 Ground Conditions												
Peat												
1.1	Peat Depth	0.9m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Stands well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.			
Subsoil Characteristics												
1.3	Subsoil Type	Silty gravel	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1	1	1	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2	Trial pits carried out by IGSL in 2015.			
2.0 Topography												
Situation												
2.1	Elevation OD [m]	380m	<200m	>200m		3	1	3	From LiDar			
2.2	Slope Aspect	SE	SW, S, SE	W, E	NW, N, NE	1	1	1	From LiDar			
Slope Angle												
2.3	Slope Angle - Ground Surface	0° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case assumed.			
Geomorphology												
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0 Hydrology												
Hydrology												
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	> 300m	> 300m	200 - 300m	< 200m	1	1	1	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.			
4.0 Other Factors												
Vegetation												
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
Slide History												
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland. Fuhiry Landslide occurred within 5km north-east of the site in 1997 (GSI Event ID #91).			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
Land Use												
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
Other Factors												
4.6	Existing roads in place	Solid Road	Solid Road	Winter / Early Summer	Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
Likelihood Rating												
								Total	44			
								Max Possible	66			
										Likelihood Score		
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Likelihood	0.67	0.5-0.7	Medium	3
										0.7-1.0	High	4

IMPACT												
5.0 Impact Factors												
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m ³)	Medium (1,000 - 10,000m ³)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	200-500m	>500m	200-500m	<200m	2	1	2	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
Impact Rating												
								Total	20			
								Max Possible	33			
										Impact Score		
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Impact	0.61	0.5-0.7	Medium	3
										0.7-1.0	High	4

RISK RATING																								
Risk Rating = Likelihood * Impact																								
Risk Rating = 0.67 * 0.61 = 0.40 Significant																								
<table border="1"> <thead> <tr> <th>Risk Rating</th> <th>Risk Level</th> <th>Action Required</th> </tr> </thead> <tbody> <tr> <td>0.0 - 0.18</td> <td>Insignificant</td> <td>Normal SI</td> </tr> <tr> <td>0.19 - 0.42</td> <td>Significant</td> <td>Targeted SI, design of specific mitigation measures. Part time supervision during construction.</td> </tr> <tr> <td>0.43 - 0.66</td> <td>Substantial</td> <td>Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.</td> </tr> <tr> <td>0.67 - 1.0</td> <td>Serious</td> <td>Avoid construction in this area.</td> </tr> </tbody> </table>										Risk Rating	Risk Level	Action Required	0.0 - 0.18	Insignificant	Normal SI	0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	0.67 - 1.0	Serious	Avoid construction in this area.
Risk Rating	Risk Level	Action Required																						
0.0 - 0.18	Insignificant	Normal SI																						
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.																						
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.																						
0.67 - 1.0	Serious	Avoid construction in this area.																						

Borrow Pit E												
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment		
			1	2	3							
LIKELIHOOD												
1.0	Ground Conditions											
	Peat											
1.1	Peat Depth	0.1 - 1.2m	<1m	>3m	1-3m	3	2	6	Based on peat probes and site investigation carried out by IGSL in 2015.			
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.			
	Subsoil Characteristics											
1.3	Subsoil Type	Gravelly silt / gravel / rock	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1	1	1	Trial pits carried out by IGSL in 2015.			
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.			
2.0	Topography											
	Situation											
2.1	Elevation OD [m]	480m	<200m		>200m	3	1	3	From LiDar			
2.2	Slope Aspect	NW, N, NE	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar			
	Slope Angle											
2.3	Slope Angle - Ground Surface	3° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case assumed.			
	Geomorphology											
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2	From LiDar			
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar			
3.0	Hydrology											
	Hydrology											
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar			
3.2	Distance from head of defined watercourse	> 300m	> 300m	200 - 300m	< 200m	1	1	1	From LiDar			
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1				
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk			
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2				
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.			
4.0	Other Factors											
	Vegetation											
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk			
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk			
	Slide History											
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland. Fuhiry Landslide occurred within 5km north-east of the site in 1997 (GSI Event ID #91).			
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk			
	Land Use											
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk			
	Other Factors											
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.			
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.			
	Likelihood Rating											
								Total	45			
								Max Possible	72			
										Likelihood Score		
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Likelihood	0.63	0.5-0.7	Medium	3
										0.7-1.0	High	4

IMPACT												
5.0	Impact Factors											
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6				
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar			
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar			
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar			
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2				
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk			
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk			
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk			
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.			
	Impact Rating											
								Total	21			
								Max Possible	33			
										Impact Score		
										0.0-0.3	Negligible	1
										0.3-0.5	Low	2
								Impact	0.64	0.5-0.7	Medium	3
										0.7-1.0	High	4

RISK RATING		
Risk Rating = Likelihood * Impact		
Risk Rating =	0.63	0.64
Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.

Borrow Pit F										
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment
			1	2	3	4				
LIKELIHOOD										
1.0 Ground Conditions										
Peat										
1.1	Peat Depth	0.3 - 0.7m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Soft sandy gravelly silt	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.	
2.0 Topography										
Situation										
2.1	Elevation OD [m]	375m	<200m		>200m	3	1	3	From LiDar	
2.2	Slope Aspect	NW, N	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	>10°	<3°	>7°	3° - 7°	2	2	4	From LiDar. Worst case assumed.	
Geomorphology										
2.4	General slope characteristics downslope	Convex	Concave	Planar	Convex	3	1	3	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0 Hydrology										
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.	
4.0 Other Factors										
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland. Fuhiry Landslide occurred within 5km north-east of the site in 1997 (GSI Event ID #91).	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
							Total	44		
							Max Possible	72		
									Likelihood Score	
									0.0-0.3 Negligible 1	
									0.3-0.5 Low 2	
							Likelihood	0.61	0.5-0.7 Medium 3	
									0.7-1.0 High 4	

IMPACT									
5.0 Impact Factors									
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6	
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3	From LiDar
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2	
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.
Impact Rating									
							Total	21	
							Max Possible	33	
									Impact Score
									0.0-0.3 Negligible 1
									0.3-0.5 Low 2
							Impact	0.64	0.5-0.7 Medium 3
									0.7-1.0 High 4

RISK RATING																								
Risk Rating = Likelihood * Impact																								
Risk Rating = 0.61 * 0.64 = 0.39 Significant																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Risk Rating</th> <th>Risk Level</th> <th>Action Required</th> </tr> </thead> <tbody> <tr> <td>0.0 - 0.18</td> <td>Insignificant</td> <td>Normal SI</td> </tr> <tr> <td>0.19 - 0.42</td> <td>Significant</td> <td>Targeted SI, design of specific mitigation measures. Part time supervision during construction.</td> </tr> <tr> <td>0.43 - 0.66</td> <td>Substantial</td> <td>Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.</td> </tr> <tr> <td>0.67 - 1.0</td> <td>Serious</td> <td>Avoid construction in this area.</td> </tr> </tbody> </table>										Risk Rating	Risk Level	Action Required	0.0 - 0.18	Insignificant	Normal SI	0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.	0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.	0.67 - 1.0	Serious	Avoid construction in this area.
Risk Rating	Risk Level	Action Required																						
0.0 - 0.18	Insignificant	Normal SI																						
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.																						
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.																						
0.67 - 1.0	Serious	Avoid construction in this area.																						

Borrow Pit H										
No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment
			1	2	3					
LIKELIHOOD										
1.0 Ground Conditions										
Peat										
1.1	Peat Depth	0.5 - 0.8m	<1m	>3m	1-3m	1	2	2	Based on peat probes and site investigation carried out by IGSL in 2015.	
1.2	Peat Condition in Trial Pits	Stands Well	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	1	1	1	Trial pits carried out by IGSL in 2015.	
Subsoil Characteristics										
1.3	Subsoil Type	Soft sandy gravelly silty clay	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	3	1	3	Trial pits carried out by IGSL in 2015.	
1.4	Peat fibres continuous across transition to subsoil	Yes	Yes	Partially	No	1	1	1	Trial pits carried out by IGSL in 2015.	
2.0 Topography										
Situation										
2.1	Elevation OD [m]	400m	<200m		>200m	3	1	3	From LiDar	
2.2	Slope Aspect	NE	SW, S, SE	W, E	NW, N, NE	3	1	3	From LiDar	
Slope Angle										
2.3	Slope Angle - Ground Surface	0° - >10°	<3°	>7°	3° - 7°	3	2	6	From LiDar. Worst case assumed.	
Geomorphology										
2.4	General slope characteristics downslope	Convex	Concave	Planar	Convex	3	1	3	From LiDar	
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1	From LiDar	
3.0 Hydrology										
Hydrology										
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3	From LiDar	
3.2	Distance from head of defined watercourse	200 - 300m	> 300m	200 - 300m	< 200m	2	1	2	From LiDar	
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1	From site walk	
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3	From Met Éireann. Based on average rainfall from 1985 - 2014.	
4.0 Other Factors										
Vegetation										
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2	From aerial photography and site walk	
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0	From aerial photography and site walk	
Slide History										
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2	From Geological Survey of Ireland. Fuhiry Landslide occurred within 5km north-east of the site in 1997 (GSI Event ID #91).	
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1	From site walk	
Land Use										
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1	From aerial photography and site walk	
Other Factors										
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1	No existing road. Value assumed.	
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3	Worst case assumed.	
Likelihood Rating										
						Total	45			
						Max Possible	72			
							0.0-0.3	Negligible	1	
							0.3-0.5	Low	2	
						Likelihood	0.63	0.5-0.7	Medium	3
							0.7-1.0	High	4	

IMPACT										
5.0 Impact Factors										
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3	From LiDar	
5.3	Proximity to defined valley	200-500m	>500m	200-500m	<200m	2	1	2	From LiDar	
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3	From LiDar	
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1	From aerial photography and site walk	
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1	From service drawings and site walk	
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1	From aerial photography and site walk	
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1	Based on contractor facilities on site during construction.	
Impact Rating										
						Total	20			
						Max Possible	33			
							0.0-0.3	Negligible	1	
							0.3-0.5	Low	2	
						Impact	0.61	0.5-0.7	Medium	3
							0.7-1.0	High	4	

RISK RATING				
Risk Rating = Likelihood * Impact				
Risk Rating = 0.63 * 0.61 = 0.38 Significant				
Risk Rating	Risk Level	Action Required		
0.0 - 0.18	Insignificant	Normal SI		
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.		
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.		
0.67 - 1.0	Serious	Avoid construction in this area.		



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Anemometer Mast 1
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Anemometer Mast 1

Peat depth: < 0.5m => No further assessment required based on this depth of peat.

Anemometer Mast 2

No.	Likelihood/ Impact Factors	Value	Rating				Rating Value	Weighting	Score	Comment
			1	2	3					
LIKELIHOOD										
1.0	Ground Conditions									
	Peat									
1.1	Peat Depth	1.9m	<1m	>3m	1-3m	3	2	6		Based on peat probes and site investigation carried out by IGSL in 2015.
1.2	Peat Condition in Trial Pits	Slowly squeezing	Dry/ Stands well	Slowly squeezing	Extremely Wet/ Undiggable	2	1	2		Trial pits carried out by IGSL in 2015.
	Subsoil Characteristics									
1.3	Subsoil Type	Medium dense angular gravel	Gravel/ Firm Glacial Till	Smooth Rock	Soft Sensitive Clay	1	1	1		Trial pits carried out by IGSL in 2015.
1.4	Peat fibres continuous across transition to subsoil	Partially	Yes	Partially	No	2	1	2		Trial pits carried out by IGSL in 2015.
2.0	Topography									
	Situation									
2.1	Elevation OD [m]	410m	<200m		>200m	3	1	3		From LiDar
2.2	Slope Aspect	NW	SW, S, SE	W, E	NW, N, NE	3	1	3		From LiDar
	Slope Angle									
2.3	Slope Angle - Ground Surface	0° - >10°	<3°	>7°	3° - 7°	3	2	6		From LiDar. Worst case assumed.
	Geomorphology									
2.4	General slope characteristics downslope	Planar	Concave	Planar	Convex	2	1	2		From LiDar
2.5	Distance from break in slope	>100m	> 100m	50-100m	< 50m	1	1	1		From LiDar
3.0	Hydrology									
	Hydrology									
3.1	In broad valley upslope from defined watercourse	Yes, slopes ≥ 3°	No	Yes, slopes < 3°	Yes, slopes ≥ 3°	3	1	3		From LiDar
3.2	Distance from head of defined watercourse	< 200m	> 300m	200 - 300m	< 200m	3	1	3		From LiDar
3.3	Surface water	Localised	Localised	Ponded in drains	Springs/ Surface Water	1	1	1		
3.4	Evidence of piping	No	No	-	Yes	1	1	1		From site walk
3.5	Existing drainage ditches	Varied	Down slope	Varied / Oblique	Across slope	2	1	2		
3.6	Annual Rainfall	>1400 mm/yr	<1000 mm/yr	1000-1400 mm/yr	>1400 mm/yr	3	1	3		From Met Éireann. Based on average rainfall from 1985 - 2014.
4.0	Other Factors									
	Vegetation									
4.1	Vegetation	Grasslands	Dry Heather	Grasslands	Wetlands	2	1	2		From aerial photography and site walk
4.2	Forestry (if applicable)	N/A	Good Growth	Fair	Stunted Growth	0	1.5	0		From aerial photography and site walk
	Slide History									
4.3	Previous slides in locality	> 5km	> 5km	< 5km	On site	1	2	2		From Geological Survey of Ireland. Fuhiry Landslide occurred within 5km north-east of the site in 1997 (GSI Event ID #91).
4.4	Evidence of movement in peat (e.g. tension cracks, step features, compression features)	No	No	-	Yes	1	1	1		From site walk
	Land Use									
4.5	Peat Workings	None	None	Cutaway/Turbary	Machine Cut	1	1	1		From aerial photography and site walk
	Other Factors									
4.6	Existing roads in place	Solid Road	Solid Road		Floating Road	1	1	1		No existing road. Value assumed.
4.7	Time of year for construction	Late Summer/ Autumn	Spring	Winter / Early Summer	Late Summer/ Autumn	3	1	3		Worst case assumed.
	Likelihood Rating									
								49		
								72		
										Likelihood Score
										Scale
										0.0-0.3
										Negligible
										1
										0.3-0.5
										Low
										2
										0.5-0.7
										Medium
										3
										0.7-1.0
										High
										4

IMPACT

5.0	Impact Factors									
5.1	Volume of peat in potential peat flow	Medium	Small volume (<1,000m³)	Medium (1,000 - 10,000m³)	Potential for Bog burst	2	3	6		
5.2	Downslope features	Valley	Bowl/ contained	Minor undefined watercourse	Valley	3	1	3		From LiDar
5.3	Proximity to defined valley	<200m	>500m	200-500m	<200m	3	1	3		From LiDar
5.4	Valley profile	Steep	Flat	Intermediate	Steep	3	1	3		From LiDar
5.5	Downstream aquatic environment	Sensitive	Non-sensitive	Sensitive	Drinking water supply	2	1	2		
5.6	Public roads in potential peat flow path	No	No	Local Road	Regional Road	1	1	1		From aerial photography and site walk
5.7	Overhead lines in potential peat flow path	No	Phone Lines	Electricity, LV	Electricity MV, HV	1	1	1		From service drawings and site walk
5.8	Buildings in potential peat flow path	No	No	Farm out-houses	Dwelling	1	1	1		From aerial photography and site walk
5.9	Capability to respond (access and resources)	Good	Good	Fair	Poor	1	1	1		Based on contractor facilities on site during construction.
	Impact Rating									
								21		
								33		
										Impact Score
										Scale
										0.0-0.3
										Negligible
										1
										0.3-0.5
										Low
										2
										0.5-0.7
										Medium
										3
										0.7-1.0
										High
										4

RISK RATING

Risk Rating = Likelihood * Impact

Risk Rating = 0.68 * 0.64 = 0.43 Substantial

Risk Rating	Risk Level	Action Required
0.0 - 0.18	Insignificant	Normal SI
0.19 - 0.42	Significant	Targeted SI, design of specific mitigation measures. Part time supervision during construction.
0.43 - 0.66	Substantial	Avoid construction in the area if possible. If unavoidable, detailed SI and design of specific mitigation measures. Full time supervision during construction.
0.67 - 1.0	Serious	Avoid construction in this area.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Anemometer Mast 3
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Anemometer Mast 3

Peat depth: < 0.5m => No further assessment required based on this depth of peat.



Peat Stability Risk Assessment
Grousemount Wind Farm

Location:	Anemometer Mast 4
Inspected on:	2015
Inspected by:	ESBI / BLP
Completed by:	SS
Date:	August 2015

Anemometer Mast 4

Peat depth: < 0.5m => No further assessment required based on this depth of peat.