

Way Point	Latitude DD	Longitude DD
1	52.2107	1.6254
2	52.2128	1.6420
3	52.2046	1.6775
4	52.1433	1.7182
5	52.1180	1.7567
6	52.1093	1.7591
7	52.0925	1.7824
8	52.0691	1.7829
9	52.0268	1.8438
10	52.0170	1.8943
11	51.9896	1.9584
12	51.9785	1.9595
13	51.9785	2.0000
14	51.8875	2.0000
15	51.8688	1.9325
16	51.7971	1.9388
17	51.8110	2.0000
18	51.7540	2.0000
19	51.7330	1.9385
20	51.7660	1.9164
21	51.7876	1.9291
22	51.7906	1.9250
23	51.8648	1.9183
24	51.8513	1.8695
25	51.8718	1.8446
26	51.9558	1.8728
27	51.9612	1.8875
28	51.9591	1.8927
29	51.9594	1.8941
30	51.9647	1.8968
31	51.9785	1.9340
32	51.9785	1.9505
33	51.9837	1.9505
34	52.0083	1.8921
35	52.0187	1.8397
36	52.0644	1.7744
37	52.0877	1.7741
38	52.1042	1.7513
39	52.1123	1.7493
40	52.1373	1.7114
41	52.1969	1.6722
42	52.2038	1.6415
43	52.2015	1.6243

- GGOWL Licensed Area
- Licensed Area Way Points

Coordinate System
 UTM Zone 31 North (WGS84)
 Projection: Transverse Mercator
 Central Meridian: 3° East
 Scale Factor: 0.9996
 Latitude of Origin: 0° North
 False Easting: 500000.0
 False Northing: 0.0
 Reference Spheroid: WGS84
 Semi-major Axis: 6378137.0
 Inverse Flattening: 298.2572236



Project Title:
Greater Gabbard Offshore Wind Farm



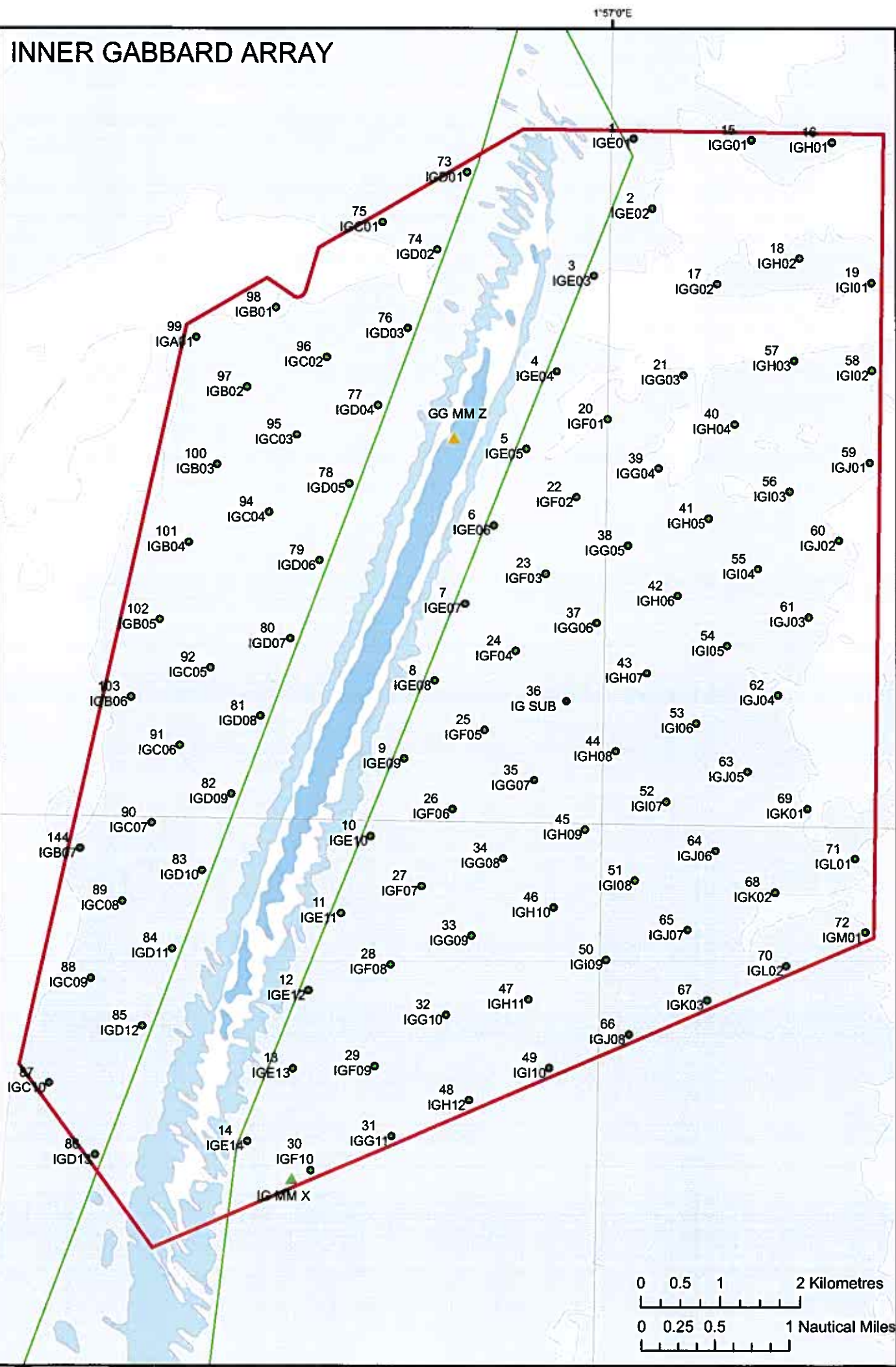
Figure / Drawing Title:
**GREATER GABBARD OFFSHORE WIND FARM
 CONSENTED AREA AND WAY POINT
 COORDINATES**

Figure / Drawing Number: A4AX-GEN-DWG-000-0002

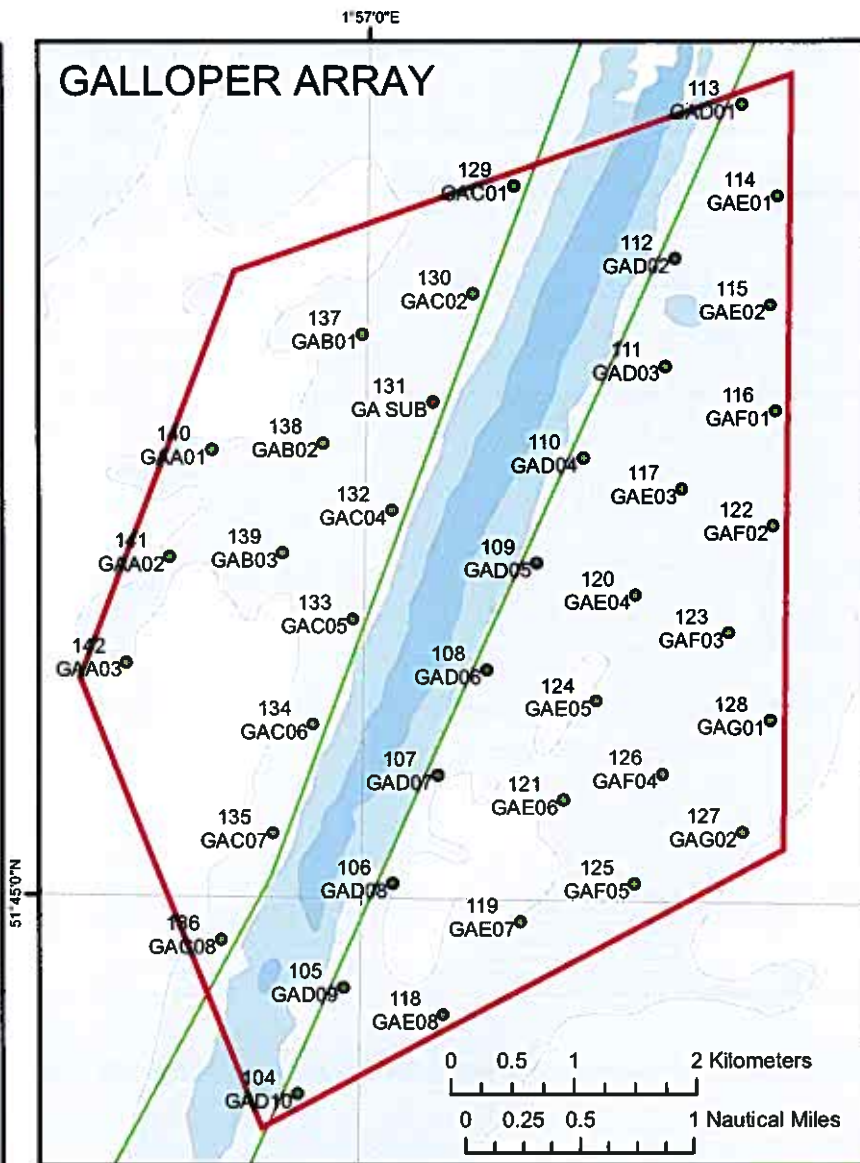
REV	DATE	DESCRIPTION	BY	CHKD	APPR
1	29 AUG 08	ISSUED FOR DESIGN	OK	DT	PD

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INNER GABBARD ARRAY



GALLOPER ARRAY



- Red Line Boundary
- Restricted Build Area
- Turbine
- Substation
- ▲ Met Mast
- ▲ Met Mast, Existing

NOTE
For structure positions refer to GGOWL document 577000/403-MGT100-GGR-097

REVISION NOTE
The substations numbers have been revised in line with the rest of the numbering scheme:

Original Number	Revised Number
IG SUB B	IG SUB
IG SUB C	GA SUB

Coordinate System

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Reference Spheroid: WGS84
Semi-major Axis: 6378137.0
Inverse Flattening: 298.2572236



Design ID	Build ID	45	IGH09	90	IGC07	135	GAC07
1	IGE01	46	IGH10	91	IGC06	136	GAC08
2	IGE02	47	IGH11	92	IGC05	137	GAB01
3	IGE03	48	IGH12	93	NOT USED	138	GAB02
4	IGE04	49	IGH10	94	IGC04	139	GAB03
5	IGE05	50	IGH09	95	IGC03	140	GAA01
6	IGE06	51	IGH08	96	IGC02	141	GAA02
7	IGE07	52	IGH07	97	IGB02	142	GAA03
8	IGE08	53	IGH06	98	IGB01	143	NOT USED
9	IGE09	54	IGH05	99	IGA01	144	IGB07
10	IGE10	55	IGH04	100	IGB03		
11	IGE11	56	IGH03	101	IGB04		
12	IGE12	57	IGH03	102	IGB05		
13	IGE13	58	IGH02	103	IGB06		
14	IGE14	59	IGH01	104	GAD10		
15	IGG01	60	IGJ03	105	GAD09		
16	IGH01	61	IGJ04	106	GAD08		
17	IGG02	62	IGJ05	107	GAD07		
18	IGH02	63	IGJ06	108	GAD06		
19	IGH01	64	IGJ07	109	GAD05		
20	IGF01	65	IGJ08	110	GAD04		
21	IGG03	66	IGK03	111	GAD03		
22	IGF02	67	IGK02	112	GAD02		
23	IGF03	68	IGK01	113	GAD01		
24	IGF04	69	IGK01	114	GAE01		
25	IGF05	70	IGL02	115	GAE02		
26	IGF06	71	IGL01	116	GAF01		
27	IGF07	72	IGM01	117	GAE03		
28	IGF08	73	IGD01	118	GAE08		
29	IGF09	74	IGD02	119	GAE07		
30	IGF10	75	IGC01	120	GAE04		
31	IGG11	76	IGD03	121	GAE06		
32	IGG10	77	IGD04	122	GAF02		
33	IGG09	78	IGD05	123	GAF03		
34	IGG08	79	IGD06	124	GAE05		
35	IGG07	80	IGD07	125	GAF05		
36	IGG06	81	IGD08	126	GAF04		
37	IGG05	82	IGD09	127	GAG02		
38	IGG05	83	IGD10	128	GAG01		
39	IGG04	84	IGD11	129	GAC01		
40	IGH04	85	IGD12	130	GAC02		
41	IGH05	86	IGD13	131	GAC03		
42	IGH06	87	IGC10	132	GAC04		
43	IGH07	88	IGC09	133	GAC05		
44	IGH08	89	IGC08	134	GAC06		

Project Title:
Greater Gabbard Offshore Wind Farm

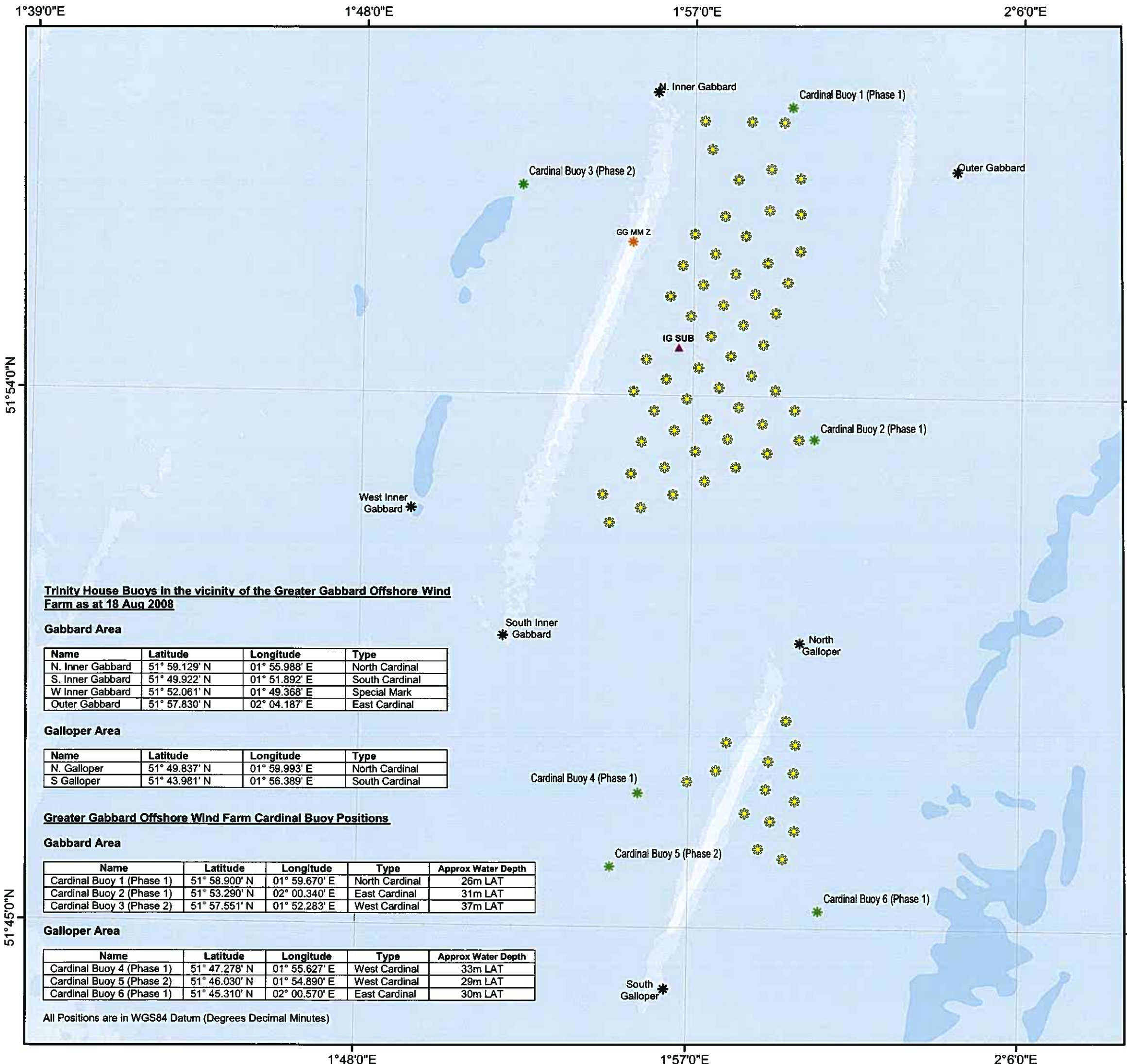


Figure / Drawing Title:
GREATER GABBARD WIND FARM LAYOUT

Figure / Drawing Number: A4AX-GEN-DWG-000-0003

REV	DATE	DESCRIPTION	BY	CHKD	Fluor Appr
1	29 AUG 08	ISSUE FOR DESIGN	OK	DT	PD

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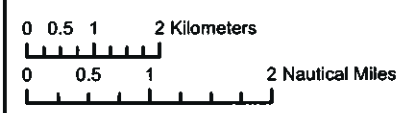
Legend

- GGOWL Met Mast
- Construction Base Case 2009
- Mother Platform IG Sub
- Existing Navigation Buoys
- Cardinal Buoy

NOTES:

1. Monopile arrangement shows 2009 Phase 1 base case (69 Monopiles).
2. All monopiles to be provided with a navigation light – Yellow light, minimum 2nm range with a battery pack.
3. Navigation light is to be removed prior to installation of the transition piece.
4. Transition pieces on the perimeter are to have navigation lights during the construction phase.
5. When SPS lights and IPS lights are installed and operational (as per Navigation Aids drawing – A4AX-GEN-DWG-000-0010 rev 1) the construction phase Cardinal Buoys will be removed.
6. Turbine marking in accordance to Trinity House correspondence OWF/EC/07 NAV 148553 – July 2007.
7. Cardinal buoy 4 can be moved to position of cardinal buoy 5 for phase 2.

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 Semi-major Axis: 6378137.0
 Inverse Flattening: 298.2572236



Trinity House Buoys in the vicinity of the Greater Gabbard Offshore Wind Farm as at 18 Aug 2008

Gabbard Area

Name	Latitude	Longitude	Type
N. Inner Gabbard	51° 59.129' N	01° 55.988' E	North Cardinal
S. Inner Gabbard	51° 49.922' N	01° 51.892' E	South Cardinal
W Inner Gabbard	51° 52.061' N	01° 49.368' E	Special Mark
Outer Gabbard	51° 57.830' N	02° 04.187' E	East Cardinal

Galloper Area

Name	Latitude	Longitude	Type
N. Galloper	51° 49.837' N	01° 59.993' E	North Cardinal
S Galloper	51° 43.981' N	01° 56.389' E	South Cardinal

Greater Gabbard Offshore Wind Farm Cardinal Buoy Positions

Gabbard Area

Name	Latitude	Longitude	Type	Approx Water Depth
Cardinal Buoy 1 (Phase 1)	51° 58.900' N	01° 59.670' E	North Cardinal	26m LAT
Cardinal Buoy 2 (Phase 1)	51° 53.290' N	02° 00.340' E	East Cardinal	31m LAT
Cardinal Buoy 3 (Phase 2)	51° 57.551' N	01° 52.283' E	West Cardinal	37m LAT

Galloper Area

Name	Latitude	Longitude	Type	Approx Water Depth
Cardinal Buoy 4 (Phase 1)	51° 47.278' N	01° 55.627' E	West Cardinal	33m LAT
Cardinal Buoy 5 (Phase 2)	51° 46.030' N	01° 54.890' E	West Cardinal	29m LAT
Cardinal Buoy 6 (Phase 1)	51° 45.310' N	02° 00.570' E	East Cardinal	30m LAT

All Positions are in WGS84 Datum (Degrees Decimal Minutes)

Project Title:
Greater Gabbard Offshore Wind Farm

Figure / Drawing Title:
GREATER GABBARD NAVIGATION BUOYS CONSTRUCTION PHASES

Figure / Drawing Number: A4AX-GEN-DWG-000-0008

UNLESS THE REVISION IS 1 OR HIGHER THE DRAWING IS NOT TO BE USED FOR DESIGN OR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHKD	Fluor Appr
2	08 Apr 09	ISSUED FOR CONSTRUCTION	DT	BW	PD
1	21 Oct 08	ISSUED FOR CONSTRUCTION	DT	BW	PD
B	29 Aug 08	FOR REVIEW	OK	BW	DS

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