

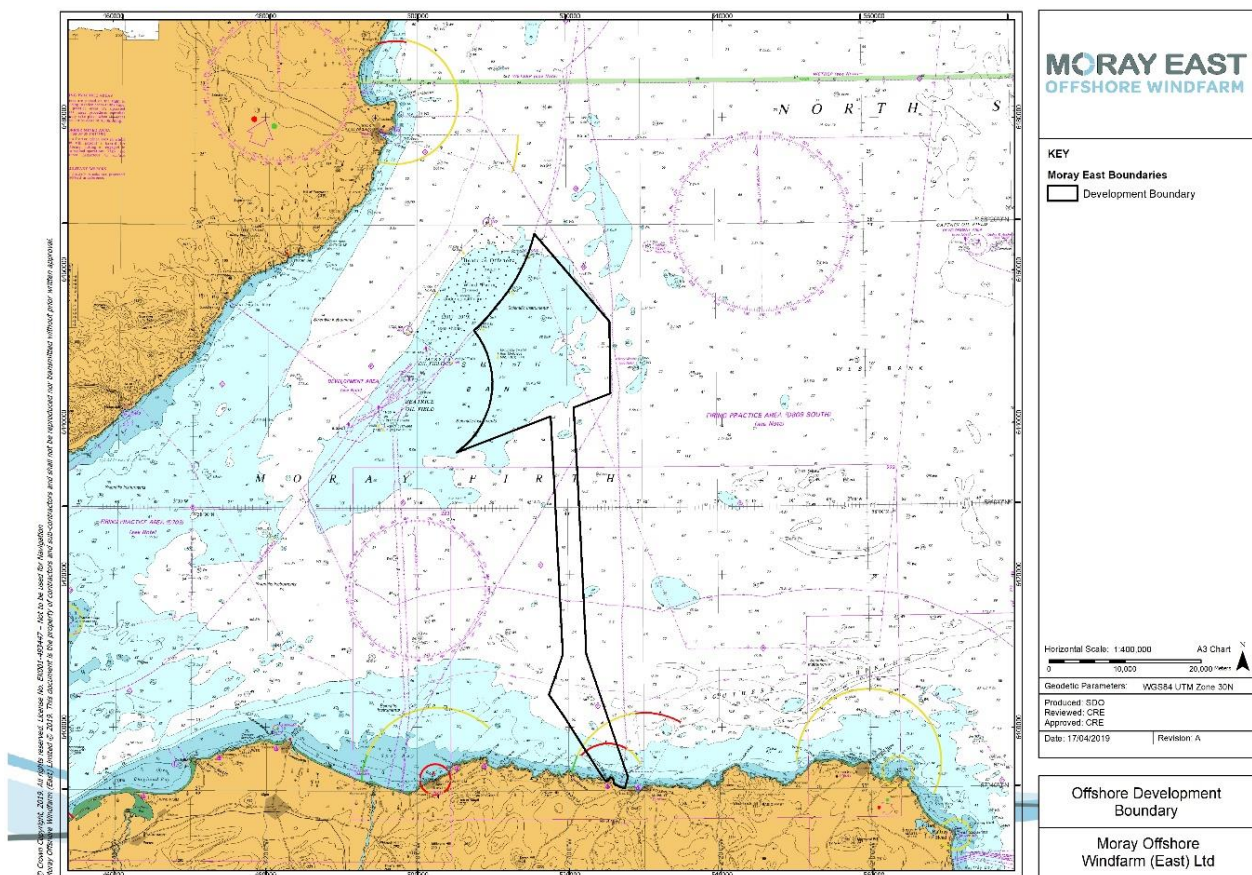
<b>MORAY EAST WEEKLY NOTICE OF OPERATIONS</b>	Issue Date	28/10/2019
	Ref: 8460001-PC0010-MWE-REP-0033	Rev: 01

## Work Planned for the Period 28.10.2019 to 03.11.2019

*Construction work for Moray East Offshore Wind Farm commenced on the 18<sup>th</sup> May 2019.*

*The key aim of the Weekly Notice of Operations is to give a global view of activities and vessels involved. Questions regarding the operations will be welcome preferably well in advance of each construction activity.*

Moray East is developing the Moray East Offshore Wind Farm in the Outer Moray Firth on the south eastern area of the Smith Bank located to the north of the Aberdeenshire and Moray coast. The development will consist of 100 offshore wind turbines (WTGs) (with a total capacity of approximately 950 MW) and three Offshore Substation Platforms (OSPs). Water depths in the Moray East site range from approximately 38 m below LAT to 54 m below LAT. The generated power will be transmitted to the grid via three subsea export cable circuits to the landfall location at Inverboynadie bay on the Aberdeenshire coast. The onshore export cables continue underground to the Moray East substation currently under construction near New Deer. The Moray East offshore development boundary is shown in black on Figure 1 below. Details of location of work activities within this area will be provided as work progresses.



**Figure 1 - Moray East Offshore Development Boundary**

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It is currently anticipated that weather permitting offshore construction works will be carried out year-round and on a continuous basis (i.e. 24 hour working, seven days a week) unless notified otherwise.

Moray East's Marine Coordination Centre in Fraserburgh is manned 24 hours, 7 days per week.

The construction works, which have commenced from the 18<sup>th</sup> May 2019, are as follows:

- Piling operations (detailed in this notice);
- Guard vessel duties (detailed in this notice);
- Horizontal Directional Drilling (HDD) works (detailed in this notice); and
- Deployment / Recovery of University of Aberdeen Noise Recorders (detailed in this notice).

## 1 Contact Details for Marine Coordination

The following contact can provide more information if required. Please note that specific queries can also be addressed to the relevant vessel or shore based representative.

<b>Telephone Number (Day Operations)</b>	+44 (0) 778 706 5714
<b>Emergency Contact (24/7)</b>	+44 (0) 1346 511 838
<b>Marine Coordinator Email</b>	<a href="mailto:MarineCoordination.MORAYEAST@Morayeast.com">MarineCoordination.MORAYEAST@Morayeast.com</a>
<b>Address</b>	Dalrymple Hall, Dalrymple St, Fraserburgh, AB43 9BD

## 2 Completed Operations

### 2.1 Moray East Construction Markers

Moray East has completed the deployment of nine construction marker buoys around the Moray East site. The marker buoys will remain in place until after construction of the Moray East Offshore Wind Farm is complete. The co-ordinates for the as-built marker buoys are provided in the Table 1 below.

**Table 1 – Marker buoy locations**

Name	WGS84		WGS84 UTM Zone 30N	
	Latitude (dms)	Longitude (dms)	Easting (m)	Northing (m)
<b>Buoy 1 - North Cardinal Buoy,</b> Pillar shaped with a north cardinal shaped top mark, exhibiting a Quick (Q) White (W) light character and AIS.	58° 18' 6.600" N	2° 41' 4.800" W	518481.96	6462358.27
<b>Buoy 2 - Special Mark Buoy,</b> Pillar shaped with a yellow 'x' shaped top mark, exhibiting a Fl Y 5s light character.	58° 16' 48.300" N	2° 37' 55.380" W	521579.08	6459952.33

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Name	WGS84		WGS84 UTM Zone 30N	
	Latitude (dms)	Longitude (dms)	Easting (m)	Northing (m)
<b>Buoy 3 - Special Mark Buoy,</b> Pillar shaped with a yellow 'x' shaped top mark, exhibiting a Fl Y 5s light character.	58° 15' 8.460" N	2° 35' 57.300" W	523521.05	6456875.58
<b>Buoy 4 - East Cardinal Buoy,</b> Pillar shaped with an east cardinal shaped top mark, exhibiting a Very (V) Q (3) 5 second (s) W light character and AIS.	58° 10' 44.10" N	2° 32' 45.85" W	526697.39	6448719.65
<b>Buoy 5 - Special Mark Buoy,</b> Pillar shaped with a yellow 'x' shaped top mark, exhibiting a Fl Y 5s light character.	58° 7' 49.680" N	2° 35' 20.640" W	524201.44	6443309.27
<b>Buoy 6 - Special Mark Buoy,</b> Pillar shaped with a yellow 'x' shaped top mark, exhibiting a Fl Y 5s light character.	58° 6' 43.980" N	2° 38' 19.860" W	521280.40	6441260.65
<b>Buoy 7 - Special Mark Buoy,</b> Pillar shaped with a yellow 'x' shaped top mark, exhibiting a Fl Y 5s light character.	58° 4' 57.240" N	2° 47' 9.360" W	512624.16	6437922.64
<b>Buoy 8 – South Cardinal,</b> Pillar shaped with a south cardinal shaped top mark, exhibiting a V Q (6) + L Fl 10s W light character and AIS.	58° 4' 1.140" N	2° 52' 6.660" W	507757.35	6436175.21
<b>Buoy 9 - Special Mark Buoy,</b> Pillar shaped with a yellow 'x' shaped top mark, exhibiting a Fl Y 5s light character.	58° 8' 37.080" N	2° 50' 37.080" W	509205.67	6444712.15

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Figure 2 - Layout of demarcation buoyage

### 3 Piling Operations

GeoSea NV Geotechnical & Offshore Solutions have been contracted by Moray East to carry out pile foundation installation at the Moray East site. The vessels associated with the planned works are detailed in Section 3.1 below.

The piling operations commenced on the 19<sup>th</sup> May 2019 and are scheduled to take place over a period of approximately 11 months. Information on the WTG and OSP foundation locations in the Moray East site and the piling operations anticipated in the next four weeks are provided in Sections 3.2 and 3.4 below.

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3.1 Vessels associated with the planned works

3.1.1 Pin Pile Support Vessel

<b>MV Normand Service</b>	
<b>General Description and Dimensions:</b>	DP 2 PSV vessel LOA: 88.0 m, Beam: 18.0 m, Draught: 4.5 m
<b>Call Sign:</b>	LAFR8
<b>MMSI:</b>	257062690
<b>On Board Contact:</b>	VSAT: +44 203 608 9617
<b>Offshore Manager / Party Chief:</b>	Vessel Master
<b>E-mail:</b>	master@service.solstad.com
<b>Onshore Representative:</b>	Edward Maycock





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3.1.2 Pin Pile Installation

<b>MV Apollo</b>	
<b>General Description and Dimensions:</b>	Offshore Heavy Lift DP2 jack up vessel LOA: 89 m, Beam: 45 m, Draught: 15 m
<b>Call Sign:</b>	LXBP
<b>MMSI:</b>	253586000
<b>On Board Contact:</b>	Mob: +32 470 783 880
<b>Offshore Manager / Party Chief:</b>	Vessel Master
<b>E-mail:</b>	captain.apollo@ships.deme-group.com
<b>Onshore Representative:</b>	Edward Maycock



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### 3.2 Foundation Locations

Foundation locations for piling operations are shown in Table 2 below. Locations where piling has been completed are highlighted in Figure 3 – Turbine location map.

**Table 2 – WTG locations and Installation Status**

Turbine ID	Latitude (DD MM.mmm)	Longitude (DD MM.mmm)	Piling Complete
ME-A01	58° 4.550' N	2° 52.147' W	19/08/2019
ME-A02	58° 5.158' N	2° 52.144' W	13/10/2019
ME-B02	58° 5.147' N	2° 50.570' W	
ME-B03	58° 5.755' N	2° 50.567' W	
ME-B04	58° 6.364' N	2° 50.564' W	01/09/2019
ME-B05-OFF	58° 6.967' N	2° 50.544' W	14/10/2019
ME-B13	58° 11.838' N	2° 50.540' W	
ME-B14	58° 12.446' N	2° 50.538' W	09/07/2019
ME-C05	58° 6.961' N	2° 48.986' W	30/08/2019
ME-C07	58° 8.177' N	2° 48.980' W	17/10/2019
ME-C08	58° 8.785' N	2° 48.977' W	
ME-C09	58° 9.394' N	2° 48.973' W	17/10/2019
ME-C10	58° 10.002' N	2° 48.970' W	
ME-C11	58° 10.610' N	2° 48.967' W	
ME-C12	58° 11.218' N	2° 48.964' W	
ME-C13	58° 11.826' N	2° 48.961' W	
ME-C14	58° 12.435' N	2° 48.958' W	08/07/2019
ME-C15	58° 13.043' N	2° 48.955' W	10/07/2019
ME-C16	58° 13.651' N	2° 48.951' W	12/07/2019
ME-D04	58° 6.341' N	2° 47.414' W	
ME-D05	58° 6.949' N	2° 47.410' W	
ME-D07	58° 8.166' N	2° 47.403' W	
ME-D08	58° 8.774' N	2° 47.399' W	
ME-D09	58° 9.382' N	2° 47.396' W	
ME-D10	58° 9.990' N	2° 47.392' W	
ME-D11	58° 10.598' N	2° 47.389' W	
ME-D12	58° 11.207' N	2° 47.385' W	
ME-D13	58° 11.815' N	2° 47.381' W	
ME-D14	58° 12.423' N	2° 47.378' W	
ME-D15	58° 13.031' N	2° 47.374' W	
ME-D16	58° 13.639' N	2° 47.371' W	11/07/2019
ME-D17	58° 14.248' N	2° 47.367' W	13/07/2019
ME-E04	58° 6.329' N	2° 45.838' W	
ME-E05	58° 6.937' N	2° 45.834' W	
ME-E19	58° 15.452' N	2° 45.778' W	14/07/2019

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Turbine ID	Latitude (DD MM.mmm)	Longitude (DD MM.mmm)	Piling Complete
ME-F04	58° 6.317' N	2° 44.263' W	
ME-F21	58° 16.656' N	2° 44.187' W	16/07/2019
ME-G05	58° 6.913' N	2° 42.683' W	
ME-G06	58° 7.521' N	2° 42.678' W	
ME-G07	58° 8.129' N	2° 42.673' W	24/08/2019
ME-G09	58° 9.345' N	2° 42.663' W	07/08/2019
ME-G10	58° 9.954' N	2° 42.658' W	18/08/2019
ME-G11	58° 10.562' N	2° 42.653' W	
ME-G13	58° 11.778' N	2° 42.643' W	05/07/2019
ME-G15	58° 12.995' N	2° 42.633' W	27/06/2019
ME-G16	58° 13.603' N	2° 42.629' W	24/06/2019
ME-G17	58° 14.211' N	2° 42.624' W	17/06/2019
ME-G18	58° 14.819' N	2° 42.619' W	16/06/2019
ME-G19	58° 15.428' N	2° 42.614' W	09/06/2019
ME-G20	58° 16.036' N	2° 42.609' W	
ME-G21	58° 16.644' N	2° 42.604' W	22/07/2019
ME-G22	58° 17.252' N	2° 42.599' W	17/07/2019
ME-H05	58° 6.900' N	2° 41.107' W	
ME-H06	58° 7.508' N	2° 41.102' W	
ME-H07	58° 8.116' N	2° 41.096' W	
ME-H08	58° 8.724' N	2° 41.091' W	
ME-H09	58° 9.333' N	2° 41.086' W	05/08/2019
ME-H10	58° 9.941' N	2° 41.080' W	
ME-H13	58° 11.765' N	2° 41.064' W	04/07/2019
ME-H14	58° 12.374' N	2° 41.059' W	28/06/2019
ME-H16	58° 13.590' N	2° 41.048' W	23/06/2019
ME-H17	58° 14.198' N	2° 41.042' W	19/06/2019
ME-H18	58° 14.806' N	2° 41.037' W	08/08/2019
ME-H19	58° 15.415' N	2° 41.032' W	08/06/2019
ME-H20	58° 16.023' N	2° 41.026' W	24/07/2019
ME-H21	58° 16.631' N	2° 41.021' W	21/07/2019
ME-H22	58° 17.239' N	2° 41.015' W	18/07/2019
ME-I06	58° 7.495' N	2° 39.526' W	23/10/2019
ME-I07	58° 8.103' N	2° 39.520' W	
ME-I19	58° 15.401' N	2° 39.450' W	05/06/2019
ME-I20	58° 16.010' N	2° 39.444' W	07/06/2019
ME-J07	58° 8.090' N	2° 37.943' W	23/08/2019
ME-J08	58° 8.698' N	2° 37.937' W	22/08/2019
ME-J09	58° 9.306' N	2° 37.930' W	
ME-J10	58° 9.914' N	2° 37.924' W	04/08/2019
ME-J12	58° 11.131' N	2° 37.912' W	



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Turbine ID	Latitude (DD MM.mmm)	Longitude (DD MM.mmm)	Piling Complete
ME-J13	58° 11.739' N	2° 37.905' W	02/07/2019
ME-J14	58° 12.347' N	2° 37.899' W	30/06/2019
ME-J16	58° 13.563' N	2° 37.886' W	21/06/2019
ME-J17	58° 14.172' N	2° 37.880' W	02/06/2019
ME-J18	58° 14.780' N	2° 37.874' W	20/06/2019
ME-J19-OFF	58° 15.383' N	2° 37.887' W	
ME-K09	58° 9.292' N	2° 36.353' W	
ME-K10	58° 9.900' N	2° 36.346' W	29/07/2019
ME-K11	58° 10.509' N	2° 36.339' W	29/07/2019
ME-K16	58° 13.550' N	2° 36.306' W	31/05/2019
ME-K17-OFF	58° 14.189' N	2° 36.133' W	30/05/2019
ME-L09	58° 9.278' N	2° 34.775' W	27/07/2019
ME-L11	58° 10.494' N	2° 34.761' W	27/07/2019
ME-L12	58° 11.103' N	2° 34.754' W	25/07/2019
ME-L13	58° 11.711' N	2° 34.747' W	
ME-E18	58° 14.844' N	2° 45.782' W	14/07/2019
ME-E14	58° 12.411' N	2° 45.798' W	07/07/2019
ME-I18	58° 14.793' N	2° 39.455' W	17/08/2019
ME-F08	58° 8.750' N	2° 44.245' W	29/08/2019
ME-G08	58° 8.737' N	2° 42.668' W	
ME-H11	58° 10.549' N	2° 41.075' W	
ME-C04	58° 6.353' N	2° 48.989' W	21/10/2019
ME-C02	58° 5.136' N	2° 48.995' W	
ME-D06	58° 7.557' N	2° 47.407' W	
ME-OSP1	58° 7.546' N	2° 45.830' W	21/08/2019
ME-OSP2	58° 13.007' N	2° 44.214' W	19/08/2019
ME-OSP3	58° 9.928' N	2° 39.502' W	20/08/2019

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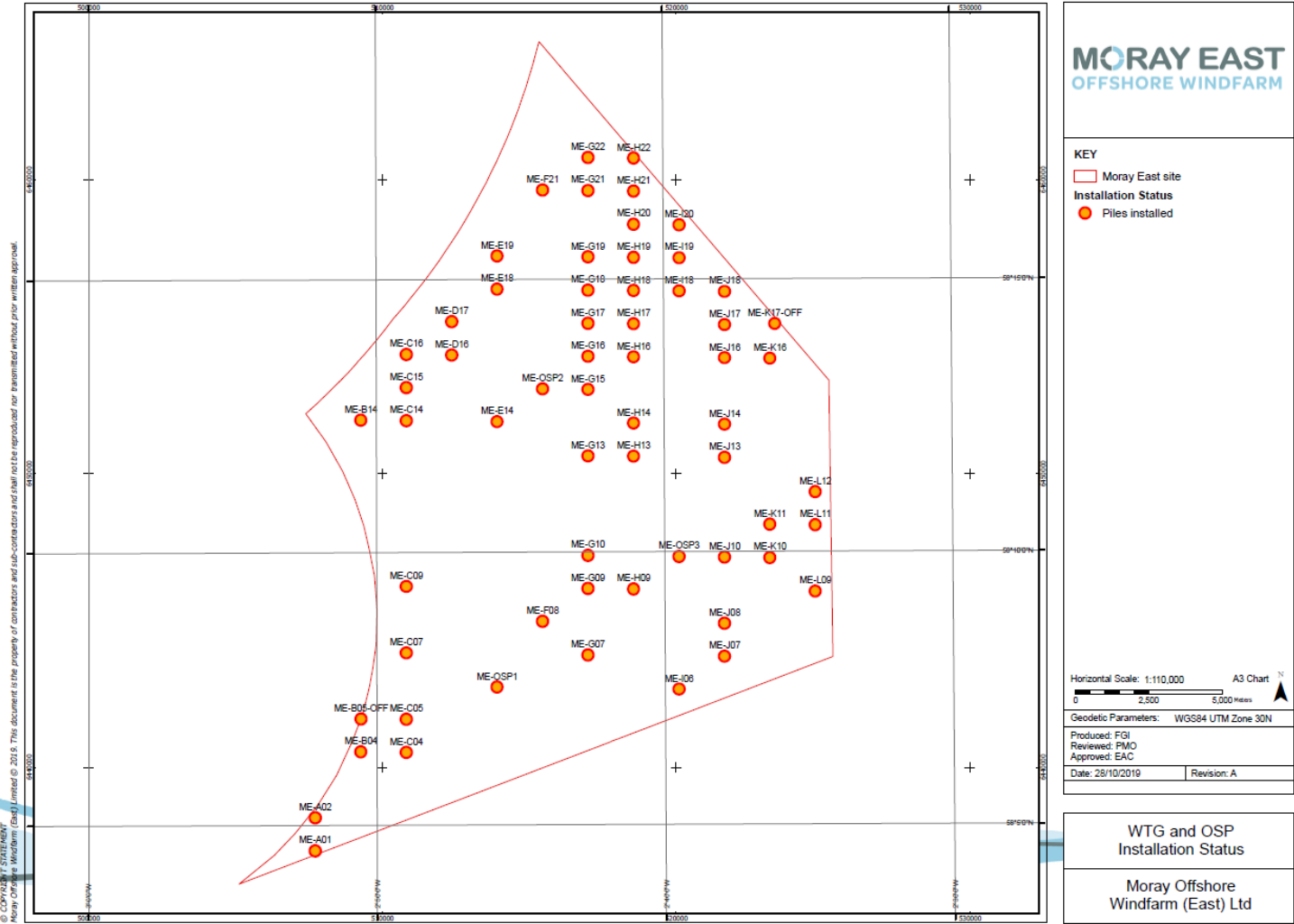


Figure 3 – Turbine location and Installation Status

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### 3.3 Piling Operations

Pile foundations will be installed by the Heavy Lift Vessel (HLV) Apollo which will arrive at the proposed foundation installation location and will be positioned in readiness for the foundation installation works. This will involve the vessel entering DP2 and then jacking up to operational draft.

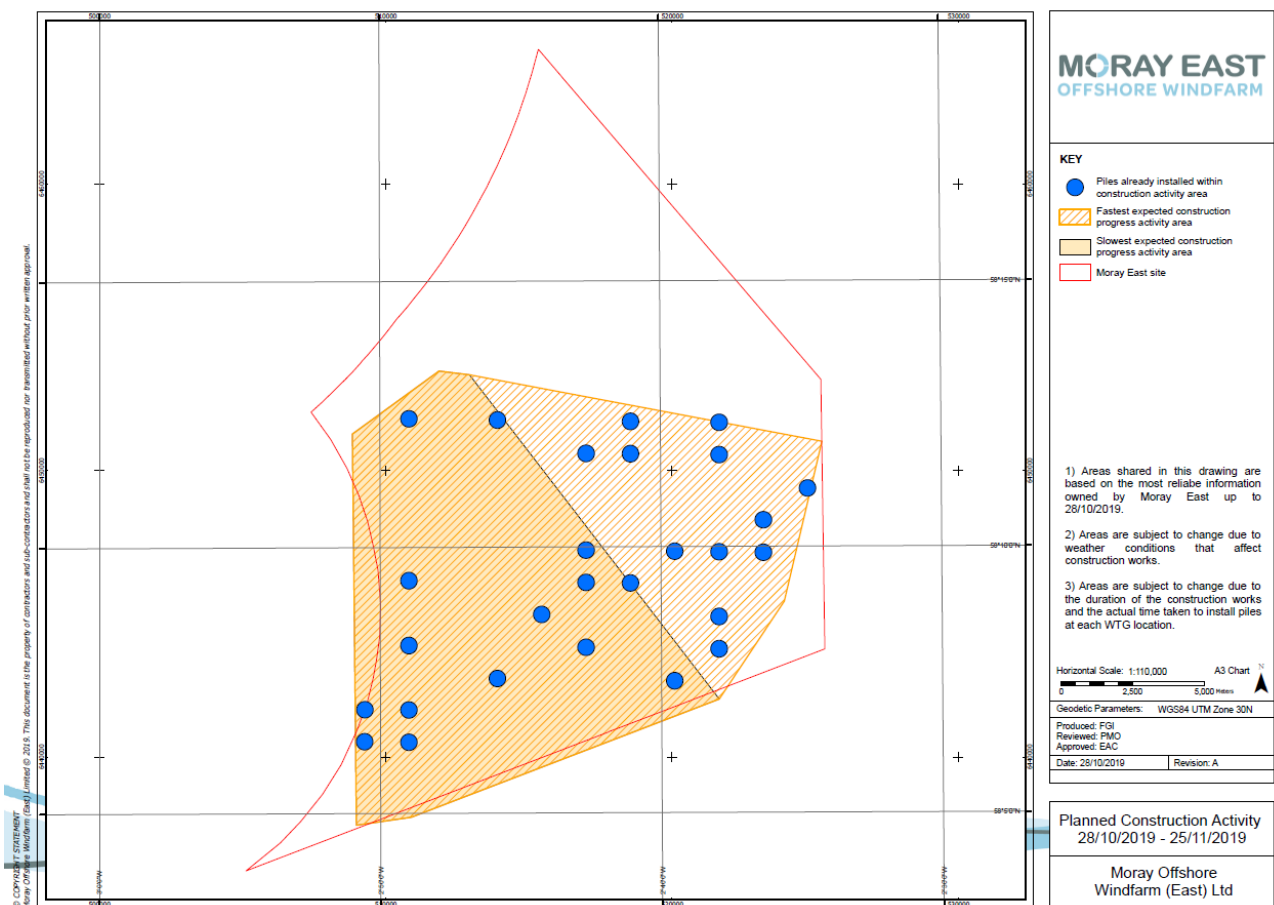
Pile foundations will be installed by the use of a Pile Installation Template which is attached to the vessel legs and deployed beneath the vessel. All 3 pin piles will be stabbed into the seabed through the piling temple then driven to target depth in readiness for the Jacket installation.

The Piling Template will then be recovered to the Apollo, then she will relocate to the next location for installation.

### 3.4 Piling works for the month ahead

Piling works are expected to take place for the next four weeks from the date of this notice in the area highlighted in yellow in Figure 4 below. Construction works could take place out of this area due to unforeseen circumstances.

**Figure 4 – Piling activity area expected for between 28<sup>th</sup> October and 25<sup>th</sup> November 2019**



The latitude and longitude for the piling activities in the above highlighted area is referenced in the Table 3 below.

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Fastest expected construction progress activity area

ID	Latitude (DMS)	Longitude (DMS)	Latitude (DDM)	Longitude (DDM)
1	58° 4' 56.759" N	2° 48' 55.034" W	58° 4.946' N	2° 48.917' W
2	58° 7' 8.941" N	2° 37' 56.905" W	58° 7.149' N	2° 37.948' W
3	58° 8' 58.958" N	2° 35' 36.937" W	58° 8.983' N	2° 35.616' W
4	58° 11' 59.118" N	2° 34' 14.766" W	58° 11.985' N	2° 34.246' W
5	58° 13' 15.849" N	2° 46' 48.029" W	58° 13.264' N	2° 46.800' W
6	58° 13' 20.247" N	2° 47' 53.142" W	58° 13.337' N	2° 47.886' W
7	58° 12' 9.564" N	2° 50' 58.633" W	58° 12.159' N	2° 50.977' W
8	58° 4' 48.053" N	2° 50' 52.242" W	58° 4.801' N	2° 50.871' W

Slowest expected construction progress activity area

ID	Latitude (DMS)	Longitude (DMS)	Latitude (DDM)	Longitude (DDM)
1	58° 4' 48.053" N	2° 50' 52.242" W	58° 4.801' N	2° 50.871' W
2	58° 4' 56.759" N	2° 48' 55.034" W	58° 4.946' N	2° 48.917' W
3	58° 7' 8.941" N	2° 37' 56.905" W	58° 7.149' N	2° 37.948' W
4	58° 13' 15.849" N	2° 46' 48.029" W	58° 13.264' N	2° 46.800' W
5	58° 13' 20.247" N	2° 47' 53.142" W	58° 13.337' N	2° 47.886' W
6	58° 12' 9.564" N	2° 50' 58.633" W	58° 12.159' N	2° 50.977' W

**Table 3 – Coordinates for piling activity area expected for between 28<sup>th</sup> October and 25<sup>th</sup> November 2019**

The above figure and coordinates for the area where piling works are expected in the month ahead will be updated on a weekly basis through the Weekly Notice of Operations together with and update on the planned piling operations.

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**4 Guard Vessels**

Kinnaird Marine Limited has been appointed by Moray East to provide guard vessels during the piling campaign. Apart from times of extreme weather, there will always be at least one guard vessel on station during piling operations. The guard vessel’s primary duty is security of the construction site by informing and warning non-construction vessels of the ongoing activities and associated Safety Zones.

Mariners are requested to navigate with caution and keep continued watch on VHF Ch. 16, 87 and 73 when navigating the area.

**4.1 Guard Vessel – GV Replenish**

<b>GV Replenish</b>	
<b>General Description and Dimensions:</b>	Guard Vessel LOA: 24.36 m, Beam: 7.17 m, Draught 3.48 m
<b>Call Sign:</b>	MASY7
<b>MMSI:</b>	235055180
<b>On Board Contact:</b>	Master
<b>Offshore Manager / Party Chief:</b>	N/A
<b>E-mail:</b>	<a href="mailto:gvreplenish@gmail.com">gvreplenish@gmail.com</a>
<b>Onshore Representative:</b>	Enrique Alvarez





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4.2 Guard Vessel – KMS Ability N294

KMS Ability N294	
<b>General Description and Dimensions:</b>	Guard Vessel LOA: 23.14 m, Beam: 6.63 m, Draught: 3.20 m
<b>Call Sign:</b>	MDFW3
<b>MMSI:</b>	235014666
<b>On Board Contact:</b>	Master
<b>Offshore Manager / Party Chief:</b>	N/A
<b>E-mail:</b>	<a href="mailto:gvability@gmail.com">gvability@gmail.com</a>
<b>Onshore Representative:</b>	Enrique Alvarez



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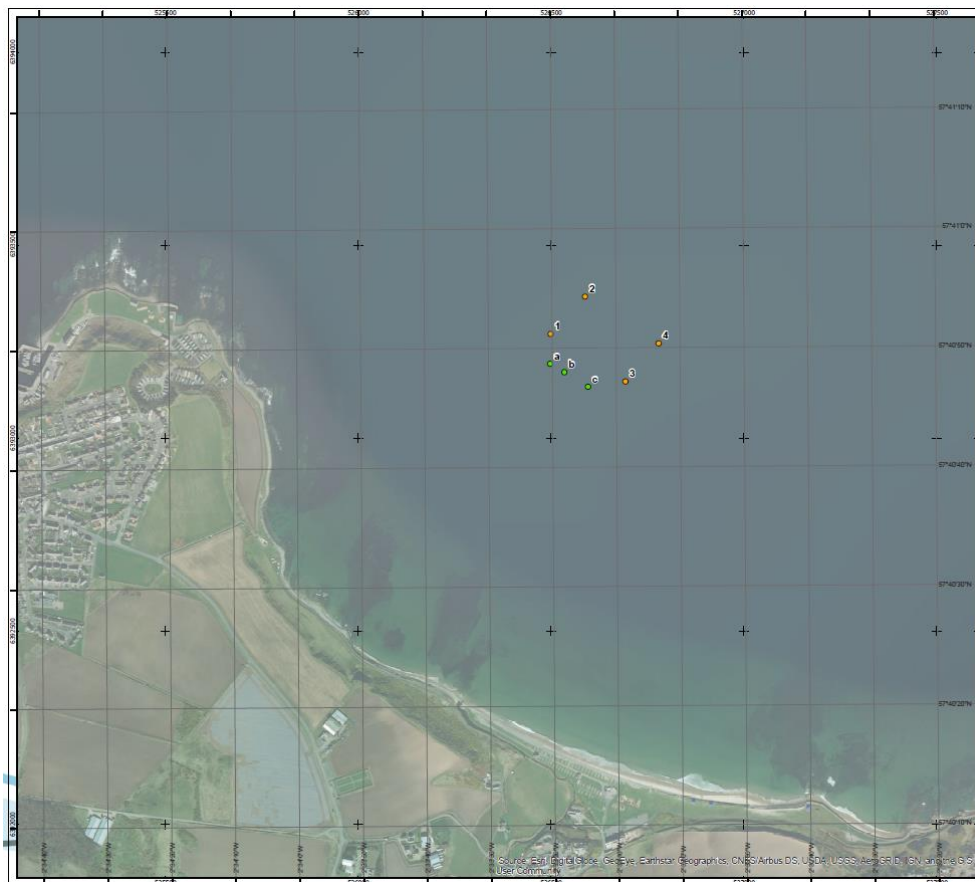
**5 Horizontal Directional Drilling (HDD)**

Please be advised that Moray Offshore Windfarm (East) Limited (Moray East) have commenced HDD construction works. There will be a total of 3 phases during 2019 with the second and third phase planned for September and October.

Anchors will be deployed in readiness for the 1<sup>st</sup> phase of HDPE duct pipe installation utilising the vessel Voe Jarl and will remain in place until phase 3 is complete. There will be three main ACTIVITIES as part of each phase of these works at the HDD location: HDPE duct pipe tow to HDD location, cable duct pull in and post pull in burial works on the sea bed. Each complete phase should take circa 22 days to complete. The vessel details for each phase are provided below, as well as the overall programme for Phase 1.

**5.1 Anchor installations Inverboyndie Bay**

Figure 5 below shows the anchor locations at the HDD location near Inverboyndie Bay and Table 4 provides the coordinates of the relevant anchor positions.



**Figure 5 - Anchor locations shown on satellite map.**

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Table 4 - Anchor positions Lat/Long

ID	Longitude	Latitude
1	57° 40.852 N	2° 33.338 W
2	57° 40.904 N	2° 33.247 W
3	57° 40.785 N	2° 33.143 W
4	57° 40.839 N	2° 33.056 W
a	57° 40.811 N	2° 33.339 W
b	57° 40.799 N	2° 33.302 W
c	57° 40.778 N	2° 33.241 W

5.2 Main working vessel anchor installation and duct pull in – Multicat and DSV — Voe Jarl

Voe Jarl:	
<b>General Description and Dimensions:</b>	Multicat Anchoring and Dive Vessel
<b>Call Sign:</b>	MSBB3
<b>MMSI:</b>	210779000
<b>On Board Contact:</b>	Master 07502297888
<b>Offshore Manager / Party Chief:</b>	Vessel Master
<b>E-mail:</b>	<a href="mailto:voejarl@delta-marine.scot">voejarl@delta-marine.scot</a>
<b>Onshore Project Representative:</b>	Gareth Ellis <a href="mailto:Gareth.ellis@morayeast.com">Gareth.ellis@morayeast.com</a>



MarineTraffic.com

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5.3 ACTIVITY 1 - Transit route for HDPE pipe tow Cromarty Firth to Inverboyndie Bay

The HDPE pipes will be towed individually to the HDD area at Inverboyndie Bay following the transit route shown in Figure 6 below. The route coordinates are provided in Table 5. The vessels engaged in the towing of the pipes are identified below.

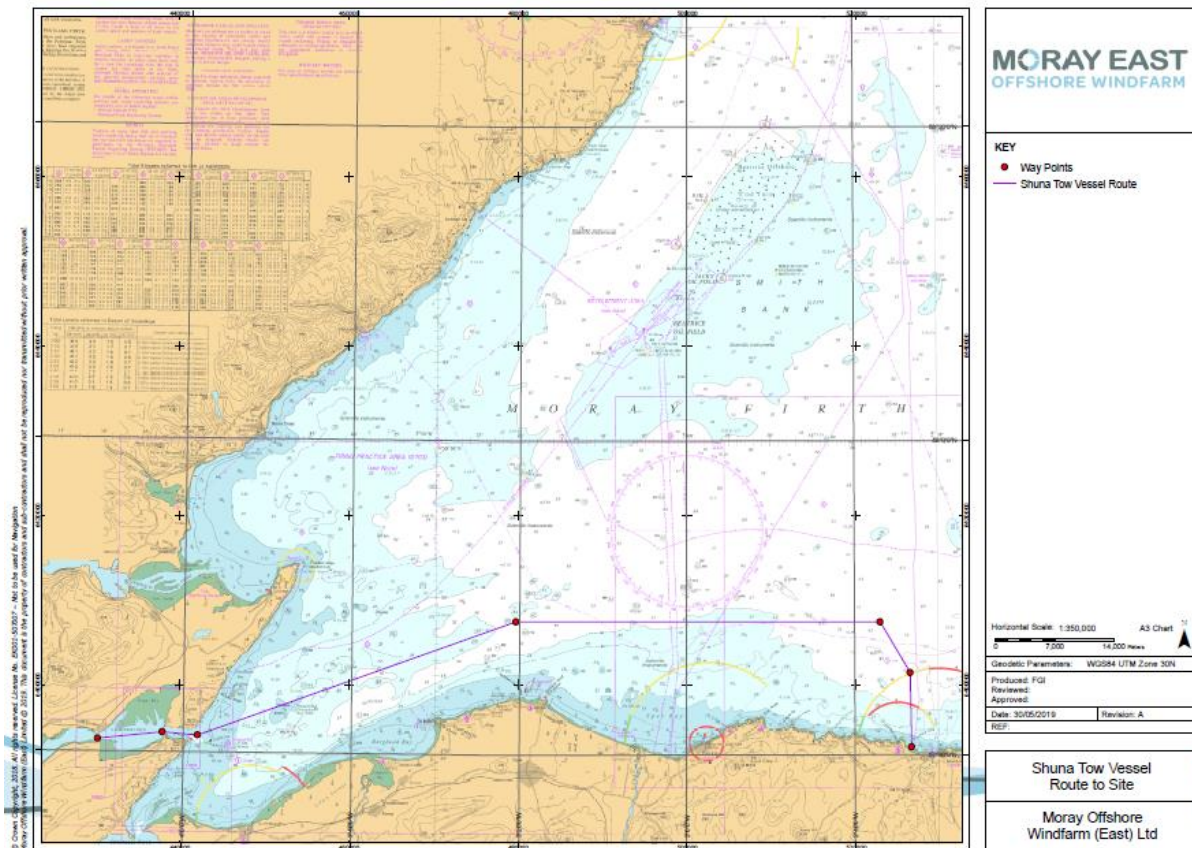


Figure 6 - Transit route/waypoints for the planned tow

Table 5 – Transit route waypoints

Way Point	Lat	Lon	Dist to Next	Total	Remarks
1	57° 40.810' N	004° 10.160' W	4.24NM	00.00 NM	Wet stow location
2	57° 41.280' N	004° 02.480' W	2.26 NM	04.24 NM	
3	57° 41.110' N	003° 58.270' W	20.77 NM	06.50 NM	
4	57° 48.500' N	003° 20.450' W	21.64 NM	27.27 NM	
5	57° 48.500' N	002° 36.950' W	23.93NM	48.91 NM	
6	57° 45.250' N	002° 33.410' W	04.77NM	72.83NM	
7	57° 40.530' N	002° 33.280' W		77.66NM	Boyndie Bay



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Shuna	
<b>General Description and Dimensions:</b>	Towing vessel
<b>Call Sign:</b>	VQBP3
<b>MMSI:</b>	235007528
<b>On Board Contact:</b>	Ian Beaton 07713064672
<b>Offshore Manager / Party Chief:</b>	Vessel Master
<b>E-mail:</b>	<a href="mailto:admin@seafastltd.co.uk">admin@seafastltd.co.uk</a>
<b>Onshore Representative:</b>	Gareth Ellis <a href="mailto:Gareth.ellis@morayeast.com">Gareth.ellis@morayeast.com</a>





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Teal Of Wick	
<b>General Description and Dimensions:</b>	Tail end vessel
<b>Call Sign:</b>	ZQXM9
<b>MMSI:</b>	235000773
<b>On Board Contact:</b>	Ian Beaton 07713064672
<b>Offshore Manager / Party Chief:</b>	Offshore Manager
<b>E-mail:</b>	<a href="mailto:admin@seafastltd.co.uk">admin@seafastltd.co.uk</a>
<b>Onshore Representative:</b>	Gareth Ellis <a href="mailto:Gareth.ellis@morayeast.com">Gareth.ellis@morayeast.com</a>



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<b>Waterfall</b>	
<b>General Description and Dimensions:</b>	Guard/Chase Vessel
<b>Call Sign:</b>	2CBT4
<b>MMSI:</b>	235071392
<b>On Board Contact:</b>	Master
<b>Offshore Manager / Party Chief:</b>	N/A
<b>E-mail:</b>	bill@moraymarine.com
<b>Onshore Representative:</b>	Gareth Ellis <a href="mailto:Gareth.ellis@morayeast.com">Gareth.ellis@morayeast.com</a>



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Rhona	
<b>General Description and Dimensions:</b>	Crew Transfer/Support Vessel
<b>Call Sign:</b>	VQBP3
<b>MMSI:</b>	235007528
<b>On Board Contact:</b>	Ian Beaton 07713064672
<b>Offshore Manager / Party Chief:</b>	Vessel Master
<b>E-mail:</b>	<a href="mailto:admin@seafastltd.co.uk">admin@seafastltd.co.uk</a>
<b>Onshore Representative:</b>	Gareth Ellis <a href="mailto:Gareth.ellis@morayeast.com">Gareth.ellis@morayeast.com</a>

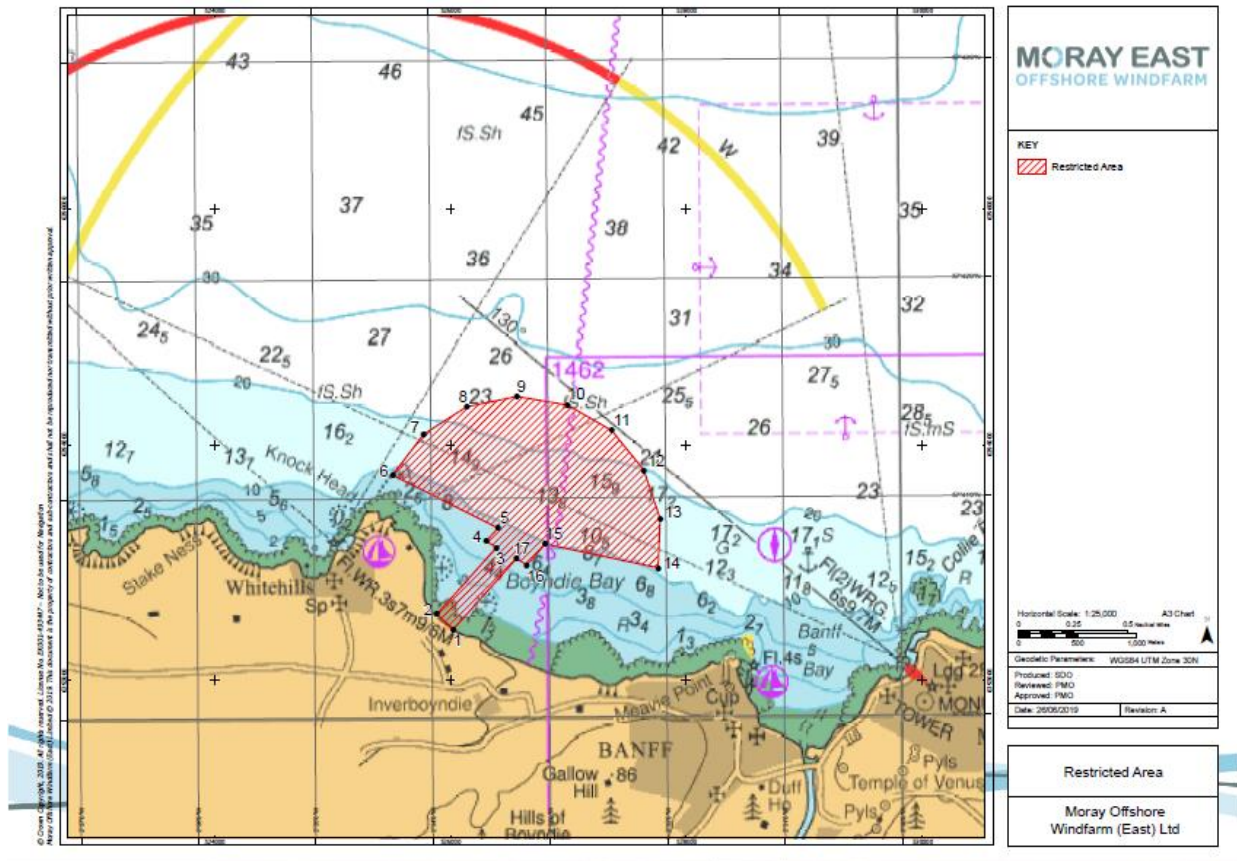


**5.4 ACTIVITY 2 – HDD duct pull in works [RESTRICTED AREA]**

Once the HDPE pipes are on location they will be connected up to the HDD drill string via a pulling head and using divers from the Voe Jarl. Then pull back through the punchout hole will commence, drawing the ducts back to landfall as shown in Figure 7 below.

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A restricted area as described in Figure 7 and the coordinates in Table 6 will be required for the operation lasting 72 hours (weather and operations dependent).



**Figure 7 – Restricted area for use during duct pull in**

**Table 6 – Restricted area coordinates *duct pull in only***

Location	WGS84	
	Latitude	Longitude
1	57° 40.405'N	2° 33.820'W
2	57° 40.474'N	2° 33.960'W
3	57° 40.778'N	2° 33.448'W
4	57° 40.806'N	2° 33.536'W
5	57° 40.866'N	2° 33.434'W
6	57° 41.111'N	2° 34.328'W
7	57° 41.297'N	2° 34.063'W
8	57° 41.421'N	2° 33.693'W
9	57° 41.466'N	2° 33.265'W
10	57° 41.426'N	2° 32.835'W
11	57° 41.308'N	2° 32.459'W
12	57° 41.126'N	2° 32.186'W
13	57° 40.904'N	2° 32.052'W
14	57° 40.680'N	2° 32.070'W
15	57° 40.791'N	2° 33.032'W
16	57° 40.697'N	2° 33.190'W
17	57° 40.725'N	2° 33.279'W



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The duct to drill pipe connection will be made on the Voe Jarl. The Dive spread will be situated on the Voe Jarl which will be moored up on the anchor points mentioned above. These operations are planned between the hours of 07:00 – 19:00 or all daylight hours if required, with the Dive team mobilising daily from Macduff and Transferring via Support vessel Rhona, with the route plan defined below.



Figure 8 – Daily transit routes from Macduff base port to site

Table 7 – Daily transit route waypoints from Macduff base port to site

Way Point	Lat.	Long.	Dist.to next	Tot	Remarks
1	57° 40'.20" N	002° 30'.40" W	0.84NM	00.00 NM	Entrance to Macduff
2	57° 40'.53" N	002° 33'.20" W	0.94 NM	1.78 NM	Site

### 5.5 ACTIVITY 3 - Post pull in dive works

A restricted area which is described by the anchor pattern of the DSV Voe Jarl in Table 6 above will be used for the duct pull operation which is expected to last 22 days weather permitting. The ducts will be lowered beneath the sea bed level by airlifting and secured in place with temporary concrete mattress (Figure 9). The Ducts will stay buried in the sea bed until the final cable installation and burial stage of the project in summer 2020.

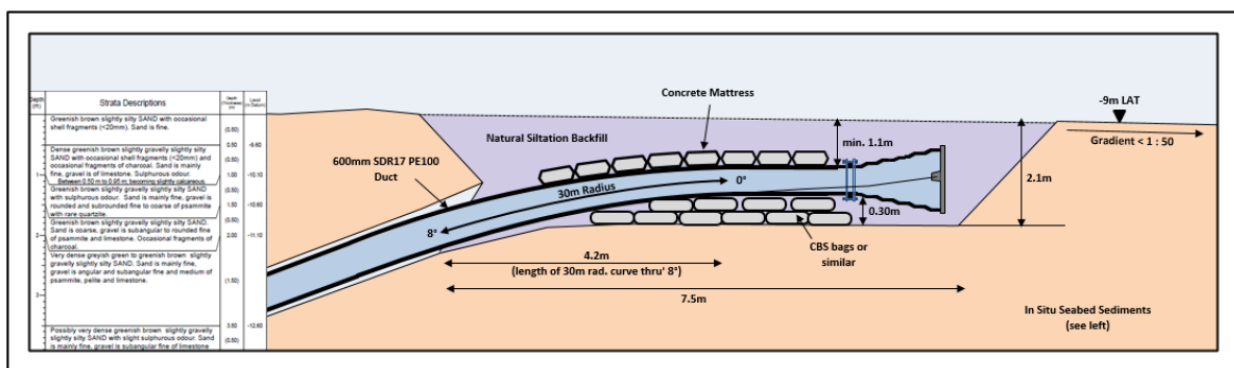
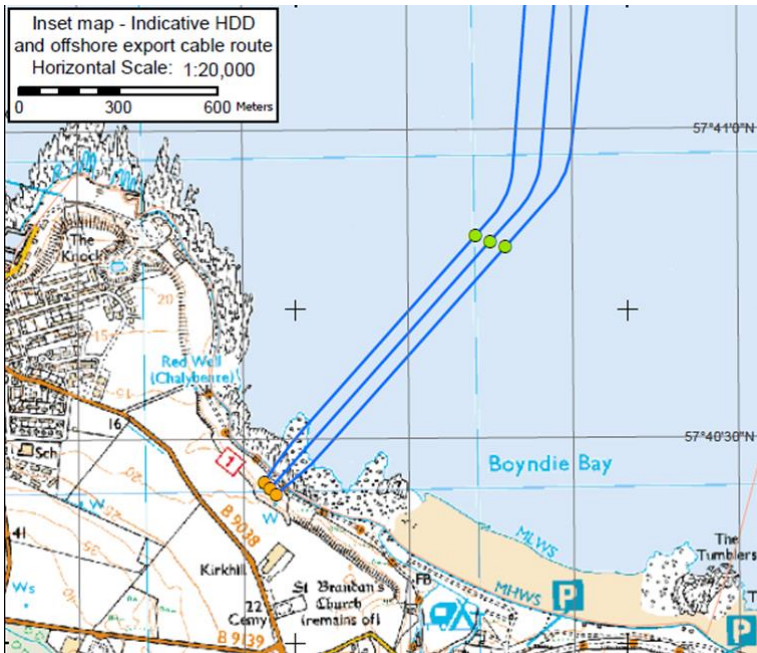


Figure 9 – As left detail of ducts in seabed



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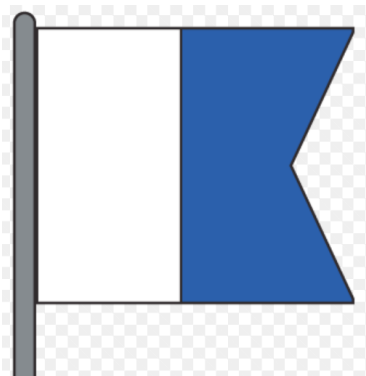


**Figure 10 – Overview of export cable layout at landfall area, (green points show location of Figure 5 detail)**

### 5.6 General Safety Advice for HDD operations

Whilst Diving operations are ongoing all vessels are requested to maintain their vessel and gears **outwith of the Restricted Area (described by RESTRICTED AREA in Figure 7 and Table 6 above)** from the Voe Jarl when the dive flag is shown. Mariners are requested to give all construction and support vessels a wide berth, to navigate with caution, to use all means appropriate to aid safe navigation as defined under COLREGs Rule 7, and keep continued watch on VHF Ch. 16 when navigating the area.

The Voe Jarl will display the Dive Flag whilst operations are ongoing (Figure 11).



**Figure 11 – Dive flag**

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## 5.7 Programme

### HDD Duct 2

Anchor Installation – Complete

Activity 1 Pipe Tow – Complete

Activity 2 - Pipe pull in [Restricted Area]— Complete

Activity 3 – Post pull dive works (burial) [Restricted Area] –TBC

### HDD Duct 1

Anchor Installation – Complete

Activity 1 Pipe Tow – Complete

Activity 2 - Pipe pull in [Restricted Area]— Complete

Activity 3 – Post pull dive works (burial) [Restricted Area] – TBC

### HDD Duct 3

Anchor Installation – Complete

Activity 1 Pipe Tow – 30-10-2019

Activity 2 - Pipe pull in [Restricted Area]— 31-10-2019

Activity 3 – Post pull dive works (burial) [Restricted Area] – 01-11-2019 ongoing weather dependant

***Please note that these are all subject to operational and weather restraints***

## 6 University of Aberdeen Noise Recorders

Please be aware the University of Aberdeen intends to recover equipment within the Moray East site at the locations listed in Tables 8 and 9 and recover and redeploy the equipment listed in Table 10. Figures 12 and 13 below provide an overview of the kit to be recovered / recovered and redeployed and an overview of the location of the works. Further details of the work will be provided under a separate Notice to Mariners issued by the University of Aberdeen (including details of works out with the Moray East site). These works will commence on week commencing 28<sup>th</sup> of October, subject to weather. All works will be carried out by Moray First Marine Ltd., using MV “Waterfall”.

**Table 8 – Equipment locations (landers)**

Name	WGS84		Characteristics
	Latitude (dms)	Longitude (dms)	
264	58° 09.341' N	002° 43.689' W	Lander frame (subsurface)
265	58° 09.869' N	002° 43.863' W	Lander frame (subsurface)
266	58° 10.393' N	002° 44.039' W	Lander frame (subsurface)

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**Table 9 – Equipment locations (acoustic recorders - PODs)**

Name	WGS84		Characteristics
	Latitude (dms)	Longitude (dms)	
54	58° 13.516' N	002° 41.972' W	Subsurface
111	58° 09.014' N	002° 37.203' W	Subsurface
163	58° 17.961' N	002° 44.988' W	Subsurface
184	58° 15.441' N	002° 47.647' W	Subsurface
216	58° 13.863' N	002° 36.247' W	Subsurface
217	58° 13.799' N	002° 39.306' W	Subsurface
218	58° 14.756' N	002° 40.264' W	Subsurface
219	58° 12.239' N	002° 40.021' W	Subsurface
221	58° 15.418' N	002° 41.821' W	Subsurface
222	58° 15.837' N	002° 44.220' W	Subsurface
233	58° 14.761' N	002° 43.616' W	Subsurface
234	58° 14.041' N	002° 46.020' W	Subsurface
238	58° 13.917' N	002° 48.053' W	Subsurface
240	58° 06.539' N	002° 49.668' W	Subsurface
241	58° 09.118' N	002° 40.321' W	Subsurface
242	58° 10.859' N	002° 35.460' W	Subsurface
243	58° 08.880' N	002° 43.204' W	Subsurface

**Table 10 – Equipment locations (SM2Ms - sound recorders)**

Name	WGS84		Characteristics
	Latitude (dms)	Longitude (dms)	
164(A)	58° 12.833' N	002° 51.686' W	Subsurface
112	58° 10.788' N	002° 40.534' W	Subsurface



Acoustic logger  
(600 x 95mm)



Lander  
(700 x 500mm)



Sound recorder  
(200 x 60mm)

**Figure 12 – Examples of equipment which the above moorings support**

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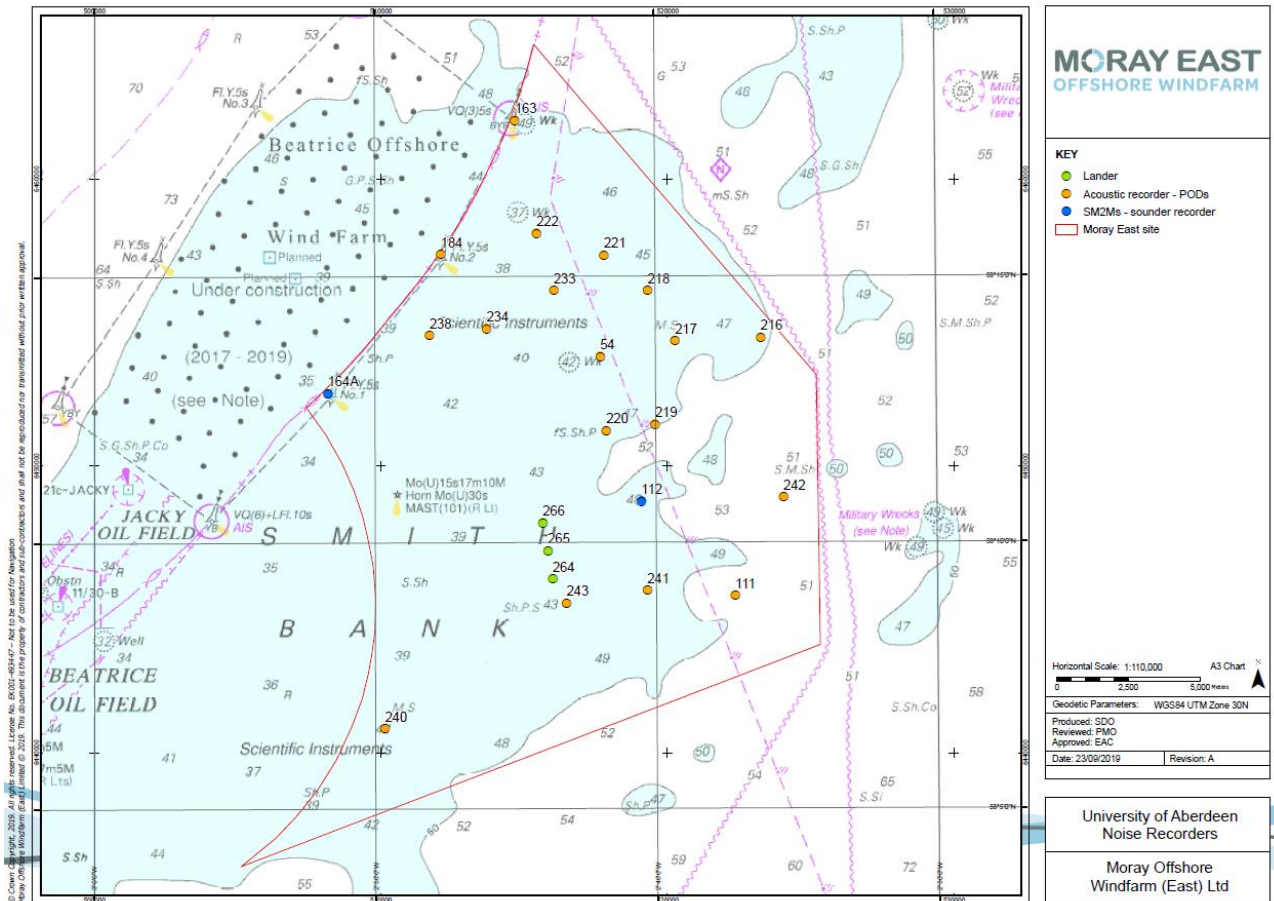


Figure 13 – Mooring locations noted in Tables 8, 9 and 10

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<b>Waterfall</b>	
<b>General Description and Dimensions:</b>	Workboat, UK MCA Cat 2 LOA: 16 m, Beam: 6.5 m, Draught: 1.70 m
<b>Call Sign:</b>	2CBT4
<b>MMSI:</b>	235071392
<b>On Board Contact:</b>	Master
<b>Offshore Manager / Party Chief:</b>	N/A
<b>E-mail:</b>	bill@moraymarine.com
<b>Onshore Representative:</b>	Tim Barton



## **7 General Safety Advice**

Please be aware that by virtue of their mode of operation and the equipment deployed the MV Apollo, Voe Jarl, Rhona, Shuna and the MV Normand Service will be Restricted in their Ability to Manoeuvre (RAM) as defined under COLREGs (International Regulations for Preventing Collisions at Sea 1972, Rule 3). Masters of vessels are therefore requested to maintain their vessels and gears at a minimum safe distance from these vessels of 500 metres when it is undertaking its work and showing the appropriate shapes and lights in accordance with COLREGs Rule 18.

In order to not compromise the safety of the MV Apollo and the MV Normand Service, the crew of each, and each vessel's ability to undertake its contracted works, fishermen who have static fishing gears deployed within the defined Moray East site (see Figure 2) are requested to provide the coordinates of such deployed gears in DMS and details of whether the surface markers used are visible at all states of visibility to Jen Miller using the below contact information (Section 58 of the Merchant Shipping Act 1995).

Fishermen who have static gears deployed beyond 12 nm are reminded that static gear must be marked in accordance with Commission Implementing Regulation (EU) No. 404/2011



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(<https://www.gov.uk/guidance/markings-of-fishing-gear-retrieval-and-notification-of-lost-gear#marking-of-fishing-gear>).

The Scottish Ministers have authorised the use of the following safety zones as per Notice to Mariners to follow:

1. A 500 metre radius around each WTG and OSP where construction works are taking place that include sensitive activities being undertaken by vessels RAM. A maximum of three of such zones is permitted at any one time.
2. A 50 metre radius around partially completed WTGs and OSPs where work is not underway and the risk assessments identify a need.
3. A 50 metre radius around each completed WTG and OSP prior to commissioning and as required by a risk assessment process.

All mariners are requested to give all construction and support vessels a wide berth.

Mariners are requested to navigate with caution, to use all means appropriate to aid safe navigation as defined under COLREGs Rule 7, and keep continued watch on VHF Ch. 16, 87 and 73 when navigating the area.

## **8 Meteorological Mast Unlit**

Please be advised that Moray Offshore Windfarm (East) Limited (Moray East) Meteorological Mast (Figure 14 and 15, Table 11) is currently only displaying one navigation light, a secondary navigation light and the aviation light are still currently unlit.

During hours of darkness / low visibility the Guard Vessel Replenish will remain in the vicinity of the Mast and alert any transiting traffic within the CDM area of the Hazard. Vessel details are provided above.

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Figure 14 – Photograph of the Meteorological Mast

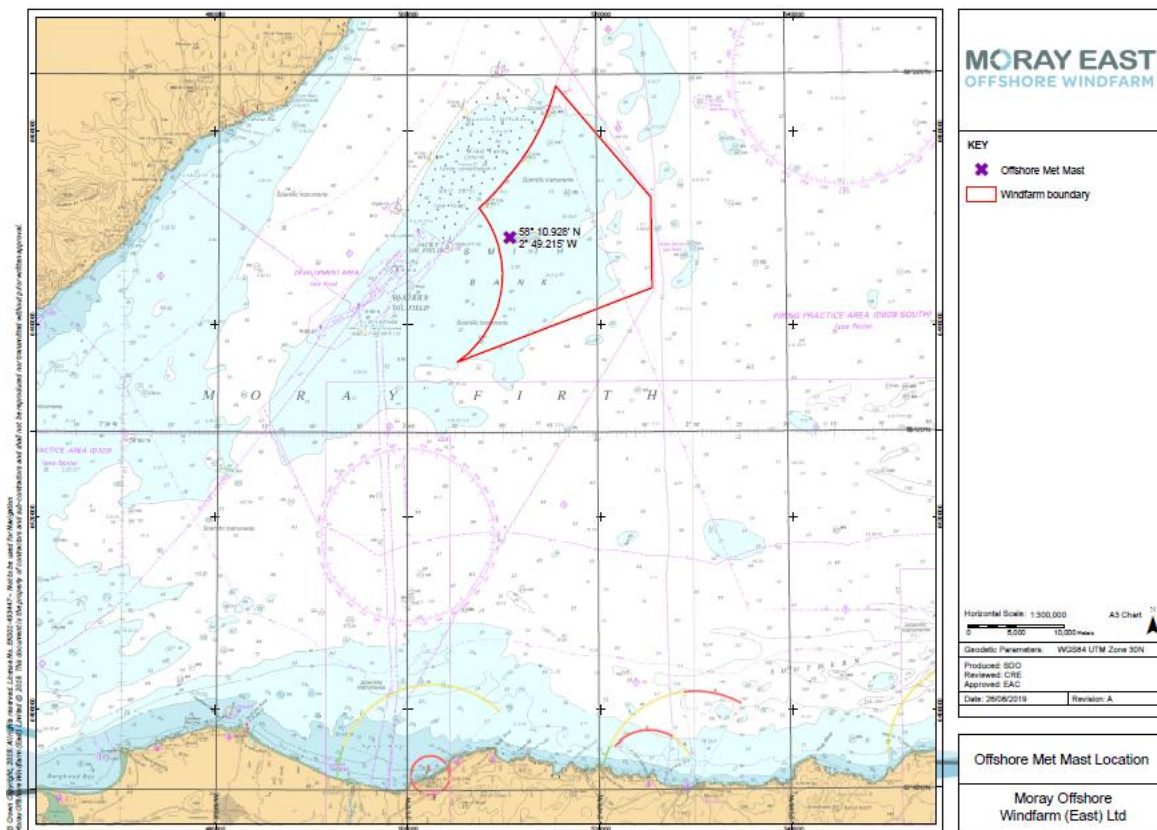


Figure 15 – Meteorological Mast location map

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**Table 11 – Met mast coordinates**

Name	Latitude (DMS)	Longitude (DMS)	Latitude (DM)	Longitude (DM)
<b>Met Mast</b>	58° 10' 55.680" N	2° 49' 12.892" W	58° 10.928' N	2° 49.215' W

## **9 Fisheries Liaison**

Fisheries liaison associated with the activity will be co-ordinated by Brown and May Marine. For any commercial fishery queries please contact:

**Jen Hilton-Miller** - Brown and May Marine Ltd.

**Email:** [jen.miller@brownmay.com](mailto:jen.miller@brownmay.com)

**Tel:** +44 1379 872148 / + 44 7519 106002

Fisheries liaison support is also available through the Fisheries Liaison Officer onboard of the MV Apollo. Contacts provided below:

***Until 2<sup>nd</sup> November 2019:***

**Name:** George Soutar

**Email:** [george.soutar@btinternet.com](mailto:george.soutar@btinternet.com)

**Mobile:** +44 7751 145831

***After 2<sup>nd</sup> November 2019:***

**Name:** William Spence

**Email:** [williamspence14@yahoo.co.uk](mailto:williamspence14@yahoo.co.uk)

**Mobile:** +44 7773 880786

## **10 Distribution List**

The distribution of this notice is as per email recipient's header. A central list of recipients is maintained by the Marine Coordinator; if you are not the appropriate recipient of these notices, or do not wish to receive the notices in the future, please contact us at the address included in Section 1 of this notice.

## **11 Website**

The official website of Moray Offshore Windfarm (East) Limited can be found at:

<http://www.morayoffshore.com/moray-east/the-project/>

This website will contain all Notices to Mariners (NtMs) published by Moray East during the construction phase of the project, Weekly Notices of Operations and general information about the project.