MORAY OFFSHORE WINDFARM (WEST) LIMITED

Boulder and Debris Relocation – Supporting Information

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Prepared by:	Reviewed through Viewpoint by:	Approved through Viewpoint by:	Approved by (option):
RHDHV (Sarah Marjoram, Hannah Fougner)	Moray West, Shepperd and Wedderburn	Development Manager (Darren Jameson)	EPCI Project Director (Pete Geddes)

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1 Introduction

1.1 Background

The Moray West Offshore Wind Farm and associated Offshore Transmission Infrastructure (OfTI) (together referred to as 'the Development') is being developed by Moray Offshore Windfarm (West) Limited (known as 'Moray West'). Consent for the Development was granted on 14 June 2019 under Section 36 (S36) of the Electricity Act 1989 (as amended), Part 4 of the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 from Scottish Ministers. One S36 consent was granted by Scottish Ministers for the wind farm (012/OW/MORLW-8) and two Marine Licences were granted by Scottish Ministers, one for the wind farm and another for the offshore transmission infrastructure.

Variations of the S36 consent and wind farm Marine Licence were granted by the Scottish Ministers on 7 March 2022, and further variations of the Wind Farm Marine Licence (MS-00009774) and OfTI Marine Licence (MS-00009813) were granted on 7 March 2022 and 11 April 2022. The revised S36 consent and associated Marine Licences are referred to collectively as 'offshore consents'.

The Development covers an area of approximately 225 km^2 on the Smith Bank in the Outer Moray Firth approximately 22 km from the Caithness coastline (Figure 1.1). The Development will comprise 60 wind turbine generators (WTGs), associated substructures and seabed foundations, inter-array cables, one offshore substation platform (OSP) inter-connector cable and any scour protection around substructures or cable protection. The OfTI comprises up to two OSPs which will be located within the Moray West Offshore Wind Farm, and two offshore export cable circuits which will be located within the OfTI Corridor (187km^2) and will be used to transmit the electricity generated by the Development to shore. The offshore export cable circuits will come ashore at Sandend Bay, which is located on the Aberdeenshire Coast at Broad Craig, approximately 65 km south of the Development.

The Development is aiming to be fully operational in 2024/25 with an operational life of 25 years from the date of final commissioning of the Development.

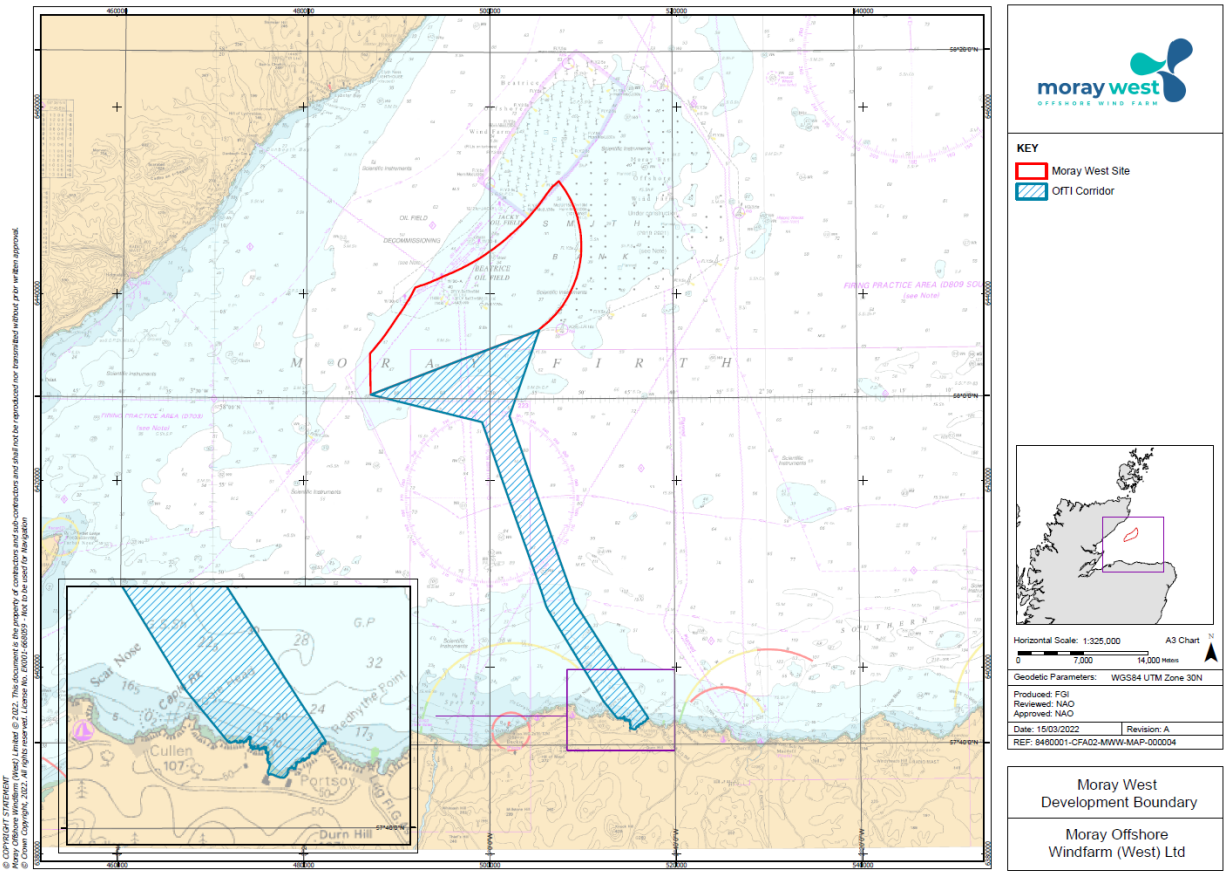

Figure 1.1 Moray West Offshore Wind Farm (Moray West) Site and OfTI Corridor.

1.2 Purpose of this note

Prior to the commencement of any offshore construction works it will be necessary to undertake pre-construction seabed preparations. These preparations will include the relocation of boulders and debris from within foundation construction boundaries, inter-array, OSPs inter-connector and export cable corridors using a grab.

In order to undertake this necessary prerequisite activity, a Marine Licence is required from Marine Scotland Licensing Operations Team (MS-LOT) under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009 to undertake boulder and debris clearance within the Moray West Site and the OfTI Corridor (correspondence provided in Appendix A), as pre-construction seabed preparations are not covered under the list of activities licences by the existing offshore consents for the Development.

The information contained within this report is presented in support of the Marine Licence application to MS-LOT for the required boulder and debris clearance works. This document is intended to provide the necessary information to MS-LOT (and statutory advisers, where relevant) to facilitate the Marine Licence decision-making process.

2 Description of the Proposed Works

The following section provides a description of the proposed boulder and debris clearance activities, including the estimated number and tonnes of boulders that will require clearance.

2.1 Boulder and Debris identification

It is estimated that up to 50,000 boulders and 200 debris items will require clearance as part of the pre-construction seabed preparations. The average weight of the boulders is estimated as 2.5 tonnes per boulder, equating to a maximum total tonnage of 125,000 tonnes.

Surveys of the Development which will identify boulders and debris for clearance are currently ongoing and the final number of boulders that require clearance will be confirmed in February 2023. The confirmed number of boulders and debris to be relocated and their location will be provided to the contractors undertaking boulder and debris clearance works as a 'master target list'. The size of the area the boulder and debris clearance is to take place is 225 km^2 for the Moray West Offshore Wind Farm Site, and 187 km^2 in the OfTI Corridor.

2.2 Boulder and Debris Clearance Areas

Boulders and debris identified within the following areas will be relocated:

- **Scour protection areas** – scour protection will be installed at each foundation location. Boulders and debris with a diameter of 0.5 m or greater will be relocated from the scour area to outside the 'foundation boundary' (Figure 2.1), up to a distance of 150 m.

- **Foundation boundary** – boulders and debris will be relocated from within the foundation boundary (300 m x 300 m) to outside the foundation boundary (a maximum of 150 m) (Figure 2.2).

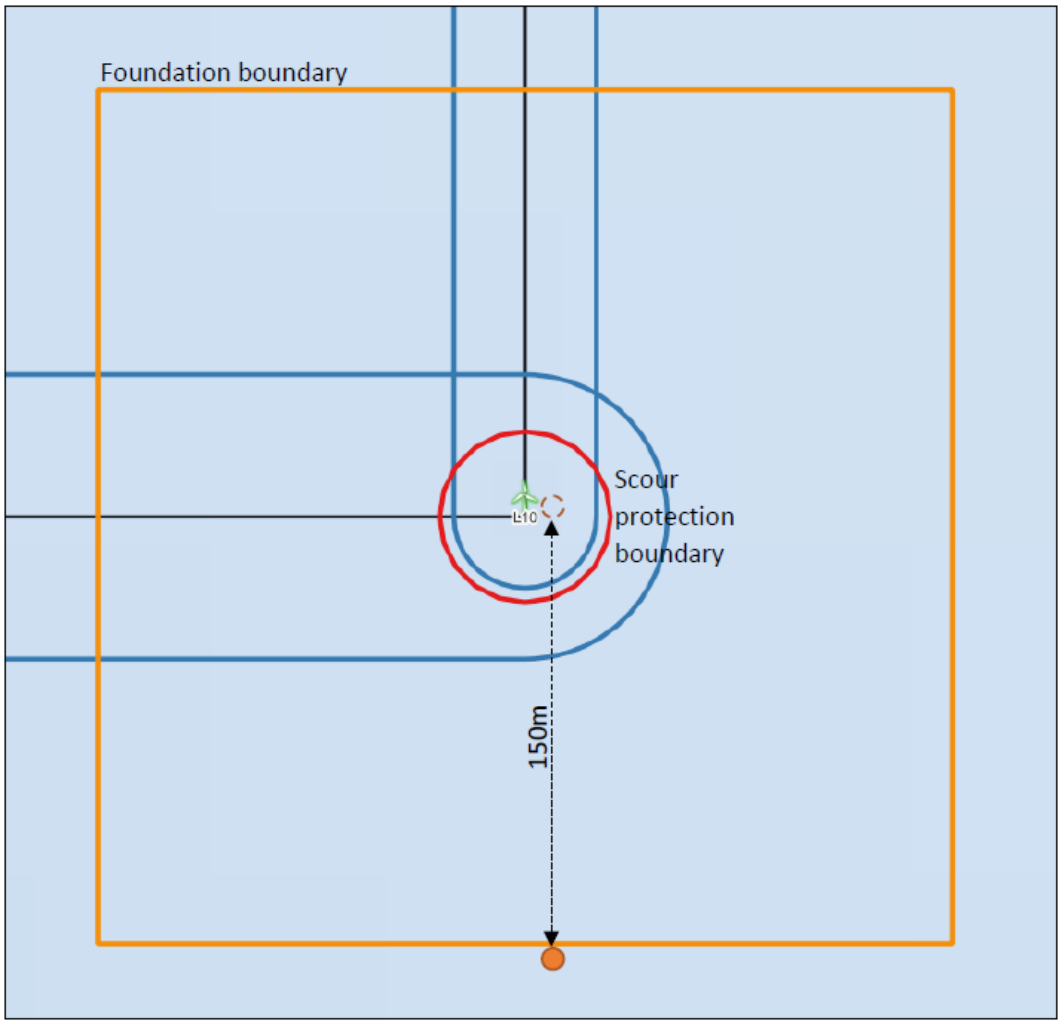

Figure 2.1 Scour protection object relocation diagram

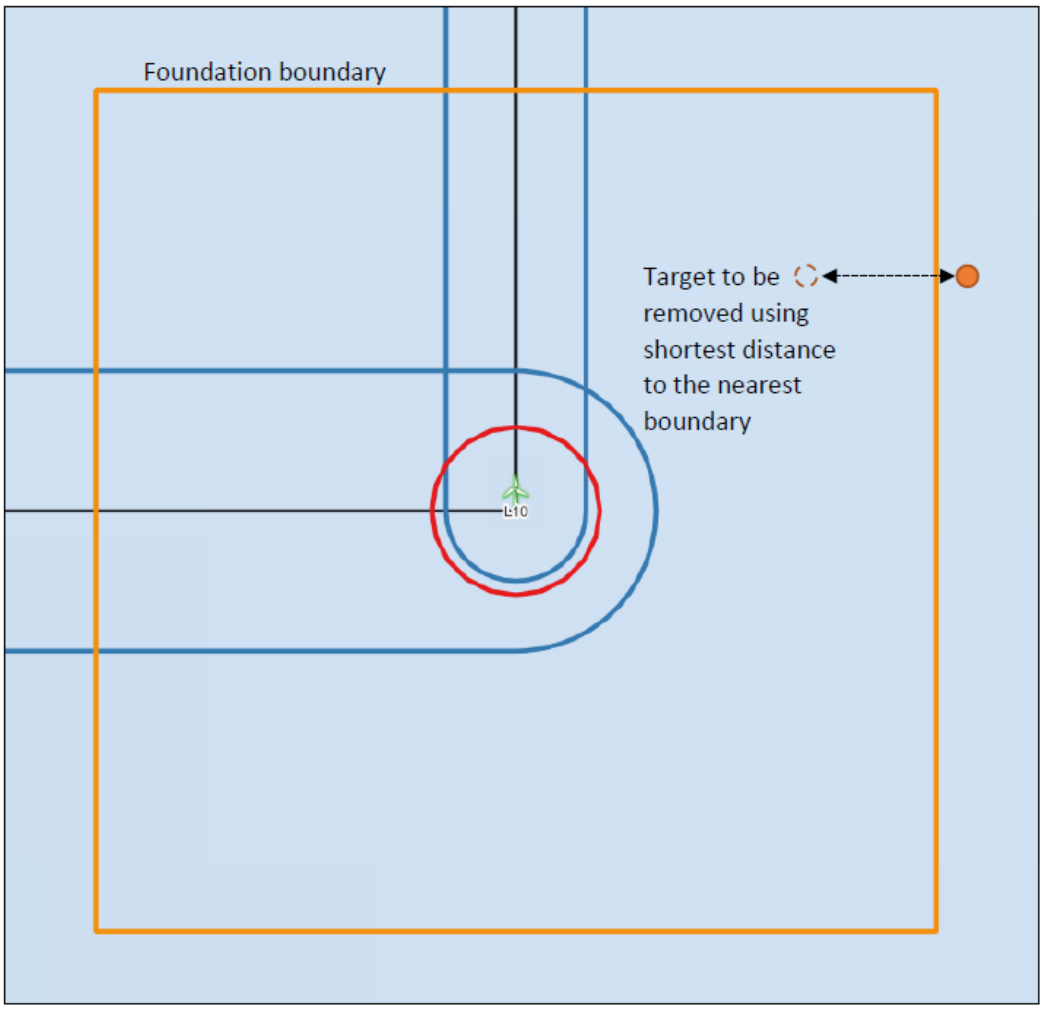

Figure 2.2 Foundation boundary object relocation diagram

- **Export, inter-array and OSPs inter-connector cable corridors** – wherever possible the cable contractor will microsite the cable route to avoid identified boulders and debris. Boulders and debris with a diameter of 0.3 m or greater will be relocated from the microsited corridor, up to a distance of 15 m (**Figure 2.3**).

- **Post pre-lay grapnel run** (PLGR) – following the export cable PLGR works any dislodged boulders (minimum 0.3 m diameter) on the surface of the seabed should be relocated outside of the microsited cable corridor.

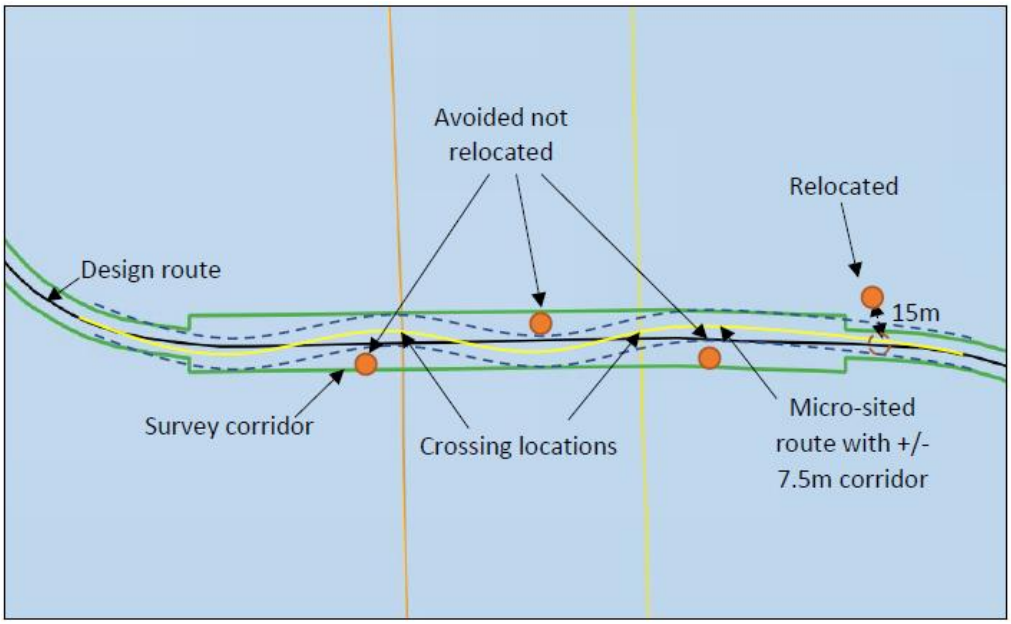

Figure 2.3 Cable corridor relocation diagram

2.3 Boulder and Debris relocation methodology

The boulder size limits for relocation from the boulder clearance areas are as follows:

- 0.5 m within scour protection areas and foundation boundaries, and
- 0.3 m within the export, inter-array and OSPs inter-connector cable corridors.

Individual boulders and any debris that will cause safety issues for the construction works will be relocated from the boulder clearance areas using a boulder grab. The upper size limit for boulder and debris relocation is 12 tonnes in weight, constrained by the capacity of the A-frame required to support the boulder grab. The grab itself has the capacity to lift boulders up to 9.2m^3. Any boulder or debris greater than 12 tonnes in weight or greater than 9.2m^3 in size will be avoided during installation activities.

Boulders and debris will be relocated using cameras and sonar mounted on the boulder grab, their new locations recorded, and visual images captured. Relocation will be undertaken in a controlled manner, causing the minimum possible disturbance to the seabed and surrounding area. Boulders and debris will be relocated to the minimum possible distance from the clearance area (up to 15 m along cable corridors and up to 150 m from scour and foundation boundaries).

Boulders will be replaced on the seabed carefully and not dropped from height, resulting in minimal seabed disturbance, and avoiding the creation of berms or piles of boulders.

Only boulders or debris visible on the surface of the seabed will be relocated. Seabed sediment mobility within the Development Area is low and it is not expected that soils will cover previously identified targets.

Once clearance is complete a visual and positional fix will be taken and an 'as-left' survey of the removal area will be undertaken to verify no boulders or debris over the specified size are left within the boulder clearance area.

2.4 Programme

Boulder clearance works are programmed to commence from 1st March 2023 and will be completed by the end of July 2023. It is anticipated that one vessel will be required to complete the works.

3 Assessment of potential effects

The Environmental Impact Assessment (EIA) submitted in support of the application for the Development (Moray Offshore Windfarm (West) Limited, 2018[1]) (hereafter referred to as the Moray West EIA) assessed the potential effects of the pre-construction seabed preparation activities, including boulder clearance. The assessment is summarized and, where required, updated here. The following receptors are considered to be potentially impacted by the boulder clearance activity:

- Physical processes and water quality – seabed disturbance,
- Benthic and intertidal ecology – seabed disturbance,
- Fish and shellfish ecology – seabed disturbance,
- Marine mammal ecology – vessel activity,
- Offshore ornithology – vessel activity,
- Designated sites – seabed disturbance and vessel activity,
- Commercial fisheries – presence of vessels and vessel activity,
- Shipping and navigation – presence of vessels,
- Archaeology and cultural heritage – seabed disturbance, and
- Other human activities – seabed disturbance and presence of vessels.

Potential effects on the following receptors are not considered further in this document as there are no potential impact pathways associated with the boulder clearance works:

- Military and civil aviation,
- Seascape, landscape and visual, and
- Socio-economics, tourism and recreation.

Effects on commercial fisheries from seabed disturbance / creation of obstacles related to boulder clearance has been given consideration in Section 3.7 Commercial Fisheries.

3.1 Physical Processes and Water Quality

Increases in suspended sediment concentrations (SSC) and deposition of disturbed sediments to the seabed is a potential impact pathway on key features of importance in the study area (Moray West Site, Offshore Export Cable Corridor and Landfall Area) include the Smith Bank (upon which the wind farm will

[1] Moray Offshore Windfarm (West) Limited (2018) Volume 2: Offshore EIA Report

be located), designated sites such as the Moray Firth Special Area of Protection (SPA), the Southern Trench Marine Protected Area (MPA) and the Cullen to Stake Ness Site of Special Scientific Interest (SSSI) and important surfing venues such as Sandend Beach. The assessment presented in the Moray West EIA, which is based on existing site data and physical processes modelling, concluded that any changes to physical processes pathways occurring during pre-construction would be limited and would not have any significant effects on any of the key features of importance. As boulder clearance has a smaller potential to cause sediment disturbance than construction activities, the effects of sediment suspension will be negligible for boulder clearance. There will also be no significant effects on water quality.

3.2 Benthic and intertidal ecology

A benthic survey was carried out in 2017 to understand what types of benthic and intertidal habitats and associated plants and animals (species) are present in the Moray West Site, Offshore Export Cable Corridor and Landfall Area. This survey concluded that, although some habitats and species of conservation importance (referred to as Priority Marine Features (PMFs)) were found in the study area such as seapens (*Pennatulacea*) and burrowing megafauna, Arctic quahog (*Arctica islandica*), flameshell (*Limaria hians*) and sandeels (Ammodytidae), these were only present in low numbers and at single stations that can be avoided during the detailed design process. Burrowing megafauna is also an interest feature of the Southern Trench MPA, part of which (the western end) is crossed by the Offshore Export Cable Corridor. Other habitats and species are commonly occurring and representative of the wider area. These are considered to have low sensitivity to any potential effects from the Development.

The main potential effect of the boulder clearance activity on benthic and intertidal habitats and species is from disturbance to the seabed. However, the boulder clearance works are temporary in nature (approximately 100 days over a 5-month period) and will take place in localized areas. The lifting of boulders from the seabed within the works footprint and placing them on the seabed a short distance away outside the footprint will result in minimal sediment or habitat disturbance, with the expectation that recovery will take place quickly. The effect of temporary habitat loss/habitat disturbance, including pre-construction activities, was assessed as being of minor significance within the Moray West EIA.

3.3 Fish and shellfish ecology

In the Moray West Site and / or along the Offshore Export Cable Corridor, there are a variety of fish and shellfish species. Some have high commercial value such as scallop (*Pecten maximus*), crab (*Cancer pagurus*) and lobster (*Homarus gammarus*), Norway lobster (*Nephrops norvegicus*), squid (*Loligo spp.)* and haddock (*Melanogrammus aeglefinus*). Other species are of conservation importance due to declining populations such as Atlantic salmon (*Salmo salar*), European eel (*Anguilla anguilla*), sea lamprey (*Petromyzon marinus*), sea trout (*Salmo trutta trutta*), plaice (*Pleuronectes platessa*), herring (*Clupea harengus*), cod (*Gadus morhua*) and sandeel. Certain species, in particular sandeel, comprise important prey for marine mammals (whales, dolphins, porpoise and seals) and seabirds.

Temporary habitat loss may occur due to seabed disturbance from boulder clearance works. All fish and shellfish receptors have the potential to be affected by this impact, through loss of spawning, nursery or feeding habitats, however demersal fish and shellfish species have the greatest potential to be affected. Pelagic fish such as herring that use specific habitat as spawning beds may be impacted upon through loss

or disturbance to pockets of suitable spawning habitats. Similarly, habitats used by shellfish, such as soft burrowing muds for Nephrops may be lost by seabed disturbance.

The boulder clearance works are temporary in nature (approximately 100 days over a 5 month period) and will take place in localized areas. The lifting of boulders from the seabed within the works footprint and placing them on the seabed a short distance away outside the footprint will result in minimal sediment or habitat disturbance, with the expectation that recovery will take place quickly. The Moray West EIA assessed the potential effects of any seabed disturbance associated with the boulder clearance works on fish and shellfish ecology receptors as negligible.

3.4 Marine Mammal Ecology

The most regularly occurring marine mammals in the Moray Firth include harbour porpoise (*Phocoena phocoena*); bottlenose dolphin (*Tursiops truncatus*); minke whale (*Balaenoptera acutorostrata*); harbour seal (*Phoca vitulina*); and grey seal (*Halichoerus grypus*). All species of whale, dolphin and porpoise (collectively referred to as cetaceans) are protected under the Habitats Directive (transposed in Scotland through the Habitats Regulations 1994 and the Offshore Habitats Regulations 2017) either individually or through the designation of Special Areas of Conservation (SACs). Potential effects on SACs (Dornoch Firth and Morrich More SAC, designated for harbour seals; and the Moray Firth SAC, designated for bottlenose dolphin) have been assessed as part of the Moray West Offshore Habitats Regulations Appraisal (HRA) (Moray Offshore Windfarm (West) Ltd (2018). Minke whale is also the primary interest feature associated with Southern Trench MPA.

During construction marine mammals may be impacted by the increase in vessel traffic within the Development. Potential effects may occur from vessel noise or collisions with moving vessels.

The impact of disturbance from vessel noise and other associated pre-construction activities was predicted in the Moray West EIA to be of local spatial extent, short term in duration and reversible. It was determined that given the baseline use of the Development by other vessels (on average four vessels per day in the summer and two vessels per day in winter (Moray West EIA Chapter 12: Shipping and Navigation), it is likely that marine mammals using this area are habituated to the underwater noise produced by vessels and will tolerate vessel presence. The Moray West EIA also determined that the level of vessel activity during construction would not be expected to cause an increase in the risk of mortality from collisions.

The adoption of a Vessel Management Plan (VMP) will also reduce the potential for disturbance. Overall, the magnitude of disturbance from vessel activity and other pre-construction activities was assessed as low. The sensitivity for all marine mammal species to disturbance from vessel activity and other construction activities was determined as medium. The Moray West EIA concluded that the effect would therefore be of minor significance which is not significant in EIA terms.

3.5 Offshore Ornithology

The Moray Firth supports a wide range of birds, including seabirds, waders and wildfowl. There are a number of important seabird breeding colonies located along the coastline of the Moray Firth. A number

of these colonies are afforded protection through the designation of SPAs under the Birds Directive (Directive 2009/147/EC on the Conservation of Wild Birds). These include the East Caithness Cliffs SPA and North Caithness Cliff SPA, the Troup, Pennan and Lion's Head SPA located to the southeast of the Moray Firth near Fraserburgh and the Buchan Ness and Collieston Coast SPA near Peterhead on the northeast Aberdeenshire Coast. A number of seabirds from these colonies feed on fish and other prey within the Moray Firth. Aerial surveys were carried out specifically for the Moray West Site to identify which species of bird are present.

The main species of seabird found at the Moray West Site include kittiwake (*Rissa tridactyla*), guillemot (*Uria aalge*), razorbill (*Alca torda*), puffin (*Fratercula spp.*), gannet (*Pelecanus bassanus*), fulmar (*Procellaria glacialis*) and herring gull (*Larus argentatus*). These species are also present along sections of the Offshore Export Cable Corridor along with a number of seaducks, divers and waterfowl such as scaup (*Aythya marila*), eider (*Somateria mollissima*), velvet scoter (*Melanitta fusca*), [Redacted] [Redacted] ed-breasted merganser (*Mergus serrator*), [Redacted] *stellata*), great northern diver (*Gavia immer*), long-tailed duck (*Clangula hyemalis*) and [Redacted] A number of these species are associated with the Moray Firth SPA which was identified for protection by Scottish Ministers in 2016.

Disturbance may be caused by vessel activity and may displace birds from an area of sea. The vessel undertaking boulder clearance activities will be required to follow existing shipping routes where possible. These areas are therefore not likely to support notable densities of species sensitive to disturbance. Disturbance associated with the movements of the boulder clearance vessel is of limited duration (approximately 100 days over a 5-month period) and is restricted to areas around the vessel. The Moray west EIA concluded that the potential impacts of pre-construction activities are therefore spatially and temporally restricted and are considered unlikely to affect the breeding productivity or survival rates of an individual or population.

The Moray West EIA therefore considered that vessel movements associated with this activity, to and from the Development, will be indiscernible from baseline levels.

3.6 Designated Sites

A list of designated sites in the vicinity of the Development that have the potential to be affected by the boulder clearance works (i.e. are within the offshore footprint of the Development) is provided in **Table 3.1**. Designated sites included in **Table 3.1** include:

- Marine Protected Areas (MPAs): protecting a specific area
- Special Protection Areas (SPAs): designated for birds and their habitat

For the reasons set out within the Moray West EIA and the Moray West Offshore HRA (Moray Offshore Windfarm (West) Ltd (2018)), and summarized in the sections above, no potential impacts associated with pre-construction activities were identified as being significant for designated sites.

Table 3.1: Designated Sites within the Moray West Development Area		
Name	**Designation**	**Feature**
Southern Trench	MPA	An enclosed (glacial) seabed basin with associated benthic habitat types (burrowed mud, shelf deeps and fronts) which support minke whale. Notable stratification and frontal systems off Fraserburgh supporting local primary production and feeding habitats.
Moray Firth	SPA	Shallow sandy substrates, coastal rocky outcrops and deep muddy channels. It qualifies under Article 4.1 by regularly supporting a non-breeding population of European importance of the following Annex 1 species: • Great northern diver *Gavia immer* [Redacted] The site further qualifies under Article 4.2 by regularly supporting populations of European importance of the following migratory species: • Greater scaup *Aythya marila* • Common eider *Somateria mollissima* • Long-tailed duck *Clangula hyemalis* [Redacted] • Velvet scoter *Melanitta fusca*. [Redacted] • Red-breasted merganser *Mergus serrator* • European shag *Phalacrocorax aristotelis.*

3.7 Commercial fisheries

The fishing methods most likely to be encountered in areas relevant to the Development include:

- Creel fleet (crab and lobster);
- Mackerel jigging;
- Demersal trawl fleet (Nephrops, squid and whitefish);
- Scallop dredging fleet (king scallops); and
- Scottish seine fleet (whitefish).

There is potential for boulder clearance works to result in a temporary loss or restricted access to traditional fishing grounds. This would be associated with safety measures implemented during the works, including the use of rolling 500m safety zones around areas where the boulder clearance vessel is active

within the Development. All fishing vessels will be excluded from these safety zones around the boulder clearance vessels.

Fishing vessels will still be permitted within areas of the Development where works are not being undertaken. Fishermen will be advised through Notice to Mariners (NtM), Kingfisher bulletins and communications from the Moray West Company Fisheries Liaison Officer (FLO) when these activities are scheduled. For the creel fleet, Moray West will work with the Moray West Company FLO and the Fishing Industry Representative(s) to determine whether any static gear relocation is required in order to undertake the licenced boulder clearance.

Any loss of grounds will be short term (approximately 100 days over a 5-month period) in small discrete locations around the vessel undertaking the boulder clearance works. Due to the small discrete locations, it is not anticipated that vessels will be impacted by increased steaming times or displacement beyond negligible impact. The Moray West EIA therefore concluded that there will be negligible effects on commercial fishing activities as a result of the proposed boulder clearance activities and associated presence of vessels and vessel activity.

It is recognised that boulder clearance activities can result in the presence of piles of boulders/berms which could constitute a risk to vessels operating towed fishing gear. The initial and final locations of all boulders that are moved from the construction areas will be recorded. If required, this information can be provided to fishermen in a suitable format for input to a plotter to support continued fishing activities. As described in section 2.3, boulders will be replaced on the seabed carefully and not dropped from height, resulting in minimal seabed disturbance, and avoiding the creation of berms or piles of boulders.

3.8 Shipping and navigation

The main vessels recorded passing by the Development include commercial vessels e.g. cargo ships and oil tankers, recreational vessels (cruise liners), fishing vessels and oil and gas support vessels (mainly associated with the Beatrice and Jacky Oil Fields). Recreational sailing boats (yachts) were also identified along the Offshore Export Cable Corridor and buffer. The Development is not located in any major shipping channels. The nearest shipping channels run east west along the north coast of the Moray Firth and north south through the outer Moray Firth used by vessels heading north and south along the east coast of Scotland.

During the pre-construction boulder clearance works, there will be rolling 500 m safety zones around areas where the boulder clearance vessel is active within the Development. Where these activities intersect with commercial shipping routes, commercial vessels are expected to have to deviate around any safety zones. However, due to the small spatial scale of the works at any given time, the Moray West EIA found there are no anticipated consequences to people or the environment, and no notable commercial effects. Therefore, the impact of the works was determined to be negligible.

Recreational activity in the area is very low and it is unlikely that deviations will be required.

With respect to vessels engaged in decommissioning activities of the Beatrice and Jacky Oil Fields, the worst case assumes that vessels may occasionally have to deviate around the 500 m safety zones. Fishing vessels will continue to be able to undertake transits outside the 500 m safety zones. Significance of effects for recreational, fishing and Beatrice and Jack Oil Field vessels was therefore assessed in the Moray West EIA as broadly acceptable and therefore not significant in EIA terms.

The works will be undertaken using a single vessel. Consequently, there is only a small potential for an increase in vessels encounters and therefore collision risk. Considering embedded mitigations, the risk of collision is extremely unlikely, and significance is therefore negligible in EIA terms.

3.9 Archaeology and cultural heritage

Direct physical impacts on marine archaeological assets can occur as a result of any activity that disturbs the sea floor. There are no known seabed prehistoric sites or wrecks with statutory designations within the Development. However, there are 39 known and charted sites or obstructions and 34 known aircraft crash sites.

There is potential for as yet undiscovered in situ prehistoric sites and finds, and there is also the possibility for any of the 28 geophysical anomalies found in the Development that are of uncertain origin but with possible archaeological interest.

Currently, there is uncertainty in the distribution of known and potential marine archaeology assets across the Development. The Moray West EIA assessed that potential wrecks and seabed prehistory in the Development Area are considered to be high sensitivity receptors requiring a precautionary approach. It is therefore considered that direct physical impacts of high magnitude on these potential receptors may result in effects of major adverse significance, in the absence of mitigation.

With the implementation of the embedded mitigation measures, as set out within the Moray West EIA and below, the physical impacts to the potential receptors will be reduced to negligible magnitude. The Moray West EIA concluded this would result in effects of minor adverse significance and therefore not significant in EIA terms:

- A Development-specific Written Scheme of Investigation (WSI) will be prepared;
- Maintenance of appropriate archaeological exclusion zones;
- Micrositing allowance;
- Implementation of a Protocol for Archaeological Discoveries.

3.10 Other human activities

The pre-construction works associated with the Development have the potential to interfere with other human activities (with marine components), notably other offshore wind farms, existing subsea cables, oil exploration and decommissioning activities and marine disposal activities.

The Moray West EIA considered that with the implementation of embedded mitigation measures during pre-construction activities (notably the use of NtM and other notifications of planned activity, appropriate

lighting, marking of vessels and marine coordination of all offshore wind farm activities) would adequately minimise any potential effects. The boulder clearance works are highly localised, short-term and temporary and as such the effect is minor adverse and not significant in EIA terms.

Whilst the major infrastructure within the Development will be located so as to avoid direct effects on the integrity of the Beatrice Offshore Wind Farm Ltd (BOWL) cables, it will be necessary for the Moray West inter-array, interconnector and export cables to cross the BOWL cables. In addition, the Moray West export cables will need to cross the SHE-T Caithness-Moray cable. Currently it is anticipated that up to 21 cable crossings may be required within the Development. As set out in the Moray West EIA, any significant effect on subsea cables will be avoided by the application of industry standard mitigation, supported by crossing agreements between the respective Companies which would require agreement on the crossing design such that it would be sufficient to protect all of the subsea cable assets. Pipeline and cable crossings are common across the UK Continental Shelf (UKCS), and there are established mechanisms for controlling the level of impact to both parties. Beyond the cable crossing points, agreements will also be reached on the effective exclusion areas around each of the BOWL cables and the SHE-T cable such that no damage would occur from pre-construction activities, vessel anchoring etc. The supporting agreements and ongoing liaison with operators will ensure the significance of the effect is minor adverse and not significant in EIA terms.

The Development is located in the vicinity of the 'Jacky' and 'Beatrice' oil fields and their associated oil production infrastructure. Construction activity associated with the Development has the potential to interfere with the carrying on of normal operations by licensed oil operators and the safety of those operations. Embedded mitigation measures (notably the use of NtMs and other notifications of planned activities, appropriate lighting and marking of vessels, and marine coordination of all offshore wind farm activities) and ongoing direct liaison between the responsible Company's and any nominated contractors will act to reduce or avoid the potential risk. As set out in the Moray West EIA, prior to construction activities, the Development will continue to / seek to have further discussions with the relevant oil operators; such discussions would focus on exchanging information on planned operations and activities and seeking agreement on measures to minimise adverse impacts on either party. The boulder clearance works are short-term and temporary and with the embedded mitigation measures in place the significance of the effect is minor adverse and not significant in EIA terms.

3.11 Cumulative effects

Cumulative effects were considered within the Moray West EIA and the conclusions are still considered to be valid as the boulder clearance works considered within this note are not in addition to those assessed within the Moray West EIA Report 2018. Due to the localised, short-term and temporary nature of any impacts arising from the boulder clearance works no cumulative effects with other works, or with the overall construction works associated with the Development, are anticipated.

4 Conclusions

This document has been prepared to support a Marine Licence application for boulder and debris relocation within the Moray West Site and the OfTI Corridor. The boulder and debris clearance works will commence from 1st March 2023 and will take place over approximately 100 days in a five-month period. Consideration has been given to the potential impacts expected during these clearance works on the associated receptors. No receptors are predicted to be significantly impacted by the works alone or cumulatively given the localised and temporary nature of the clearance works.

5 Appendix A

From: [redacted]
Sent: 31 October 2022 18:12
To: [redacted]
Cc: [redacted]
Subject: Moray West boulder clearance application queries

Dear [redacted]

Further to our discussion on the call last week about the need for Moray West to obtain a Marine Licence for boulder clearance, we are looking to start work as soon as we can on preparing the application to allow time for determination prior to the scheduled start of boulder clearance works from 1st March 2023. In order to help us and our consultants progress with preparation of the application, we'd appreciate it if you could provide some guidance on the following points:

- Please could you advise which Marine Licence application form we should use for this activity?
- For the purposes of quantifying proposed removals and deposits for the application and subsequent reporting, should we provide an estimated number of boulders to be moved, or an area of seabed that may be subject to boulder clearance? The surveys to identify boulders are not yet complete for the Moray West site so we don't have detailed coverage of the full area and therefore any number of boulders given in the application will be an estimate only, to which we will need to apply some margin for error to account for this uncertainty. As we discussed on the call, the survey can only identify boulders on the seabed and not boulders that may be shallow buried and will only be discovered when cable installation commences, and can also under-estimate the true size of boulders if they are partly buried and only the exposed part of the boulder is visible to the survey thereby causing a boulder to appear smaller than it actually is. Therefore identifying an accurate number of boulders needing to be moved is not possible at this time and would need to be an estimate
- Does MS-LOT have a definition of what constitutes a boulder that we should use for the purposes of the licence (i.e. in terms of minimum dimensions, with anything below that size not being reportable)? If not, Moray West can propose a definition in the application
- Should we only account for boulders that are moved by a grab tool or also account for boulders moved using a plough? As we discussed on the call, its possible to be accurate on the number of boulders that have been moved by a grab tool, but in locations where a plough is used it is not possible to accurately count how many boulders have been moved because they are not individually lifted and moved

moray west
OFFSHORE WIND FARM

[redacted]
Senior Project Development Associate

Figure 4 Email dated 31st October 2022 to MS-LOT regarding boulder clearance marine licence

From: [redacted]
Sent: 08 November 2022 12:04
To: [redacted]
Cc: [redacted]
Subject: RE: Moray West boulder clearance application queries

Caution!! External email. Do not open attachments or click links, unless this email comes from a known sender and you are sure the content is safe.

Hi [redacted]

Moray West will be required to apply for 2 separate marine licences – one for the removal and deposit of boulders using the grab tool: this will require a construction marine licence application form Marine+construction+projects.pdf (www.gov.scot) and another dredging application for boulder clearance using the plough: Dredging+sea+disposal.pdf (www.gov.scot)

For the dredging application (plough), the marine licence application form states a minimum boulder size at part 8 and you should apply for an amount of boulder clearance volume e.g. in tonnes. For the construction marine licence application (grab tool), the size and volume of boulders will depend on the boulders you have identified to remove and deposit and the limitations of the grab tool. Full details should be included in the application/supporting information and you should apply for a maximum number of boulders to be removed and deposited. Both of these applications should include the areas where you wish to undertake the activity and can include a worst case scenario and relevant justification for the volumes applied for. If a licence was granted and you expect to exceed the numbers/volumes for boulder clearance on the licence at a later date, you would need to request a variation. Both licences would also include a condition that any debris that is moved must be recovered and taken to shore.

I hope this answers your questions but happy to discuss further if required.

Kind regards,
[redacted]

[redacted]
Casework Manager - Consenting
Marine Scotland - Marine Planning & Policy

Figure 5 Email dated 8th November 2022 from MS-LOT regarding boulder clearance marine licence