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Thanet Extension OWF Case Team
Planning Inspectorate
(Email only)

MMO reference: DCO/2016/00003
Planning Inspectorate Reference:
EN010084
Identification Number: 20012636

15 January 2019

Dear Sir or Madam,

Planning Act 2008, Vattenfall Wind Power Limited, Proposed Thanet Extension Offshore Wind Farm

Responses to the Examining Authority's first round of written questions

The Marine Management Organisation (MMO) is an interested party for the examination of Development Consent Order (DCO) applications for Nationally Significant Infrastructure Projects (NSIPs) in the marine area. Should consent be granted for the project, the MMO will be responsible for monitoring, compliance and enforcement of Deemed Marine Licence (DML) conditions.

The MMO received a Rule 8 letter containing the Examining Authority's (ExA's) first round of written questions on 18 December 2018 for the proposed Thanet Extension Offshore Wind Farm (Ref EN010084). Please find the MMO's response to the ExA's first round of questions below for your consideration.

In order to ensure clarity, who the question was directed to and the question to which the answer has been provided has been incorporated in this response.

Yours faithfully,

[Redacted signature]

Adam Suleiman

Marine Licensing Case Officer

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Ref	Question to	Question	MMOs position
1.1			
1.1.22	The Applicant and Natural England	<p>Marine Mammals: Deemed Marine Licence (DML) Condition Wording</p> <p>Natural England has suggested amendments to the wording of Condition 16 of the DML at Schedule 11 to, in effect, provide for the cessation of piling activity in the event that construction noise monitoring shows a significantly different impact to that assessed in the ES.</p> <p>a) Can Natural England please comment on this proposed change in respect of the conclusions of AEoI to the Southern North Sea cSAC and other relevant sites (alone and in combination)?</p> <p>b) Please could the applicant confirm whether or not it is agreeable to the revised condition wording proposed by NE?</p> <ul style="list-style-type: none"> • If not, why not? • Is there alternative wording that would be acceptable to both parties? 	<p>At this time the MMO would support the inclusion of the additional wording proposed by Natural England, noting that the content of the proposed noise monitoring is currently under discussion with the applicant. The MMO is seeking to secure additional measures within the monitoring plans to set out the action that will be taken, in the event that observed noise levels are above predicted levels, to ensure any mitigation remains fit for purpose.</p>
1.1.23	Natural England, the Applicant and Marine Management Organisation	<p>Marine Mammals: Soft Start Piling</p> <p>Soft start piling is proposed as one form of mitigation for the possible construction noise effects on marine mammals. Natural England's relevant representation refers to emerging evidence that soft start may not be as effective a form of mitigation as previously thought.</p> <p>a) Please could Natural England provide further detail about the latest evidence in this regard?</p> <ul style="list-style-type: none"> • What does Natural England consider 	<p>Response to b) –</p> <p>The MMO notes Natural England's concerns with observed soft start levels not being significantly different from noise levels at full power. This could affect the validity of the SELcum modelling, and could have implications for the distances animals need to be away at the start of piling to avoid injury. The MMO believes that the concern related to one particular project and was attributed to issues with the monitoring, which was later re-done. However, the MMO considers this reinforces the need for an appropriate mechanism to be secured in the monitoring plans for prompt reporting and resolution</p>



		<p>to be the specific implications for Thanet Extension Offshore Wind Farm?</p> <p>b) Could the applicant and Marine Management Organisation please respond to Natural England's relevant representation on this matter?</p> <p>c) Please can the applicant demonstrate how mitigation in the form of soft start piling would be secured within the DCO / DMLs?</p>	<p>of such issues to ensure that the proposed mitigation remains appropriate, or additional mitigation can be applied if needed.</p> <p>The MMO would welcome Natural England's latest position on this in response to part a) of this question to further inform its view on the whether the mitigation proposed is fit for purpose.</p> <p>Response to c) The MMO's considers that the mitigation for injury/mortality to marine mammals will be agreed through the Marine Mammal Mitigation Protocol (MMMP) which is secured in conditions 12(f) and 10(g) of the Deemed Marine Licences (DMLS) respectively in schedules 11 and 12 of the DCO.</p> <p>The MMO suggests that, if it becomes evident that soft start mitigation isn't working that the piling must stop until it's been agreed what additional monitoring/mitigation is required. This would be captured by the wording proposed by Natural England that was referred to in Question 1.1.22.</p>
1.1.27	The Applicant, Natural England and Marine Management Organisation	<p>Southern North Sea cSAC: Review of Consents</p> <p>The ExA is aware that a Review of Consents in respect of the Southern North Sea cSAC is being undertaken¹, and that the Department for Business, Energy & Industrial Strategy (and the Marine Management Organisation) has published a draft HRA for consultation.</p> <ul style="list-style-type: none"> Taking this into account, can the Applicant, NE and the Marine Management Organisation provide further comments on potential in-combination disturbance impacts to marine mammals of the Southern North Sea cSAC? 	<p>The MMO is not in a position to draw any firm conclusions at this stage, given that the HRA that has been published is only a draft and the review of consents has not been completed.</p> <p>The MMO does, however, note section 18.2 of the draft Appropriate assessment (AA), suggesting that a pre-construction condition requiring a Site Integrity Plan (SIP) will be attached to each relevant project's Marine Licence. The effect of the SIP will be to limit each wind farm to the parameters that have been assessed by the HRA and ensure that draft thresholds are not exceeded.</p>



1.1.33	The Applicant, Natural England and the Marine Management Organisation	<p>Benthic Ecology: Post-Construction Monitoring Section 5 of [APP-149] states that post-construction monitoring will consist of geophysical surveys of the whole development site, but Table 5.5 of APP-046 states that post-construction monitoring will only be undertaken where core reef is identified within the order limits during pre-construction surveys. The Marine Management Organisation (paragraphs 5.5 - 5.8 of its representation) raises concerns with this approach and the methodology proposed for defining core reef.</p> <p>In addition, the Marine Management Organisation questions whether there is sufficient evidence to demonstrate that only one year of post-construction monitoring is sufficient and recommends post construction monitoring is extended to three years.</p> <p>a) Could the applicant please clarify the approach to post-construction monitoring in this regard?</p> <p>b) Please could the applicant respond to the Marine Management Organisation’s concerns about the methodology for defining core reef.</p> <p>c) Please could the applicant explain how the proposed monitoring strategy set out in APP-147 and APP-149 is sufficient to understand the longer term effects of the proposed development?</p> <ul style="list-style-type: none"> • Comments from Natural England and the Marine Management Organisation are also invited on this point. 	<p>The MMO has concerns regarding using the Core Reef approach at Thanet Extension due to the limited data available. The MMO queries the suitability of the characterisation survey as a pre-construction survey which was not designed to target areas of biogenic reef, as opposed to a specific survey designed to use the acoustic data to identify areas of potential reef and ground truthing these areas with video. The MMO understands that this will only be undertaken as part of the pre-construction survey, therefore there will only be one year of suitable data to use in the core reef assessment.</p> <p>The MMO suggest that all types of reef should be identified during the pre-construction survey, and the MMO is consulted on the results to inform and agree that all appropriate areas of ‘reef’ have been identified.</p> <p>The MMO also considers that a single year of post construction monitoring is not sufficient to understand the long term impact of the proposed development, and suggest that monitoring is undertaken over at least three (non-consecutive) years.</p> <p>The MMO required more evidence to justify whether the approach is appropriate and hopes to continue to discuss this with the applicant to reach agreement on the monitoring approach.</p>
1.1.35	Natural England, Marine Management	<p>Subtidal and Benthic Intertidal Habitats: In-Combination Assessment In respect of the Subtidal and Benthic Intertidal</p>	<p>Table 8.1 in APP-031 identifies the plans and projects, and their proximity to designated sites that should be considered in-combination with Thanet Extension (TE)</p>



	<p>Organisation and all IPs</p>	<p>Habitat in-combination assessment, paragraph 8.2.4 of [APP-031] states that “...it is considered that there is potential for LSE in-combination with Thanet Extension. The potential for such an effect will vary, depending on parameters such as the timing of works and the nature of those works, with these to be considered in full in the determination of AEol”. Paragraph 12.2.1 of [APP-031] then explains that no plans of projects have been scoped into the in-combination assessment (of AEol) for Subtidal and Benthic Intertidal Habitats.</p> <ul style="list-style-type: none"> • Are Natural England, Marine Management Organisation and any other parties satisfied that an in-combination assessment of AEol for Subtidal and Benthic Intertidal Habitat effects has not been undertaken on the basis that no relevant plans or projects are identified (paragraph 12.2.1 of [APP-031])? If not, why not? 	<p>for benthic subtidal and/or intertidal habitats. Chapter 12 of APP-031 has assessed whether any of these plans or projects screened in for assessment of in-combination effects with TE are likely to have Adverse Effects on Integrity (AEol) of the designated sites.</p> <p>Paragraph 12.1.7 states that ‘for a plan or project to have a potential in-combination effect with Thanet Extension, there needs to be sufficient information on which to base an assessment and the construction timeframe needs to be such that there is potential for temporal overlap of effect(s).’</p> <p>According to table 12.2 there will be no temporal construction overlap with Nemo Interconnector cable. There is potential for permanent habitat loss only if cable protection is used within a designated site, but it is not currently known whether or not this will occur. For the open disposal sites, there is limited information on the volumes and timings for disposal as disposal is intermittent and volumes are unknown in advance. Therefore, the Applicant is unable to determine where or not the use of the sites will overlap with the impacts from the construction of Thanet Extension. The MMO acknowledges the areas of uncertainty identified by the applicant, however defers to the advice of the Statutory Nature Conservation Bodies (SNCBs) for advice on HRA.</p>
<p>1.1.40</p>	<p>The Applicant, Natural England, Environment Agency, Kent Wildlife Trust, Kent County Council, Thanet District Council</p>	<p>Saltmarsh Mitigation, Reinstatement and Monitoring Plan: Recovery Assumptions NE’s relevant representation has referred to the experience of the recent construction of the NEMO link, from which it states that the saltmarsh has been slower to recover than expected.</p> <p>a) In this context, how would the need for</p>	<p>Response to b) – the MMO advises that saltmarsh reinstatement would be secured in the Saltmarsh Mitigation, Reinstatement and Monitoring Plan.</p>



	and Dover District Council	<p>further post-construction mitigation (if required, depending on the success of the restoration) be determined and delivered within the provisions of the Thanet Extension Offshore Wind Farm DCO?</p> <p>b) What are the potential options for managing this eventuality?</p>	
1.1.46	Marine Management Organisation, the Applicant	<p>Goodwin Sands pMCZ: Other Consents Kent Wildlife Trust's relevant representation [RR-048] refers to an extant consent to dredge part of the Goodwin Sands pMCZ.</p> <p>a) Could the Marine Management Organisation please provide a copy of that consent, including a map showing the extent of the permitted works.</p> <p>b) Please could the applicant clarify to what extent the ES has evaluated the cumulative impacts of the proposed dredging activity as part of the assessment for Thanet Extension Offshore Wind Farm?</p>	<p>A copy of the Marine Licence is provided in Annex 1 to this response (file 'EN010084 - Thanet Extension - Deadline 1 - MMO Response to ExA Questions Annex 1'). The decision documents can also be viewed on the MMO's public register, available here.</p> <p>The Environmental Impacts Assessment Consent Decision and Decision Report that was completed to document MMO's decision making process includes maps of the licensed dredge location (p.5), the location of the licensed activities in relation to European and Ramsar sites (p.25), and in relation to SSSIs and Goodwin Sands pMCZ (p.27) – copies of these maps are provided in Appendix 1 of this document.</p>
1.6	Electric and Magnetic Fields (EMFs)		
1.6.2	The Applicant, Natural England and Marine Management Organisation	<p>Effects on Benthic Ecology The embedded mitigation identified within the ES includes burying offshore cables to a maximum target depth of 3m "where possible" to reduce received Electric and Magnetic Field effects on benthic species. As cables will be buried to a maximum target depth only where possible, there is some uncertainty as to how these embedded mitigation measures will be secured.</p> <p>a) In respect of table 5.11 of APP-046, can the applicant explain (with reference to the DCO,</p>	<p>Table 5.11 of APP-046 states that 'Inter-array and export cables will be buried to a maximum target depth of 3m, subject to a cable burial risk assessment. Where it is not possible to bury the cables sufficiently, cable protection will be used. While cable protection or burial does not decrease the strength of EMF at source, it does increase the distance between the cables and benthic receptors, thereby reducing the received EMF (from attenuation of the EMF) and potentially reducing the effect on those receptors.'</p> <p>The MMO considers that this is satisfactory mitigation for</p>



		<p>DMLs and/or other documents) how the embedded mitigation measures identified are capable of being secured as part of the scheme design?</p> <p>b) What will be the approach taken in areas where it is not possible to bury cables at the desired depth and where are the EMF effects of this scenario assessed?</p> <p>c) As no significant effects resulting from the proposed development are identified, no further mitigation is proposed as necessary beyond those measures embedded in the project design. Please could NE and the Marine Management Organisation confirm whether or not they are satisfied that no further mitigation is proposed?</p>	<p>cable burial for EM, however the MMO recognises that the use of scour protection could result in additional negative impact on other receptors, and the worst case scenario for all receptors should be assessed when considering whether or not scour protection should be used.</p> <p>The MMO also notes that reduced burial depth could occur during the construction phases (i.e. the target depth could not be achieved), as well as during the operational phase (for example cable becoming exposed due to sandwave movement), and expects that the detailed management/mitigation of this will be captured in the cable specification, installation, and monitoring plan.</p>
1.11	Marine and Coastal Physical Processes		
1.11.3	The Applicant, Natural England, Marine Management Organisation	<p>Scour Protection: Additional DCO Parameters Natural England's relevant representation [RR-053] states that additional parameters are required such that scour and cable protection should be limited by both volume of material and area of impact.</p> <p>a) Could Natural England please provide further specific detail about the recent experience alluded to in its relevant representation in this regard?</p> <ul style="list-style-type: none"> • What does Natural England consider to be the implication of this experience for Thanet Extension Offshore Wind Farm? <p>b) Please could the applicant and Marine Management Organisation respond to Natural England's suggestion that the use of volume parameters alone no longer provides sufficient certainty?</p>	<p>The MMO notes Natural England has provided comment on a UK offshore windfarm where the developer only adhered to the volume on the marine licence.</p> <p>The MMO can provide an example that relates to seabed preparation works of sandwave levelling prior to cable installation being undertaken for Race Bank Offshore Wind Farm (Marine Licence number L/2016/00094). The licence was issued in 2016 for permitted quantities of dredging and disposal, and a request to increase the permitted dredge volumes for the second cable installation was submitted on January 2017.</p> <p>It was evident from the supporting environmental information at for the first phase of sandwave levelling that the footprint of seabed was much greater than the maximum footprint assessed and permitted in the marine licence, although the actual volumes dredged had</p>



		<p>c) Could the Applicant please comment as to whether it would be possible and /or appropriate for the DCO and DMLs to provide maximum scour protection areas per turbine.</p>	<p>remained within the permitted quantities.</p> <p>This resulted in an impact greater than that which was assessed under Habitats Regulations Assessment (HRA) for the Inner Dowsing Race Bank North Ridge SCI (now SAC) and the Wash and North Norfolk Coast SAC. The MMO supports Natural England's suggestion that the use of volume parameters alone no longer provides sufficient certainty, as indicated in the example above, volumes of permitted quantities were within the assessment however, the footprint impacted was greater than assessed, which could have led to an adverse effect on integrity on a designated site. The MMO considers the above should also be taken into consideration for scour and cable protection.</p>
1.12.10	<p>Maritime and Coastguard Agency and Marine Management Organisation</p>	<p>Acceptability of pollution, loss of vessel, operational downtime: Please advise what considerations in regard to acceptability of risk should be taken into account when the assessed risk has major or catastrophic consequences that are <u>not</u> necessarily loss of life (including Pollution, Loss of Vessel, Major Operational Downtime); and</p> <p>a) at what level of <u>assessed frequency</u> can hazards with major or catastrophic consequences be assessed to be acceptable risks?</p> <p>b) to what extent it is reasonable for acceptability of major risks in confined sea room to be assessed by separate analysis of component hazards as opposed to assessment of combination and interactive effects?</p>	<p>The MMO defers to the expert opinion of the Maritime and Coastguard in regards to the assessment of risks to safety of navigation. However, the MMO feels there is an additional point raised in the question about how the socio-economic impacts have been assessed, for example the impacts to freight/pilotage firms due to increased downtime, loss of contingency or increased vessel transit time.</p> <p>As these effects are not specifically part of the assessment of navigational risk, the MMO seeks clarification from the applicant of where these effects have been fully assessed.</p>



Appendix 1 - Maps of the Licensed Dredge Locations





Figure 1: Proposed dredging location. Area 521 is highlighted in red.

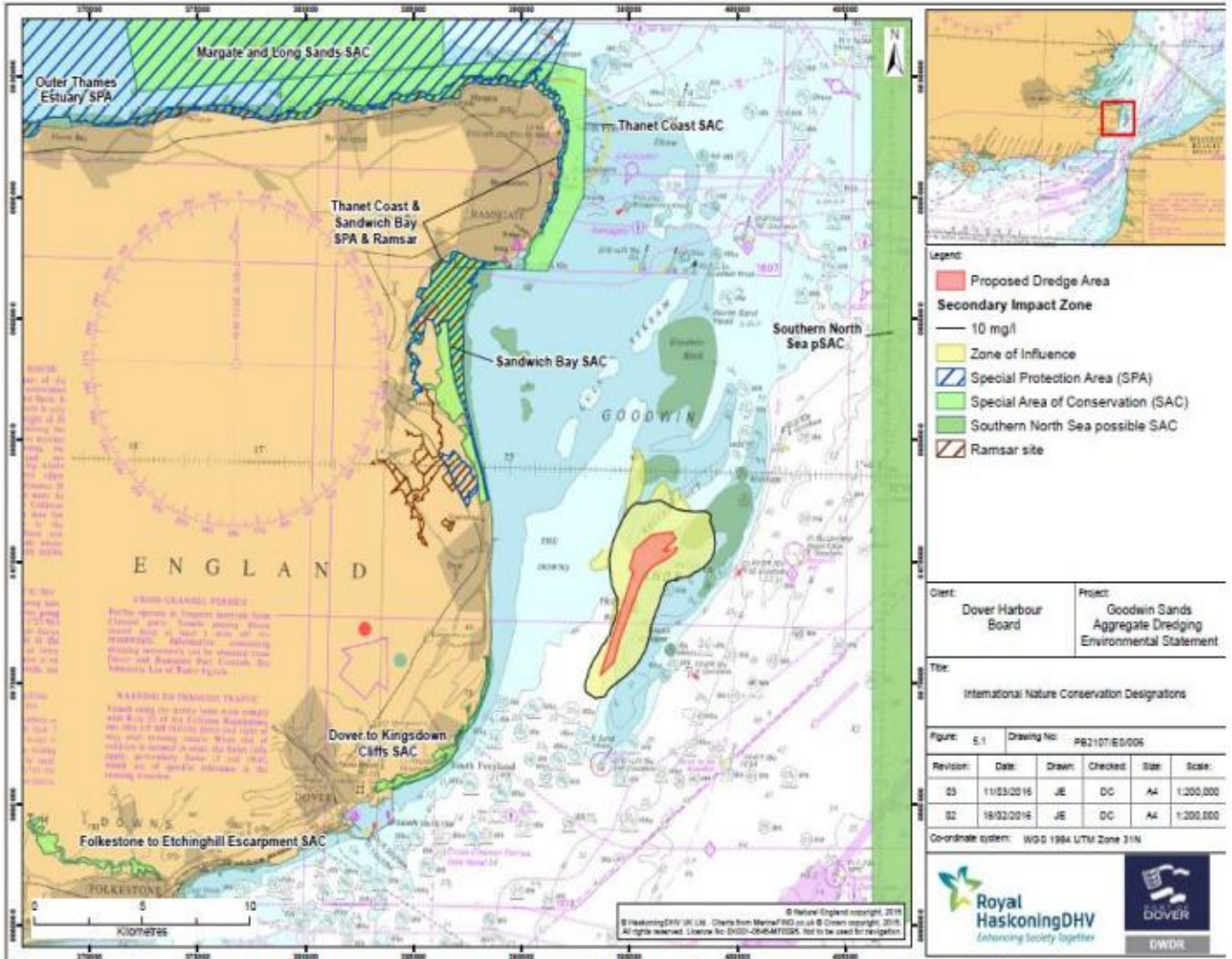


Figure 2. Proposed dredging location (red) and Zone of Influence (yellow) in relation to European and Ramsar sites within 20km of the proposed Project (Goodwin Sands ES, 2016).

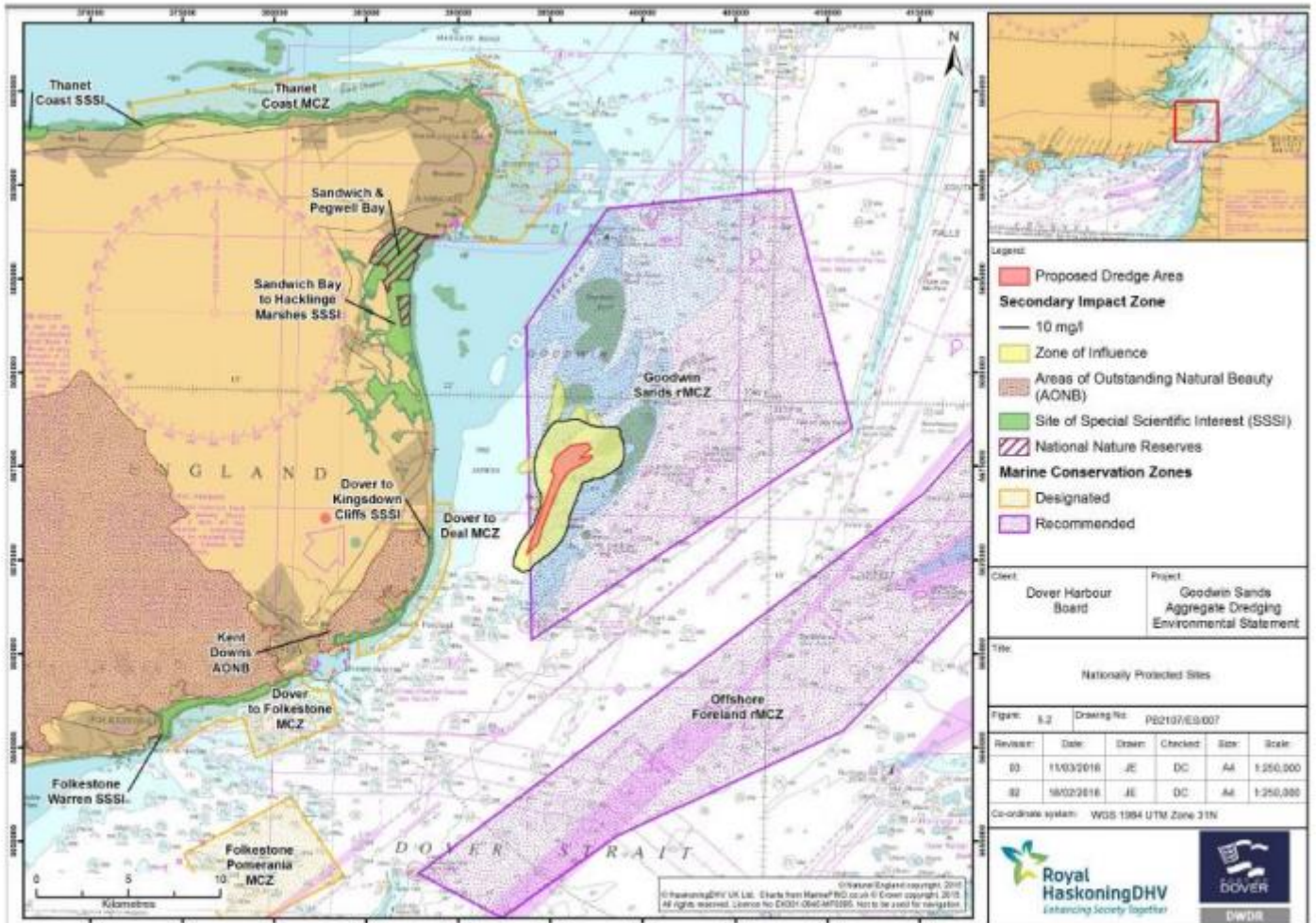


Figure 3. Proposed dredging location (red) and Zone of Influence (yellow) in relation to SSSIs and (r)MCZs (Goodwin Sands now pMCZ) within 20km of the proposed dredge site (Goodwin Sands ES, 2016).



Marine Management Organisation Marine Licence

1 Introduction

This is a licence granted by the Marine Management Organisation on behalf of the Secretary of State to authorise the licence holder to carry on activities for which a licence is required under Part 4 of the Marine and Coastal Access Act 2009.

1.1 Licence number

The licence number for this licence is L/2018/00311/1

1.2 Licence holder

The licence holder is the person or organisation set out below:

Name / company name	Dover Harbour Board
Company registration number (if applicable)	
Address	Harbour House, Marine Parade, Dover, Kent, CT17 9BU
Contact within company	Sharon Higenbottam
Position within company (if applicable). State if company officer or director	Company Secretary

1.3 Licence date

Version	1
Licence start date	26 July 2018
Licence end date	31 December 2022
Date of original issue	26 July 2018

1.4 Licence validity

This version of this licence is valid from the licence start date to the licence end date.

This version of this licence supersedes any earlier version of this licence. Any activity commenced under a previous version of this licence and which is also a licensed activity authorised by section 4 of this version of this licence may continue in accordance with the licence conditions in section 5 of this version of this licence.

Miss Abbey Pennington
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2 General

2.1 Interpretation

In this licence, terms are as defined in section 115 of the Marine and Coastal Access Act and the Interpretation Act 1978 unless otherwise stated.

- "licensed activity" means any activity set out in section 4 of this licence.
- "licence holder" means the person(s) or organisation(s) named in section 1 above to whom this licence is granted.
- "MMO" means the Marine Management Organisation.
- "mean high water springs" means the average of high water heights occurring at the time of spring tides.
- "sea bed" or "seabed" means the ground under the sea.
- "the 2009 Act" means the Marine and Coastal Access Act 2009.
- All times shall be taken to be the time on any given day.
- All geographical co-ordinates contained within this licence are in WGS84 format (latitude and longitude degrees and minutes to three decimal places) unless stated otherwise.

2.2 Contacts

Except where otherwise indicated, the main point of contact with the MMO and the address for email and postal returns and correspondence shall be:

Marine Management Organisation

Lancaster House

Hampshire Court

Newcastle upon Tyne

NE4 7YH

Tel:0300 123 1032

Fax:0191 376 2681

Email:marine.consents@marinemanagement.org.uk

Any references to any local MMO officer shall be the relevant officer in the area(s) located at:

Marine Management Organisation

Fish Market

Rock-A-Nore Road

Hastings

East Sussex

TN34 3DW

Tel: 01424 424109
Fax: 01424 444642
Email: hastings@marinemanagement.org.uk

3 Project overview

3.1 Project title

Goodwin Sands Aggregate Dredging Scheme

3.2 Project description

To dredge a maximum of 3,000,000 tonnes (dry) (~2,000,000m³) of sand with a maximum offtake per dredge campaign of 1,800,000 tonnes (dry) (~1,200,000 m³) from Area 521 for use in the Dover Western Docks Revival (DWDR) development. Dredging will take place using a trailer suction hopper dredger (TSHD) and aggregate screening is not permitted.

3.3 Related marine licences

L/2016/00056 - Dover Western Docks Revival development

4 Licensed activities

This section sets out the licensed activities. The licensed activities are authorised to be carried on only in accordance with the activity details below and with the licence conditions as set out in section 5 of this licence.

Please note that where licensed quantities are displayed with reference to their constituent materials, the relative quantities given for the constituent materials are indicative only.

Site 1 - Proposed Dredge Area			
Site location	See Licence Schedule 1.		
Activity 1.1 - Aggregate dredging			
Activity type	Aggregate dredging		
Activity location	<p>Area 521 is located on the western side of South Goodwin Sands and located approximately 12km north east of the Port of Dover.</p> <p>Dredging will be restricted to a depth of:</p> <ul style="list-style-type: none"> - 1.12m in the Scenario 1 co-ordinates (full proposed dredge area); and - 1.95m in the Scenario 2 co-ordinates (northern part of dredge area only). <p>See Licence Schedule 1.</p>		
Description	<p>A maximum of 3,000,000 tonnes (dry) (~2,000,000m³) of fine to coarse sand is permitted to be dredged from Area 521, Goodwin Sands over the licence term, with a maximum per dredge campaign of 1,800,000 tonnes (dry) (~1,200,000 m³).</p> <p>Area 521 covers an area of 2.36km² and extends south-westwards from the Kellet Gut Channel along the western side of the South Calliper Sandbank.</p> <p>TO NOTE - The maximum single year extraction (tonnes) referenced in the quantities section below is the maximum offtake per dredge campaign (tonnes) and it is permissible that a greater quantity may be dredged within a given twelve month period.</p>		
Quantities			
Start date	End date	Maximum single year extraction (tonnes)	Total extraction (tonnes)
26/7/2018	31/12/2021	1800000	3000000

Methodology	<p>The dredging is planned to be undertaken by one or two Trailer Suction Hopper Dredgers (TSHDs).</p> <p>Once the hopper is loaded, the TSHD will transit under its own power to the Dover Western Docks Revival (DWDR) construction site in the Port's Western Docks where it will moor and discharge the aggregate into the reclamation area. The discharge of the aggregate was described and assessed under the T2 Environment Impact Assessment (EIA) and for the Marine Licence application for the DWDR scheme, and was consented through the Dover Harbour Revision Order 2012 and the Marine Licence for the DWDR scheme (Licence number L/2016/00056/1).</p> <p>The TSHD will be equipped with a Global Positioning System (GPS) to enable accurate positioning and dredging within the proposed dredge area. The TSHD will also be fitted with an Electronic Monitoring System (EMS) which will record its position every 30 seconds during dredging operations.</p> <p>No on-board aggregate screening is permitted by the dredger.</p> <p>Full details of the aggregate dredging methodology are provided within Section 2.5 of the Environmental Statement.</p>
Programme of works	<p>The dredging programme is required to tie into the DWDR scheme's construction stages. It is anticipated that dredging will take place in one or more distinct campaigns between September 2019 and September 2020, corresponding to the relevant DWDR construction stages for which aggregate is required.</p> <p>Dredging may be undertaken 24 hours per day, seven days per week.</p> <p>Further detail is provided in Section 2.7 of the Environmental Statement and in the August 2017 Additional Information Report.</p>

5 Licence conditions

5.1 General conditions

5.1.1 Notification of commencement

The licence holder must notify the MMO prior to the commencement of the first instance of any licensed activity. This notice must be received by the MMO no less than five working days before the commencement of that licensed activity.

5.1.2 Licence conditions binding other parties

Where provisions under section 71(5) of the 2009 Act apply, all conditions attached to this licence apply to any person who for the time being owns, occupies or enjoys any use of the licensed activities for which this licence has been granted.

5.1.3 Agents / contractors / sub-contractors

The licence holder must notify the MMO in writing of any agents, contractors or sub-contractors that will carry on any licensed activity listed in section 4 of this licence on behalf of the licence holder. Such notification must be received by the MMO no less than 24 hours before the commencement of the licensed activity.

The licence holder must ensure that a copy of this licence and any subsequent revisions or amendments has been provided to, read and understood by any agents, contractors or sub-contractors that will carry on any licensed activity listed in section 4 of this licence on behalf of the licence holder.

5.1.4 Vessels

The licence holder must notify the MMO in writing of any vessel being used to carry on any licensed activity listed in section 4 of this licence on behalf of the licence holder. Such notification must be received by the MMO no less than 24 hours before the commencement of the licensed activity. Notification must include the master's name, vessel type, vessel IMO number and vessel owner or operating company.

The licence holder must ensure that a copy of this licence and any subsequent revisions or amendments has been read and understood by the masters of any vessel being used to carry on any licensed activity listed in section 4 of this licence, and that a copy of this licence is held on board any such vessel.

5.1.5 Changes to this licence

Should the licence holder become aware that any of the information on which the granting of this licence was based has changed or is likely to change, they must notify the MMO at the earliest opportunity. Failure to do so may render this licence invalid and may lead to enforcement action.

5.1.6 Licence quantities

Where a licensed activity comprises dredging or the disposal of dredged material, the total quantity of material authorised to be dredged or disposed of in any given time period shall be as set out for that licensed activity in section 4 of this licence.

For each time period, the actual quantity dredged or disposed of shall be calculated by adding the quantity of material dredged or disposed of during that time period under this version of this licence to that dredged or disposed of under any previous version of this licence that was valid during that time period.

5.2 Project specific conditions

This section sets out project specific conditions relating to the licensed activities as set out in section 4 of this licence.

Prior to the commencement of the licensed activities	
Notifications and returns	
5.2.1	<p>The licence holder must notify local mariners' and fishermen's organisations a minimum of 5 working days in advance of commencement of the first instance of aggregate extraction and any subsequent stages of the project. This notification must include the local port/harbour authority/ies and Vessel Traffic Service(s) and any other relevant body as considered appropriate by the licence holder.</p> <p>No dredging is permitted until the MMO provide written confirmation of receipt of a copy of this notification.</p> <p>Reason: <i>To minimise interference with other users of the sea and inform them of dredging operations and to ensure other vessels in the vicinity can safely plan and conduct their passage.</i></p>
5.2.2	<p>The licence holder must notify the MMO in writing of the appointed Fisheries Liaison Officer 1 month prior to the commencement of dredging, unless otherwise approved by the MMO in writing.</p> <p>The Fisheries Liaison Officer must be approved by the MMO in writing prior to the commencement of dredging.</p> <p>Reason: <i>To ensure liaison with the fishing industry in order to minimise conflict.</i></p>
5.2.3	<p>The licence holder must notify the MMO in writing of the appointed Marine Mammal Observer 1 month prior to the commencement of dredging, unless otherwise approved by the MMO in writing.</p> <p>The Marine Mammal Observer must be approved by the MMO in writing prior to the commencement of dredging.</p> <p>Reason: <i>To ensure disturbance to marine mammals is minimised.</i></p>

5.2.4	<p>The licence holder must notify the MMO in writing of the appointed independent on-board Archaeologist 1 month prior to the commencement of dredging, unless otherwise approved by the MMO in writing.</p> <p>The independent on-board Archaeologist must be approved by the MMO in writing prior to the commencement of dredging.</p> <p>Reason: <i>To protect wrecks, war graves and archaeology.</i></p>
5.2.5	<p>The licence holder must notify the UK Hydrographic Office a minimum of 5 working days in advance of commencement of the first instance of aggregate extraction and any subsequent stage of the project, to permit the promulgation of maritime safety information and updating of nautical charts and publications.</p> <p>No dredging is permitted until the MMO provide written confirmation of receipt of a copy of this notification.</p> <p>Reason: <i>To ensure other vessels in the vicinity can safely plan and conduct their passage.</i></p>
5.2.6	<p>No dredging is permitted until the MMO confirms in writing that it has received confirmation from the licence holder that they have obtained information from the General Lighthouse Authority on the navigational marks that may be affected by the licensed activity.</p> <p>Reason: <i>To ensure safe navigation at sea.</i></p>
5.2.7	<p>No dredging is permitted until an isopachyte chart detailing the location of any areas where the resource thickness is 1m or less over 250m by 250m grid centred on 125m nodes and the associated proposed exclusion zones, are approved by the MMO in writing.</p> <p>The charts and proposed exclusion zones must be submitted to the MMO and The Crown Estate 2 months prior to the commencement of dredging, unless otherwise approved by the MMO in writing.</p> <p>Reason:</p>

	<i>To ensure that sufficient habitat is retained to allow benthic re-colonisation of the active dredge zone (ADZ) upon cessation of dredging activity.</i>
5.2.8	<p>No dredging is permitted until a chart detailing the location of any areas where the seabed depth is more than 1.12m (Scenario 1) and 1.95m (Scenario 2) below the modelled pre-dredge seabed level as averaged over a 250m by 250m grid centred on 125m nodes and the associated proposed exclusion zones, are approved by the MMO in writing .</p> <p>The charts and proposed exclusion zones must be submitted to the MMO and The Crown Estate 2 months prior to the commencement of dredging, unless otherwise approved by the MMO in writing.</p> <p>Reason: <i>To ensure that dredging operations are within the limits assessed in the ES.</i></p>
5.2.9	<p>No dredging is permitted until a chart detailing the location of any areas where the seabed is 2m or more below the depth surveyed using the 2017 magnetometer survey and the associated proposed exclusion zones, are approved by the MMO in writing .</p> <p>The charts and proposed exclusion zones must be submitted to the MMO and The Crown Estate 2 months prior to the commencement of dredging, unless otherwise approved by the MMO in writing.</p> <p>If dredging is required below this seabed depth then a new magnetometer survey must be undertaken and approved by the MMO in writing.</p> <p>Reason: <i>To protect wrecks, war graves and archaeology.</i></p>
5.2.10	<p>No dredging is permitted until a chart detailing the location of any known sensitive nature conservation features (Habitats Regulations Annex I habitats; UK Biodiversity Action Plan (BAP) habitats/species list; Natural Environment and Rural Communities (NERC) Section 41 habitats and species) and the associated proposed exclusion zones, are approved by the MMO in writing.</p> <p>The charts and proposed exclusion zones must be submitted to the MMO and The Crown Estate 2 months prior to the commencement of dredging, unless otherwise approved by the MMO in writing.</p>

	Reason: <i>To protect nature conservation features.</i>
5.2.11	<p>No dredging is permitted until a chart detailing the location of any known features of archaeological interest within and adjacent to the licence area and the associated proposed exclusion zones, are approved by the MMO in writing.</p> <p>The charts and proposed exclusion zones must be submitted to the MMO and The Crown Estate 2 months prior to the commencement of dredging, unless otherwise approved by the MMO in writing.</p> <p>Reason: <i>To protect wrecks, war graves and archaeology.</i></p>
5.2.12	<p>No dredging is permitted until a chart detailing the known location of seal haul out areas within and adjacent to the licence area and the associated proposed exclusion zones, are approved by the MMO in writing.</p> <p>The charts and proposed exclusion zones must be submitted to the MMO and The Crown Estate 2 months prior to the commencement of dredging, unless otherwise approved by the MMO in writing.</p> <p>Reason: <i>To minimise disturbance to seal haul out sites.</i></p>
5.2.13	<p>An archaeological Written Scheme of Investigation (WSI) must be prepared in consultation with Historic England. The WSI must be submitted to the MMO for approval 2 months prior to the commencement of any survey work, unless otherwise agreed by the MMO in writing.</p> <p>No dredging is permitted until an archaeological WSI has been approved by the MMO in writing, in consultation with Historic England</p> <p>Reason: <i>To protect wrecks, war graves and archaeology.</i></p>
5.2.14	<p>A Protocol for Reporting Archaeological Finds must be prepared in consultation with Historic England. The protocol must be submitted to the MMO for approval 2 months prior to the commencement of dredging, unless otherwise agreed by the MMO in writing.</p>

	<p>No dredging is permitted until a Protocol for Reporting Archaeological Finds is approved by the MMO in writing, in consultation with Historic England.</p> <p>Reason: <i>To protect wrecks, war graves and archaeology.</i></p>
5.2.15	<p>A Dredge Management Plan must be prepared in consultation with Historic England. The plan must be submitted to the MMO for approval 2 months prior to the commencement of dredging, unless otherwise agreed by the MMO in writing.</p> <p>No dredging is permitted until a dredge management plan is approved by the MMO in writing, in consultation with Historic England.</p> <p>Reason: <i>To protect wrecks, war graves and archaeology.</i></p>
5.2.16	<p>A Fisheries Liaison Plan must be submitted to the MMO for approval 2 months prior to the commencement of dredging, unless otherwise agreed by the MMO in writing.</p> <p>No dredging is permitted until a Fisheries Liaison Plan is approved by the MMO writing.</p> <p>Reason: <i>To encourage effective liaison with the fishing industry in order to minimise conflict.</i></p>
Location of dredging	
5.2.17	<p>Dredging operations must only take place within the co-ordinates for Scenario 1 or Scenario 2 presented in Schedule 1 of this licence, unless otherwise agreed by the MMO in writing.</p> <p>Reason: <i>To protect features of archaeological and nature conservation importance, and to ensure the activity is undertaken in line with the parameters assessed in the Environmental Statement.</i></p>
Monitoring programme	

5.2.18	<p>The licence holder must produce a monitoring programme which must include a timetable for the individual monitoring surveys as well as a specification for each survey, which are to be undertaken pre, during and post the licensed activity, and must be approved by the MMO in writing.</p> <p>This monitoring programme and survey specifications must be submitted to the MMO and The Crown Estate 2 months prior to the commencement of the first pre-dredge survey.</p> <p>Reason: <i>To set a monitoring programme and survey specifications to validate the predictions made in the ES and allow the identification and subsequent management of any unforeseen environmental impacts under this marine licence.</i></p>
Pre-dredge monitoring	
5.2.19	<p>The licence holder must:</p> <ul style="list-style-type: none"> i) Complete the pre-dredge surveys to a specification approved by the MMO, prior to the commencement of dredging; ii) Prepare and submit a pre-dredge survey report to the MMO for approval 2 months prior to the commencement of dredging; and iii) Compare all future monitoring reports to the pre-dredge survey report. <p>Reason: <i>To set a baseline to validate the predictions made in the ES and allow the identification of any unforeseen environmental impacts under this marine licence.</i></p>
During the licensed activities	
Extraction restrictions	
5.2.20	<p>The total quantity of material to be extracted within the licence area over the licence duration must not exceed 3,000,000 tonnes (dry).</p> <p>Reason:</p>

	<i>To ensure that dredging operations are within the limits assessed in the ES.</i>
5.2.21	<p>Subject to the restriction on the total quantity of material to be extracted as specified in condition 5.2.20, the amount of material extracted from licensed area must not exceed 1,800,000 tonnes (dry) in any single dredge campaign.</p> <p>Reason: <i>To restrict the intensity of dredging over the duration of the marine licence.</i></p>
5.2.22	<p>The licence holder must provide a tonnage return to the MMO of the amount of material extracted from the licence area for the preceding dredge campaign, within 1 month of the dredge campaign ceasing.</p> <p>Reason: <i>To ensure that the MMO is kept informed, in a timely manner, of the amount of material extracted from the licence area.</i></p>
5.2.23	<p>The MMO must be notified in writing if it becomes apparent that the submitted return specified in condition 5.2.22 contains an error within 5 working days of the error being identified.</p> <p>Reason: <i>To ensure that the MMO is kept informed, in a timely manner, of the amount of material extracted from the licence area.</i></p>
Dredging operations	
5.2.24	<p>The depth of dredging must be restricted to a maximum of 1.12m (Scenario 1) and 1.95m (Scenario 2) below the modelled pre-dredge seabed level as averaged over a 250m by 250m grid centred on 125m nodes.</p> <p>Reason: <i>To ensure that dredging operations are within the limits assessed in the ES.</i></p>
5.2.25	<p>The depth of dredging must be restricted to a maximum of 2m below the seabed level surveyed by the 2017 magnetometer survey.</p> <p>Reason: <i>To ensure that dredging operations are within the limits assessed in the ES.</i></p>

5.2.26	<p>All dredging in the licence area must be undertaken by trailer suction hopper only.</p> <p>Reason: <i>To comply with the submitted application.</i></p>
5.2.27	<p>On-board screening is not permitted.</p> <p>Reason: <i>To protect the marine environment from excessive suspended solids and/or turbidity and to ensure dredging operations are within limits assessed in the ES.</i></p>
Electronic monitoring system (EMS)	
5.2.28	<p>Dredging is not permitted in the licence area unless a functional and operational EMS is fitted, or such equipment and systems which allow accurate monitoring of the vessel location during dredging operations and provide evidence of dredging, so long as they are approved by The Crown Estate.</p> <p>Reason: <i>To ensure accurate spatial and temporal monitoring of dredging activities.</i></p>
5.2.29	<p>Data recorded by the EMS or other equipment/systems must be provided to The Crown Estate or its appointed agent and the MMO within 15 working days of the end of the calendar month.</p> <p>Reason: <i>To ensure accurate spatial and temporal monitoring of dredging activities.</i></p>
Navigation and liaison arrangements	
5.2.30	<p>The licence holder must abide by the procedures set out in the 'Guide to Good Practice for Ensuring Navigational Safety during Dredging Operations' (BMAPA, the Maritime and Coastguard Agency and Trinity House 2012) found in the schedules of this licence.</p> <p>Reason:</p>

	<i>To allow the dissemination of safety information and maintain safe navigation at sea.</i>
5.2.31	<p>The licence holder must ensure that the position of any item of debris relating to the licensed activity left on the seabed is reported to the UK Hydrographic Office within 30 days, using form H102 (Hydrographic Note). The position of any debris is to be reported in WGS84 datum and Spheroid to an accuracy of at least +/- 5m where practicable with as much information on size, shape and orientation of the object as possible. The licence holder must ensure that the position and nature of the debris is disseminated via the Kingfisher bulletin service at the earliest opportunity.</p> <p>Reason: <i>To allow the dissemination of safety information and maintain safe navigation at sea.</i></p>
5.2.32	<p>The licence holder must adhere to the practices set out in the approved Fisheries Liaison Plan and 'Fisheries Code of Practice' found in the schedules.</p> <p>Reason: <i>To ensure that other users of the sea are informed of the up-to-date locations of aggregate dredging activity.</i></p>
Exclusion Zones	
5.2.33	<p>Any areas where the resource thickness is 1m or less over 250m by 250m grid centred on 125m nodes, within the marine licence area, identified during either dredging operations or monitoring must be excluded from future extraction upon identification.</p> <p>The co-ordinates and the date of implementation of the EZ must be provided in writing to the MMO and The Crown Estate within 5 working days of the EZ being implemented. Unless approved by the MMO in writing, the licence holder must not dredge within these zones for the remainder of the licence period.</p> <p>Reason: <i>To ensure that sufficient habitat is left so that benthic re-colonisation of the licence area upon cessation of dredging activity.</i></p>
5.2.34	Any areas of previously unidentified sensitive nature conservation features ((specifically Habitats Regulations Annex I habitats; UK Biodiversity Action Plan (BAP) habitats/species list; Natural Environment and Rural Communities (NERC)

	<p>Section 41 habitats and species) within the marine licence area, identified during either dredging operations or monitoring must be excluded from future extraction upon identification, unless otherwise approved by the MMO in writing.</p> <p>The co-ordinates and the date of implementation of the EZ must be provided in writing to the MMO and The Crown Estate within 5 working days of the EZ being implemented. Unless approved by the MMO in writing, the licence holder must not dredge within these zones for the remainder of the licence period.</p> <p>Reason: <i>To protect areas of known sensitive nature conservation features.</i></p>
5.2.35	<p>Should any previously unreported wrecks (vessel or aircraft) or other sites of archaeological interest become apparent within the marine licence area, during either dredging operations or monitoring, must be excluded as soon as they are discovered in accordance with the procedures set out in the WSI.</p> <p>The co-ordinates and the date of implementation of the EZ must be provided in writing to the MMO and The Crown Estate within 5 working days of the EZ being implemented. Unless approved by the MMO in writing, the licence holder must not dredge within these zones for the remainder of the licence period.</p> <p>Reason: <i>To protect wrecks, war graves and archaeology.</i></p>
5.2.36	<p>Any areas where extraction depth has reached a maximum depth of 1.12m (Scenario 1) and 1.95m (Scenario 2) below the modelled pre-dredge seabed level in the marine licence area (as averaged over a 250m by 250m grid centred on 125m nodes), identified during either dredging operations or monitoring, must be excluded from future extraction upon identification</p> <p>The co-ordinates and the date of implementation of the EZ must be provided in writing to the MMO and The Crown Estate within 5 working days of the EZ being implemented. Unless approved by the MMO in writing, the licence holder must not dredge within these zones for the remainder of the licence period.</p> <p>Reason: <i>To ensure that the licence holder is operating within the limits tested in the ES.</i></p>

5.2.37	<p>Any areas where extraction depth has reached a maximum of 2m below the seabed level surveyed during the 2017 magnetometer survey, identified during either dredging operations or monitoring, must be excluded from future extraction upon identification are excluded from future extraction.</p> <p>The co-ordinates and the date of implementation of the EZ must be provided in writing to the MMO and The Crown Estate within 5 working days of the EZ being implemented. Unless approved by the MMO in writing, the licence holder must not dredge within these zones for the remainder of the licence period.</p> <p>Reason: <i>To protect wrecks, war graves and archaeology.</i></p>
5.2.38	<p>All modifications to established EZs, whether temporary or permanent, must be submitted to the MMO for approval 2 month prior to proposed implementation, unless otherwise approved by the MMO in writing.</p> <p>Reason: <i>To protect nature conservation features and wrecks, war graves and archaeology.</i></p>
Archaeology	
5.2.39	<p>The licence holder must abide by the best practice principles within the 'Guidance Note, Marine Aggregate Dredging and the Historic Environment', issued by BMAPA and English Heritage in 2003 and the approved Protocol for Reporting Archaeological Finds.</p> <p>Reason: <i>To protect wrecks, war graves and archaeology.</i></p>
5.2.40	<p>An OASIS (Online AccesS to the Index of archaeological investigationS) form is to be submitted for any archaeological reports produced as part of this marine licence and a copy submitted to the Historic England's Marine Planning Unit and a PDF file version sent to National Record of the Historic Environment (NRHE) (oasis@historicengland.org.uk), within 10 working days of the final report being approved.</p> <p>The MMO must be notified that the OASIS form has been submitted to the NRHE within 10 working days of the submission.</p>

	Reason: <i>To protect wrecks, war graves and archaeology.</i>
Operational stage monitoring	
5.2.41	<p>The licence holder must:</p> <ul style="list-style-type: none"> i) Complete the operational monitoring surveys to the specification and programme approved by the MMO; and ii) Prepare and submit operational monitoring reports to the MMO for approval in line with the approved monitoring programme. <p>Reason: <i>To secure the effective environmental monitoring of the dredging in the interests of protecting the marine environment and assess whether dredging operations are consistent with the predictions made in the ES.</i></p>
5.2.42	<p>Unless otherwise stated, all reports from the operational stage monitoring programme must provide comparison with the pre-dredge monitoring data.</p> <p>Reason: <i>To ensure effective environmental monitoring of the dredging in the interests of protecting the marine environment and assess whether the dredging operations are consistent with predications made in the ES.</i></p>
Annual compliance	
5.2.43	<p>The licence holder must produce an annual report on compliance with the conditions to which this marine licence is subject. The report must detail any monitoring undertaken during the previous year. The licence holder must submit copies of the compliance report to the MMO within 3 months of the end of each 12 month period following the date of commencement of dredging.</p> <p>Reason: <i>To ensure that the MMO is kept informed in a timely manner of the licence holder's compliance with the conditions to which this licence is subject.</i></p>

Conditions upon completion of the licensed activities	
Cessation of dredging	
5.2.44	<p>All dredging within the licensed area under this marine licence must cease by 31 December 2021 or once the total quantity of material licensed to be extracted has been removed, whichever occurs first.</p> <p>Reason: <i>To provide a termination to this licence.</i></p>
Returns	
5.2.45	<p>The licence holder must notify the MMO and The Crown Estate in writing of the date on which dredging operations cease within the permitted area within 5 working days of the operations ceasing.</p> <p>Reason: <i>To provide an end date to the activity.</i></p>
Condition of the seabed	
5.2.46	<p>A specification to demonstrate that sediment substrate is of a similar grade to the conditions that existed before dredging commencement must be approved by the MMO through the monitoring programme and survey specifications.</p> <p>Upon cessation of dredging the sediment substrate must be of a similar grade to the conditions that existed before dredging commenced with due allowance being made for natural sediment movements.</p> <p>Reason: <i>To allow re-colonisation of the seabed upon cessation of dredging activity.</i></p>
5.2.47	<p>An average depth of 1m of aggregate resource remains as substrate in those parts of the licence area from which material has been dredged. This will be measured over 250m by 250m grid centred on 125m nodes.</p> <p>Reason: <i>To ensure that sufficient habitat is left to allow re-colonisation of the seabed upon the cessation of dredging activity.</i></p>

Post-dredge surveys and reports	
5.2.48	<p>The licence holder must:</p> <ul style="list-style-type: none"> i) Complete the post-dredge survey to the specification and programme approved by the MMO; and ii) Prepare and submit a post-dredge survey report to the MMO for approval in line with the monitoring programme. <p>Reason: <i>To secure the effective environmental monitoring of the dredging in the interests of protecting the marine environment and assess whether the dredging operations permitted were consistent with the predictions made in the ES.</i></p>
Post licensed activity	
5.2.49	<p>Should further monitoring or remedial action be required as a consequence of the information presented in the post-dredge monitoring report, this work must be carried out by the licence holder at their expense and within a timetable approved by the MMO in writing.</p> <p>Reason: <i>To ensure the seabed is left in a similar condition to that which existed before the commencement of dredging operations.</i></p>

Preparation, Control and Distribution of Reports	
5.2.50	<p>The licence holder must make all reports and the results of all surveys and monitoring required by these conditions available electronically on request.</p> <p>Reason: <i>To facilitate the effective monitoring of the effects of dredging.</i></p>
5.2.51	<p>The licence holder must provide copies of the approved depth data and associated reports from the bathymetric surveys to the UK Hydrographic Office in digital form within 1 month of approval.</p> <p>The MMO must be notified in writing that this has been completed within 10 working days of the submission.</p>

Reason:

To ensure that relevant marine charts are kept up to date.

6 Compliance and enforcement

This licence and its terms and conditions are issued under the Marine and Coastal Access Act 2009.

Any breach of the licence terms and conditions may lead to enforcement action being taken. This can include variation, revocation or suspension of the licence, the issuing of an enforcement notice, or criminal proceedings, which may carry a maximum penalty of an unlimited fine and / or a term of imprisonment of up to two years.

Your attention is drawn to Part 4 of the Marine and Coastal Access Act 2009, in particular sections 65, 85 and 89 which set out offences, and also to sections 86, 87 and 109 which concern defences. The MMO's Compliance and Enforcement Strategy can be found on our website (<https://www.gov.uk/government/publications/compliance-and-enforcement-strategy>).