

1 Introduction

- 1.1 Fairhurst have prepared this document in support of Variation Request 8, which has been submitted to the MMO to amend the current marine licence MLA/2015/00334/8.

2 Proposed Changes within Variation Request 8

- 2.1 The current marine licence MLA/2015/00334/8 permits both capital and maintenance dredging in order to improve access into Able Seaton Port. This includes the dredging activities at Quays 10 and 11, which have been operational for over 20 years.
- 2.2 This variation fundamentally intends to improve the safety elements of the dredging activities by applying an additional mitigation measure to what is already in place in the permitted marine licence. The variation also includes an minor administrative update that has been sought following the uncovering of an error during this application. This variation includes the following:
- The implementation of an erosion mat on the north east of Quay 11 as additional mitigation.
 - Remove an incorrect coordinate that outlines Quay 10 and 11 incorrectly, and replace it with the correct coordinate. (Replacing coordinate (3) with 452794.562, 526756.460).

3 Erosion Mat

- 3.1 An erosion mat has been proposed as an additional mitigation measure, which will be located on the northeast side of Quay 11. These measures have been requested by the power station, which is located adjacent to Quay 10 and 11. It is considered that the use of the mat will ensure that there are no negative impacts on the power station as a result of potential changes to land stability from dredging activities. It should be noted that the erosion mat is seen as an extra precautionary measure, depending on the structural integrity of the quay wall following dredging. The measures outlined in Schedule 5 'Contingency Plan Able Seaton Port Seaton Channel Dredging – Slope Failure Document' will remain in place.

3.2 The Location of Erosion Mat

The erosion mat is shown on supporting Drawing "Q11 Batter Erosion Protection" (Dwg No: ASP-006-00213 (A)). The mat is located within the confines of the berth pocket at Quay 11 as shown on the attached drawing. The coordinates of the mat are confirmed below:

Grid Easting	Grid Northing	Longitude	Latitude
452794.5623 m	526756.4595m	W001° 11' 01.21"	N054° 37' 59.50"
452770.5673 m	526749.6821m	W001° 11' 02.55"	N054° 37' 59.29"
452787.2293 m	526753.6155m	W001° 11' 01.62"	N054° 37' 59.41"
452790.5377	526739.6007m	W001° 11'	N054° 37'

m		01.45"		58.95"	
452797.1113	526686.9012m	W001°	11'	N054°	37'
m		01.11"		57.25"	
452786.0065	526684.2798m	W001°	11'	N054°	37'
m		01.74"		57.17"	

3.3 Details and Specification of the Erosion Mat

Plan area: 999.72m²

Length: 67.2m from quay

Plan width: 17.12m (quay end) (18m on the slope)

Plan width: 11.41m (river side)

Material: Specialist machine-compressed cellular concrete blocks.

3.4 Construction Process

The erosion mats are pre-fabricated by a specialist company offsite and delivered by an HGV to the site.

Once on-site, the mats can be moved into position using a crane, which is located on the quay.

The crane will lift the mats onto the revetment, which once in place, can be interlocked together by the contractor.

Once completed, the mats will remain in place and the structural integrity of the berth will be monitored.

This process can be completed within 1 day, however, it is proposed to allow up to 5 working days for installation to be completed.

3.5 Habitat Regulation Assessment (HRA) Considerations

This section will provide the conclusions of a review of the HRA produced in support of the original application. Initially, it is considered that the implementation of an erosion mat on an area of sediment, which has been consented to be completely removed, will not cause any significant likely affects onto the designated features identified within the HRA.

To ensure that no Light Significant Effects could be caused as a result of the implementation of the erosion mats, a further assessment against the previous findings within the HRA has been undertaken. An assessment of any potential hazards as a result of the mats, which would cause likely significant effects was undertaken in Table 1 (Annex 1). The information within the first two columns of Table A has been extracted from Section 9 of the MMO 'MLA/2015/00334/4 Determination of Likely Significant Effect (LSE)' document.

The conclusion of this assessment confirms that the implementation of the erosion matts will not result in any additional likely significant effects. This is mainly due to the

mats are to be placed outside of all the identified features, aside from the intertidal mudflat. It was considered that as this area is highly modified and dredging activities have been longstanding, the implementation of mats, both during construction and operation, would not disturb the sediment on this area to the extent that it would cause a likely significant effect. The mats are merely an additional mitigation measure for the berths structural integrity and do not result in any impacts towards the designated features as a result of their use.

3.6 Appropriate Assessment

An Appropriate Assessment was undertaken as part of the original approved marine licence that provided a further assessment on aspects that were screened from the HRA findings that would have an adverse effect on the integrity of the listed European Designated Sites. It is considered that no further aspects would have been screened into the Appropriate Assessment as a result of the implementation of erosion mats. However, Fairhurst have provided commentary below within Table 2, on the interest features screened in for a further assessment.

Interest feature screened in for further assessment	Hazard identification as capable of having an adverse effect on a feature of the site	Can adverse effects be avoided?
European Important Annex I Species Assemblages of international importance	Visual Disturbance Noise Disturbance	No additional adverse effects were identified as a result of the erosion mats. It is considered that both the noise and visual appearance of the installation equipment will fall within the context of the industrial area and what have already been assessed in the HRA.
European Important Annex I Species Assemblages of international importance	Sediment contamination	No additional adverse effects were identified as a result of the erosion mats.
European Important Annex I Species, Assemblages of international importance and remaining habitats	Suspended sediment	No additional adverse effects were identified as a result of the erosion mats.

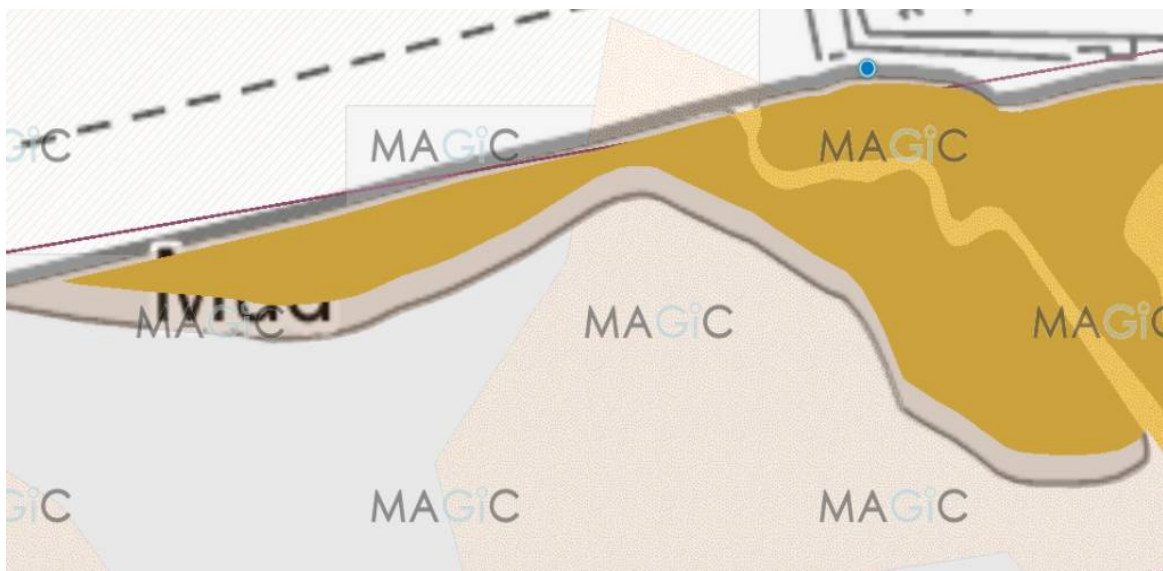
Table 2 – Summary of Appropriate Assessment of Erosion Mats

4 Coordinate Amendment

- 4.1 The variation includes an amendment to a coordinate within Schedule 3. An error has appeared when placing the erosion mat within the marine licence boundary. As shown on the below plan, the marine licence area (red line) is incorrect and cuts through the existing Quay 10 and 11 (Blue shaded area), which have been operational for 20+ years.





- 4.2 Although this is clear admin error, this section will prove that no further assessment is required as a result of a new coordinate. The below image is taken from MAGIC, which provides the location of the designated areas. The shaded brown area are the intertidal muds that are designated under the Teesmouth and Cleveland Coast SPA. The coordinate to be included is shown as the blue mark on the below image.



- 4.3 It is clear that this area of mud has already been assessed within the HRA. The MMO HRA states that within the intertidal mudflats, “Dredging activities have the potential to disturb the sediment. Any disturbance should be minimal as there will be limited dredging and disposal campaigns a year”. However, it goes on to state that “the area is highly modified and dredging activities have been longstanding”. The revised coordinate does not pose any additional disturbance, as it does not propose any additional dredging and or quantity of material to be removed, than what has been previously assessed. No other designated features are located within this area that were considered within the HRA.
- 4.4 As shown on Drawing “Q11 Batter Erosion Protection” (Dwg No: ASP-006-00213 (A)), the area of Quay 11 is correct and the erosion mat also proposed in this variation is comfortably within the marine licenced boundary.
- 4.5 It can be concluded that the additional coordinate does not pose any unassessed harm to the designated areas. This is because the area of dredging that the coordinate would not include, has already been assessed and licenced for many years.

5 Summary

- 5.1 Fairhurst can conclude that the proposed works within Variation 8 do not have the potential to incur LSEs and therefore will not adversely affect the site integrity of the designated sites, the proposed variation will increase safety and is a suitable mitigation measure.

Status	Originator	Checked by	Date
Final	J Murphy	D Waugh	23.12.20
			

This document has been prepared in accordance with procedure OP/P02 of the Fairhurst Quality and Environmental Management System.

Annex 1

Summary of Further Assessment

Interest Feature (Taken from HRA)	Potential hazard (Taken from HRA)	Assessment change to LSE status as a result of variation?
Teesmouth and Cleveland Coast SPA		
European Important Annex I Species		
<ul style="list-style-type: none"> • Little tern • Sandwich terns, • Ringed plover, • Red knot, • Common redshank, • Common tern. • Ruff • Pied avocet 	Disturbance from the noise and sight of the dredger, reduced food sources due to decreased oxygen, increased contamination from sediment, loss of sight of food sources due to increased turbidity.	The mats will be installed using a crane most likely within a single day. It is considered that both the noise and visual appearance of the installation equipment will fall within the context of the industrial area and what have already been assessed in the HRA. The mats have no properties that would cause contamination to sediment and they have a track record of use throughout the marine environment. The mats will be located in an area of sediment that has also been consented for its complete removal.
Supporting subfeatures		
Sand and shingle	Covered by additional material including clay.	The dredging area does not overlap with this feature. Therefore, there will be no direct impacts. Sediment will not be any more disturbed from using the mats than if it was removed.
Intertidal sandflats	Increased sediment which reduces oxygen and smothers sites, possible contamination from disturbed sediment	The erosion mats do not overlap with this feature. Sediment will not be any more disturbed from using the mats than if it was removed.
Intertidal mudflats	Increased sediment which reduces oxygen and smothers sites, possible contamination from disturbed sediment	The area of Quay 11 where the mats are to be installed is located within Intertidal Mudflats.

		However, as the HRA identifies, this area is highly modified and dredging activities have been longstanding. Implementation of mats would not disturb sediment on this area to the extent that it would cause a likely significant effect. The mats will merely hold the sediment in place and restrict sediment movement. It is considered that sediment will not be any more disturbed from using the mats than if it was removed.
Reefs	Covered by sediment and increase in contaminants affecting organisms using the Reef.	This subfeature is adjacent to the dredging area (Quay 11), and the implementation of mats within the dredging area will not disturb reefs.
Rocky Shore	Covered by sediment and increase in contaminants affecting organisms using the rocky shore.	These subfeatures does not overlap with dredging area (Quay 11), therefore the implementation of mats within the dredging area should not result in any direct impacts.
Saltmarsh, freshwater marsh	Suspended sediment containing contaminants, reduced oxygen from turbidity,	These subfeatures does not overlap with dredging area (Quay 11), therefore the implementation of mats within the dredging area should not result in any direct impacts.
Teesmouth and Cleveland Coast Ramsar		
Intertidal sandflats	Increased sediment which reduces oxygen and smothers sites, possible contamination from disturbed sediment	This feature does not overlap with dredging area (Quay 11); therefore, the implementation of mats within the dredging area should not result in any direct impacts.
Intertidal mudflats	Increased sediment which reduces oxygen and smothers sites, possible contamination from disturbed sediment	The area of Quay 11 where the mats are to be installed is located within Intertidal Mudflats. However, as the HRA identifies, this area is highly modified and dredging activities have been

		longstanding. Implementation of mats would not disturb sediment on this area to the extent that it would cause a likely significant effect. The mats will merely hold the sediment in place and restrict sediment movement. It is considered that sediment will not be any more disturbed from using the mats than if it was removed.
Rocky shore	Covered by sediment and increase in contaminants affecting organisms using the Reef.	This feature is adjacent to the dredging area (Quay 11), and the implementation of mats within the dredging area will not disturb reefs.
Saltmarsh, freshwater marsh	Covered by sediment and increase in contaminants affecting organisms using the rocky shore.	This feature does not overlap with dredging area (Quay 11); therefore, the implementation of mats within the dredging area should not result in any direct impacts.
Sand dunes	Suspended sediment containing contaminants, reduced oxygen from turbidity,	This feature does not overlap with dredging area (Quay 11); therefore, the implementation of mats within the dredging area should not result in any direct impacts.
Invertebrates	Smothering, increased contaminant from sediment, reduced oxygen, changes to their food source, food sources less visible.	The area is highly modified and dredging activities have been longstanding. This feature does not overlap with dredging area (Quay 11), therefore the implementation of mats within the dredging area should not result in any direct impacts.
Waterbirds	Disturbance from the noise and sight of the dredger, reduced food sources due to decreased oxygen, increased contamination from sediment, loss of sight of food sources due to increased turbidity.	The mats will be installed using a crane most likely within a single day. It is considered that both the noise and visual appearance of the installation equipment will fall within the context of the industrial area and what have already been assessed in the HRA.

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7 Approved Co-ordinates (Schedule 3)

7.1 The land subject

8 Analysis



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