Appendix 7.2 Habitat Regulations Assessment

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1 Need for an Appropriate Assessment

Stena Line Ltd, owner and operator of Fishguard Ferry Port proposes to replace the existing linkspan within Fishguard Harbour, Pembrokeshire, Wales. The proposed development will replace an existing linkspan which has reached the end of its serviceable life and provide an improved facility for passenger and vehicular access to vessels within the Port.

The proposed development includes two main elements of work; firstly the removal of the existing jack up pontoon, linkspan ramps, associated mechanical infrastructure and the demolition of the concrete approach and support structures to facilitate the replacement linkspan. The second element of work, the installation of the replacement linkspan, includes all marine civil works required to facilitate the installation of the proposed replacement linkspan. This includes the construction of new dolphins and bankseat and the installation of a replacement linkspan. An area of land, immediately adjacent to the quay wall, will be reclaimed and faced with a rock armour revetment to replace the existing suspended approach deck. More detailed information on the scheme can be found in Volume I, Chapter 2 of this ES.

While the assessment has primarily focused on the reclamation and piling scenario as the overall environmental impacts on marine biodiversity features are considered to be greater for this scenario, an alternative scenario of a full piled replacement linkspan was also assessed. For each scenario, the reclaim and pile scenario is considered firstly before a brief discussion of the full piled scenario. The two scenarios being considered as part of the assessment are:

- *Reclamation and Piling*: Construction of the replacement linkspan through reclamation (and associated revetment) with piling used only for the dolphins and bank seat (24 tubular piles). This scenario would require dredging within the area of proposed reclaim and rock armour revetment using a bucket dredger (approximately 10,000 m^3 of sediment)

- *Piling Only*: This scenario involves no reclamation but instead a replacement linkspan that is constructed entirely on piles (the original 24 for the bankseat and dolphins with the addition of 26 for the approach structure). This scenario will involve reduced dredging which would be restricted to around the bank seat area only (1,000 m^3 of sediment).

The duration of piling has been assumed to be the same under both scenarios.

The proposed works are located within the boundaries of the West Wales Marine candidate Special Area of Conservation (cSAC). This site has been designated for the protection of harbour porpoise *Phocoena phocoena*. In addition, there are four European sites located in the adjacent coastal environment that contain mobile features, therefore having the potential to interact with the proposed works.

A Habitats Regulations Assessment (HRA) under Regulation 61(1) of the Habitat Regulations will be required if there is likely to be a significant effect on an SAC or Special Protection Area (SPA). Regulation 61 states that:

> *"A competent authority, before deciding to undertake, or give any consent, permission, or other authorisation for a plan or project which:*
>
> *(a) is likely to have significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and*
> *(b) is not directly connected with or necessary to the management of the site*
>
> *must make an appropriate assessment of the implications for the site in view of that site's conservation objectives".*

The decision as to whether a HRA is required or not is based upon an assessment of 'Likely Significant Effect' (LSE), which is recognised as being a statement that the anticipated effects of the proposal will be more than trivial, i.e. that the anticipated changes resulting from the proposal have the potential to impact on a receptor designated, or proposed to be designated, as an interest feature of a European/Ramsar Site. It does not automatically follow that an impact will occur, or that the impact would be significant, with a decision of LSE being purely an indication of the need for a HRA.

2. Impacts to Relevant Interest Features of Designated Sites

The proposed development directly overlaps with the West Wales Marine cSAC which is designated for harbour porpoise. In addition, several European sites are located in the proximity of the proposed development which are considered here:

- The Pembrokeshire Marine SAC;
- The Cardigan Bay SAC;
- Grassholm SPA; and
- Skomer, Skokholm and the Seas off Pembrokeshire SPA.

Only mobile features of these sites (marine mammals, fish and birds) are considered further as habitat features are located at distances of more than 16 km from the proposed development (see section 7.3 of Volume I of the ES) and therefore will not be affected by the scale of impacts predicted for habitats as part of the proposed development (Chapter 7, Section 7.4.3 of the ES).

The potential for a European Site to be affected, whether directly or indirectly, by the changes brought about by the proposed works is considered unlikely given that the proposed works are relatively small in scale and are confined within a harbour area. On a precautionary basis, however, the required information is provided to allow NRW to determine whether the proposed works are likely to have an adverse effect on the integrity of these European Sites and to undertake a HRA (if deemed necessary).

The Qualifying Interest (QI) features of each of the above sites are summarised in Table 1.1 along with the respective conservation objective. Table 1.2 outlines the potential effects of the proposed works on the relevant (i.e. mobile) QI features for each European site. In each case, the potential significance of the effects are described along with any mitigation measures that have been considered.

3. Conclusions

Upon consideration of the above, the scheme of works proposed at Fishguard Ferry Port is not expected to lead to a LSE on European Sites providing the mitigation measures described in the ES (Section 7.6) are applied. As such, no adverse effect on the integrity of any European Sites are expected. In addition, none of the ongoing activities, plans and projects are considered to result in in-combination effects of a scale that would change the existing condition status of the features recognised within the European Sites. It is therefore considered that the linkspan replacement can commence in accordance with the requirements of the Habitat Regulations, providing the implementation and mitigation measures described in Chatper 7 of the ES (Section 7.6) are applied.

Table 1: Internationally designated sites adjacent to Fishguard Port

Site	Area (ha)	General Site Characteristics	Qualifying Mobile Interest Features	Conservation Objectives
West Wales Marine candidate SAC (cSAC)	737614	Marine areas, Sea inlets (100 %)	Annex II species that are a primary reason for selection of this site: - Harbour Porpoise *Phocoena phocoena*.	· To avoid deterioration of the habitats of the harbour porpoise or significant disturbance to the harbour porpoise, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to maintaining Favourable Conservation Status (FCS) for the UK harbour porpoise. · To ensure for harbour porpoise that, subject to natural change, the following attributes are maintained or restored in the long term: o The species is a viable component of the site; o There is no significant disturbance of the species; and o The supporting habitats and processes relevant to harbour porpoises and their prey are maintained.
The Pembrokeshire Marine SAC	138038.5	Marine areas, Sea inlets (96 %) Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (3.8 %) Salt marshes, Salt pastures, Salt steppes (0.2 %)	Annex II species that are a primary reason for selection of this site: - Grey seal *Halichoerus grypus*. Annex II species present as a qualifying feature, but not a primary reason for site selection: - Sea lamprey *Petromyzon marinus*; - River lamprey *Lampetra fluviatilis*; - Allis shad *Alosa alosa*; and - Twaite shad *Alosa fallax*.	· The species population is maintaining itself on a long-term basis as a viable component of its natural habitat. Important elements include; population size; structure, production and condition of the species. · The species range stays within its natural range, and no reductions have occurred or are likely to occur. In this respect, their range within the SAC and adjacent inter-connected areas is not constrained or hindered. In addition, there are appropriate and sufficient food resources within the SAC and beyond. Finally, the sites and amount of supporting habitat used by these species are accessible and their extent and quality is stable or increasing. · The presence, abundance, condition and diversity of habitats and species required to support this species is such that the distribution, abundance and populations dynamics of the species within the site and population beyond the site is stable or increasing. Important considerations include; distribution; extent; structure; function and quality of habitat; prey availability and quality.

Site	Area (ha)	General Site Characteristics	Qualifying Mobile Interest Features	Conservation Objectives
The Cardigan Bay SAC	95857.06	Marine areas, Sea inlets (99.5 %) Shingle, Sea cliffs, Islets (0.4 %) Heath, Scrub, Maquis and Garrigue, Phygrana (0.1 %) Coastal sand dunes, Sand beaches, Machair (<0.1 %) Inland water bodies (Standing water, Running water) (<0.1 %) Broad-leaved deciduous woodland (<0.1 %)	Annex II species that are a primary reason for selection of this site: - Bottlenose dolphin *Tursiops truncates.* Annex II species present as a qualifying feature, but not a primary reason for site selection: - Sea lamprey *Petromyzon marinus*; - River lamprey *Lampetra fluviatilis*; and - Grey seal *Halichoerus grypus.*	· The species population is maintaining itself on a long-term basis as a viable component of its natural habitat. Important elements include; population size; structure, production and condition of the species. · The species range stays within its natural range, and no reductions have occurred or are likely to occur. In this respect, their range within the SAC and adjacent inter-connected areas is not constrained or hindered. In addition, there are appropriate and sufficient food resources within the SAC and beyond. Finally, the sites and amount of supporting habitat used by these species are accessible and their extent and quality is stable or increasing. · The presence, abundance, condition and diversity of habitats and species required to support this species is such that the distribution, abundance and populations dynamics of the species within the site and population beyond the site is stable or increasing. Important considerations include; distribution; extent; structure; function and quality of habitat; prey availability and quality.
Grassholm SPA	1774.42	Marine areas, Sea inlets (99.4 %) Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (0.1 %) Dry grassland, Steppes (0.3 %) Shingle, Sea cliffs, Islets (0.2 %)	Article 4.2 Qualification (79/409/EEC): - Northern Gannet *Morus bassanus*	· The population will not fall below 30,000 pairs in three consecutive years. · The population will not drop by more than 25 % of the previous year's figures in any one year. · There will be no decline in this population significantly greater than any decline in the North Atlantic population as a whole.

Site	Area (ha)	General Site Characteristics	Qualifying Mobile Interest Features	Conservation Objectives
Skomer, Skokholm and the Seas off Pembrokeshire SPA	166800.74	Marine areas, Sea inlets (99.5 %) Tidal rivers, Estuaries, Mud flats, Sand flats, Lagoons (including saltwork basins) (0.1 %) Shingle, Sea cliffs, Islets (0.1 %) Bogs, Marshes, Water fringed vegetation, Fens (0.1 %) Heath, Scrub, Maquis and Garrigue, Phygrana (0.1 %) Dry grassland, Steppes (0.1 %)	Article 4.1 Qualification (79/409/EEC): - European Storm Petrel *Hydrobates pelagicus.* Article 4.2 Qualification (79/409/EEC): - Lesser black-backed gull *Larus fuscus* - Manx Shearwater *Puffinus puffinus;* and - Atlantic Puffin *Fratercula arctica.*	Storm Petrel · The population of storm petrel will be at least 3500 pairs within the SPA. · Sufficient suitable nesting sites will be present to support at least the current populations. · The factors affecting the feature are under control. Lesser Black-backed Gull · During the breeding season the population of lesser black-backed gull will be at least 20,300 pairs within the SPA. This represents around 16.4 % of the current breeding Western European/Mediterranean/western African population. · Breeding success will be at least 0.4 chicks/pair. · Sufficient suitable nesting sites will be present to support at least the current populations. · The factors affecting the feature are under control. Manx Shearwater · During the breeding season the population of Manx shearwater will be at least 150,000 pairs within the SPA (this represents around half of the current breeding population). · Breeding success will be at least 0.5 chicks per egg laid. · The factors affecting the feature are under control. Atlantic Puffin · During the breeding season the population of puffins will be at least 9,500 pairs within the SPA, (this represents at least 1.1 % of the current breeding population). · Breeding success will be 0.7 chicks/pair. · The factors affecting the feature are under control.

Table 2: Potential Environmental Effects to Adjacent Internationally Designated Sites

European Site and Potential Impacts	Potential Effect	Justification (and Section of ES)
West Wales Marine candidate SAC		
Underwater noise and vibration causing disturbance to mobile species forming QI features	Negligible LSE assuming suggested mitigation in Section 7.6 of the ES is implemented.	*Marine mammal features (harbour porpoise)* Construction activities (particularly piling and blasting) has the potential to cause underwater noise disturbance impacts to harbour porpoise. The noise impact assessment predicts that injury (PTS and TTS) could occur in harbour porpoise at distances of up to approximately 50 m from percussive piling activity. The piling only scenario would result in the same underwater noise effects as the reclaim scenario. Injury effects at distances of up to approximately 450 m are predicted for blasting (Section 7.4.6.3). However, while harbour porpoise are regularly observed in Fishguard Bay, this species generally avoids areas with lots of anthropogenic activity such as busy harbour locations (Dunn *et al*. 2012). This species is therefore unlikely to be recorded within the direct vicinity of the Fishguard Ferry Port in Fishguard Harbour. Furthermore, soft start procedures and JNCC piling protocols will be implemented as mitigation (JNCC, 2010). These measures will further reduce the risk of injury to harbour porpoise. Previous studies (Southall *et al*., 2007 and references therein) and underwater noise modelling suggest that harbour porpoise could also display a behavioural reaction over 3 km from the source of piling and over 6 km from the source of blasting (Section 7.4.6.3). These responses could involve movement away from a sound source, aggressive behaviour related to noise exposure (e.g., tail/flipper slapping, fluke display, abrupt directed movement), visible startle response and brief cessation of reproductive behaviour (Southall *et al*., 2007). However, the constrained nature of the study area will ensure elevated levels of underwater noise during construction mainly remain within the Fishguard Harbour. In this respect the outer breakwater will act as a screen/barrier, generally limiting the propagation of noise reaching the marine environment outside the harbour including around Stumble Head. The area within the harbour (approximately 2.5 nautical miles squared (nm²)) is highly localised compared to the full foraging range of this highly mobile receptor (typically in the range of hundreds to thousands of nm² and also compared to the full extent of the designated site (with the harbour area representing approximately 0.1 % of the total area of the cSAC) (IAMMWG, 2015; Baines and Evans, 2012). Furthermore, harbour porpoise can easily move away from the disturbance zone temporarily with the activity not blocking access to important known sensitive areas for the species such as foraging habitat around Strumble Head.
The Cardigan Bay SAC		

European Site and Potential Impacts	Potential Effect	Justification (and Section of ES)
Underwater noise and vibration causing disturbance to mobile species forming QI features	Negligible LSE assuming suggested mitigation in Section 7.6 of the ES is implemented.	*Marine mammal features (bottlenose dolphin and grey seal)* Bottlenose dolphins are relatively frequently observed in low numbers around Fishguard Bay including in the vicinity of Fishguard Harbour. These bottlenose dolphins are likely to form part of the wider Cardigan Bay population (Baines and Evans, 2012; Seawatch Foundation, 2015). Foraging seals which form part of the population of the SAC population could also be recorded in the vicinity of Fishguard Harbour. The noise impact assessment predicts that injury (PTS and TTS) could occur in grey seal and bottlenose dolphin at distances of up to approximately 7 and 2 m respectively during percussive piling activity (Section 7.4.6.3). Injury is predicted to occur up to 75 m and 17 m for grey seal and bottlenose dolphin respectively during blasting. The piling only scenario would result in the same underwater noise effects as the reclaim scenario. Most sightings of bottlenose dolphin are recorded in the Fishguard Bay area outside of the breakwater for Fishguard Harbour. Fishguard Harbour is also not considered a key foraging area for grey seal. Therefore, it is considered unlikely that marine mammals will be recorded that close to the piling activity. Furthermore, soft start procedures and JNCC piling protocols will be implemented as mitigation (JNCC, 2010). These measures will further reduce the risk of injury to marine mammal species. Previous studies (Southall *et al.,* 2007 and references therein) and underwater noise modelling suggest that bottlenose dolphin and grey seal could also display a behavioural reaction up to 550 m and 60 m respectively from the piling source. Blasting noise could potentially cause a behavioural reaction up to approximately 500 m for grey seal and 2.1 km for bottlenose dolphin (Section 7.4.6.3). However, the constrained nature of the study area will ensure elevated levels of underwater noise during construction mainly remain within the Fishguard Harbour. In this respect the outer breakwater will act as a screen/barrier, generally limiting the propagation of noise reaching the marine environment outside the harbour. Furthermore, these behavioural zones are highly localised compared to the full foraging range of these mobile receptors (typically in the range of hundreds to thousands of nm^2 (IAMMWG, 2015; Baines and Evans, 2012). Furthermore these species can easily move away from the disturbance zone temporarily with the activity not blocking access to important known sensitive areas in the wider Cardigan Bay region.

European Site and Potential Impacts	Potential Effect	Justification (and Section of ES)
		Migratory fish features (sea and river lamprey) With respect to migratory lamprey species, the predicted distance at which the received level of piling noise is within the limits of injury is 6 m (Section 7.4.5.4). Risk of injury is considered to be low as it is considered unlikely that lamprey species will be recorded within a few metres of piling activity. The distance at which the received level is within the limits of a behavioural reaction is 2 km. The predicted distance for the limits of injury for blasting noise is 67 m for lamprey species. The distance at which the received level is within the limits of a behavioural reaction for blasting is 4.5 km (Section 7.4.5.4). Migrating fish will be able to move away from the sources of disturbance and the zones of disturbance influence will not block coastal access associated with migratory routes to any of the natal rivers associated with the designated site.
The Pembrokeshire Marine SAC		
Noise and Vibration causing disturbance to mobile species forming QI features	Negligible LSE assuming suggested mitigation in Section 7.6 of the ES is implemented.	*Marine mammal features (grey seal)* The noise impact assessment predicts that injury (PTS and TTS) could occur in grey seal at distances of up to approximately 7 m respectively from percussive piling activity and 75 m for blasting noise (Section 7.4.6.3). The piling only scenario would result in the same underwater noise effects as the reclaim scenario. However, Fishguard Harbour is not considered a key foraging area for grey seal and it is considered unlikely that grey seal will be recorded that close to the piling activity. Furthermore, soft start procedures and JNCC piling protocols will be implemented as mitigation (JNCC, 2010). These measures will further reduce the risk of injury to marine mammal species. Previous studies (Southall *et al*., 2007 and references therein) and underwater noise modelling suggest that grey seal could also display a behavioural reaction up to approximately 60 m from a piling source and 500 m from blasting noise (Section 7.4.5.4). However, the constrained nature of the study area will ensure elevated levels of underwater noise during construction mainly remain within the Fishguard Harbour. In this respect the outer breakwater will act as a screen/barrier, generally limiting the propagation of noise reaching the marine environment outside the harbour including around Stumble Head. Furthermore, these behavioural zones are highly localised compared to the full foraging range of this

European Site and Potential Impacts	Potential Effect	Justification (and Section of ES)
		mobile receptor (typically in the range of hundreds to thousands of nm^2)) (IAMMWG, 2015; Baines and Evans, 2012). Furthermore, this species can easily move away from the disturbance zone temporarily with the activity not blocking access to important known sensitive areas more widely along the Pembrokeshire coast. *Migratory fish features (sea lamprey, river lamprey, twaite shad and allis shad)* With respect to migratory fish species, the predicted distance at which the received level of noise for piling is within the limits of injury is 6 m for lamprey species and 13 m for shad species. Risk of injury is considered to be low as it is considered unlikely that these species will be recorded within a few metres of piling activity. The piling only scenario would result in the same underwater noise effects as the reclaim scenario. The distance at which the received level is within the limits of a behavioural reaction for piling is 2 km (Section 7.4.5.4). The predicted distances for the limits of injury for blasting noise is 67 m for lamprey species and 137 m for shad species. The distance at which the received level is within the limits of a behavioural reaction for blasting is 4.5 km (Section 7.4.5.4). Migrating fish will easily be able to move away from the noise sources of disturbance and the zones of disturbance influence will not block coastal access associated with migratory routes to any of the natal rivers associated with the designated site.
Grassholm SPA		
Noise and visual disturbance to mobile species forming QI features	Negligible	*Seabird feature (Northern Gannet)* Fishguard Harbour is within the foraging range of Gannets from Grassholm. However, this species generally avoids foraging within busy coastal areas directly next to the foreshore. The species is therefore unlikely to be recorded near to the proposed works.
Skomer, Skokholm and the Seas off Pembrokeshire SPA		
Noise and visual disturbance to mobile species forming QI features	Negligible	*Seabird features (Manx Shearwater, Atlantic Puffin, Storm Petrel and Lesser Black-backed Gull)* Fishguard Harbour is within the foraging range of seabirds at Skomer and Skokholm. However, Manx Shearwater, Atlantic Puffin and Storm Petrel all generally avoid foraging within coastal areas directly next to the foreshore that have very high levels of anthropogenic activity. These species are therefore unlikely to be recorded near to the proposed works. Lesser Black-backed Gull nesting on Skomer or Skokholm would be expected to forage in closer proximity to these islands.

B4. References

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