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HABITATS REGULATIONS ASSESSMENT REPORT - VOLUME 3 - APPENDIX 1: PINS SCREENING AND INTEGRITY MATRICES

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

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Advice Note 10

Habitats Regulations Assessment Report

Appendix 1: Screening and Integrity Matrices

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Screening Matrices - Potential Effects

Potential effects upon the European site(s)* which are considered within the submitted Habitat Regulations Assessment ('HRA') Report (document reference 6.8.1) are provided in the table below. Effects have been grouped where appropriate for ease of presentation.

Effects considered within the screening matrices for marine ornithology features

#The information in this column relates to all phases of the project (i.e. construction, operation and decommissioning) unless otherwise stated.

Designation	Effects described in submission information #	Presented in screening matrices as
UK sites identified: Solent and Dorset Coast pSPA Chichester and Langstone Harbours SPA Portsmouth Harbour SPA Solent and Southampton Water SPA Pagham Harbour SPA	Alone: • Disturbance & displacement • Indirect effects • Collision • INIS • Accidental spills • Litter	• Alone: • Disturbance & displacement • Indirect effects • Collision • INIS • Accidental spills • Litter
	In combination: • Disturbance & displacement • Indirect effects • Collision • INIS • Accidental spills • Litter	In combination: • Disturbance & displacement • Indirect effects • Collision • INIS • Accidental spills • Litter
Transboundary sites identified: Littoral Seino-Marin SPA Alderney West Coast and Burhou Islands Ramsar	Alone: • Disturbance & displacement • Indirect effects • Collision • INIS • Accidental spills • Litter	Alone: • Disturbance & displacement • Indirect effects • Collision • INIS • Accidental spills • Litter
	In combination: • Disturbance & displacement • Indirect effects • Collision • INIS • Accidental spills • Litter	In combination: • Disturbance & displacement • Indirect effects • Collision • INIS • Accidental spills • Litter
Pre-screened out sites: Poole Harbour SPA	Alone: • Disturbance & displacement • Indirect effects	Alone: • Disturbance & displacement • Indirect effects

* As defined in Advice Note 10.

Designation	Effects described in submission information #	Presented in screening matrices as
Dungeness, Romney Marsh and Rye Bay SPA Estuaire et Marais de la Basse Seine SPA	• Collision • INIS • Accidental spills • Litter	• Collision • INIS • Accidental spills • Litter
	In combination: • Disturbance & displacement • Indirect effects • Collision • INIS • Accidental spills • Litter	In combination: • Disturbance & displacement • Indirect effects • Collision • INIS • Accidental spills • Litter

Effects considered within the screening matrices for fish features

#The information in this column relates to all phases of the project (i.e. construction, operation and decommissioning) unless otherwise stated.

Designation	Effects described in submission information #	Presented in screening matrices as
UK sites		
River Itchen SAC **River Avon SAC** **River Axe SAC** **Plymouth Sound and Estuaries SAC**	**Alone:**	**Alone:**
	• Increased SSC	• Increased SSC
	• Physical Injury	• Physical Injury
	• Invasive species	• Invasive species
	• Pollution events	• Pollution events
	• Noise and vibration	• Noise and vibration
	• Visual disturbance	• Visual disturbance
	• EMF (Operation)	• EMF
	• Temperature changes (Operation)	• Temperature changes
	In combination:	**In combination:**
	• Increased SSC	• Increased SSC
	• Noise and Vibration	• Noise and Vibration
Transboundary (French) sites		
Littoral Cauchois SAC	**Alone:**	**Alone:**
	• Increased SSC	• Increased SSC
	• Physical Injury	• Physical Injury
	• Invasive species	• Invasive species
	• Pollution events	• Pollution events
	• Noise and vibration	• Noise and vibration
	• Visual disturbance	• Visual disturbance
	• EMF (Operation)	• EMF
	• Temperature changes (Operation)	• Temperature changes
	In combination:	**In combination:**
	• Increased SSC	• Increased SSC
	• Noise and Vibration	• Noise and Vibration
Estuaires et Littoral Picards (Baies de Somme et d'Authie) SAC	**Alone:**	**Alone:**
	• Increased SSC	• Increased SSC
	• Physical Injury	• Physical Injury
	• Invasive species	• Invasive species
	• Pollution events	• Pollution events
	• Noise and vibration	• Noise and vibration
	• Visual disturbance	• Visual disturbance
	• EMF (Operation)	• EMF
	In combination:	**In combination:**
	• Increased SSC	• Increased SSC

Designation	Effects described in submission information #	Presented in screening matrices as
	• Noise and Vibration	• Noise and Vibration
Baie de Canche et Couloir des Trois Estuaires SAC	**Alone:**	**Alone:**
	• Increased SSC	• Increased SSC
	• Physical Injury	• Physical Injury
	• Invasive species	• Invasive species
	• Pollution events	• Pollution events
	• Noise and vibration	• Noise and vibration
	• Visual disturbance	• Visual disturbance
	• EMF (Operation)	• EMF
	• Temperature changes (Operation)	• Temperature changes
	In combination:	**In combination:**
	• Increased SSC	• Increased SSC
	• Noise and Vibration	• Noise and Vibration
Baie de Seine Orientale SAC	**Alone:**	**Alone:**
	• Increased SSC	• Increased SSC
	• Physical Injury	• Physical Injury
	• Invasive species	• Invasive species
	• Pollution events	• Pollution events
	• Noise and vibration	• Noise and vibration
	• Visual disturbance	• Visual disturbance
	• EMF (Operation)	• EMF
	• Temperature changes (Operation)	• Temperature changes
	In combination:	**In combination:**
	• Increased SSC	• Increased SSC
	• Noise and Vibration	• Noise and Vibration

Effects considered within the screening matrices for marine mammal features

#The information in this column relates to all phases of the project (i.e. construction, operation and decommissioning) unless otherwise stated. All of the effects listed were assessed for both the Proposed Development alone and for the Proposed Development in combination with other plans/projects.

Designation	Effects described in submission information#	Presented in screening matrices as
Transboundary sites		
Récifs Gris-Nez Blanc-Nez SAC	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution
Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution
Baie de Canche et couloir des trois estuaires SAC	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution
Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution
Littoral Cauchois SAC	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution
Baie de Seine Orientale SAC	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution
Estuaire de la Seine SAC	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision

Designation	Effects described in submission information[#]	Presented in screening matrices as
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution
Pre-screened out sites		
Southern North Sea SAC	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution
The Wash and North Norfolk Coast SAC	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution
Pembrokeshire Marine SAC	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution
Cardigan Bay SAC	• Auditory injury	• Auditory injury
	• Disturbance	• Disturbance
	• Collision	• Collision
	• Indirect effects	• Indirect effects
	• Pollution	• Pollution

Effects considered within the screening matrices for Annex I features

#The information in this column relates to all phases of the project (i.e. construction, operation and decommissioning) unless otherwise stated.

Designation	Effects described in submission information#	Presented in screening matrices as
Solent Maritime SAC	• Habitat disturbance	• Habitat disturbance/loss
	• Habitat loss	
	• Deposition of sediment (smothering)	• Increased SSC/smothering
	• Increased SSC	
	• Resuspension of contaminated sediments	• Contaminated sediments
	• Hydrodynamic changes	• Hydrodynamic changes
	• Invasive species	• Invasive species
	• Pollution events	• Pollution (incl. light/noise)
	• Increased light pollution	
	• Noise and vibration	
	• Temperature changes	• EMF/temperature
	• EMF	
South Wight Maritime SAC	• Habitat disturbance	• Habitat disturbance/loss
	• Habitat loss	
	• Deposition of sediment (smothering)	• Increased SSC/smothering
	• Increased SSC	
	• Resuspension of contaminated sediments	• Contaminated sediments
	• Hydrodynamic changes	• Hydrodynamic changes
	• Invasive species	• Invasive species
	• Pollution events	• Pollution (incl. light/noise)
	• Increased light pollution	
	• Noise and vibration	
	• Temperature changes	• EMF/temperature
	• EMF	
Pre-screened out sites		
Solent and Isle of Wight Lagoons SAC	• Habitat disturbance	• Habitat disturbance/loss

Designation	Effects described in submission information[#]	Presented in screening matrices as
	• Habitat loss	
	• Deposition of sediment (smothering)	• Increased SSC/smothering
	• Increased SSC	
	• Resuspension of contaminated sediments	• Contaminated sediments
	• Hydrodynamic changes	• Hydrodynamic changes
	• Invasive species	• Invasive species
	• Pollution events	• Pollution (incl. light/noise)
	• Increased light pollution	
	• Noise and vibration	
	• Temperature changes	• EMF/temperature
	• EMF	
Wight-Barfleur Reef SAC	• Habitat disturbance	• Habitat disturbance/loss
	• Habitat loss	
	• Deposition of sediment (smothering)	• Increased SSC/smothering
	• Increased SSC	
	• Resuspension of contaminated sediments	• Contaminated sediments
	• Hydrodynamic changes	• Hydrodynamic changes
	• Invasive species	• Invasive species
	• Pollution events	• Pollution (incl. light/noise)
	• Increased light pollution	
	• Noise and vibration	
	• Temperature changes	• EMF/temperature
	• EMF	
Bassurelle Sandbank SAC	• Habitat disturbance	• Habitat disturbance/loss
	• Habitat loss	
	• Deposition of sediment (smothering)	• Increased SSC/smothering
	• Increased SSC	
	• Resuspension of contaminated sediments	• Contaminated sediments
	• Hydrodynamic changes	• Hydrodynamic changes
	• Invasive species	• Invasive species
	• Pollution events	• Pollution (incl. light/noise)
	• Increased light pollution	
	• Noise and vibration	
	• Temperature changes	• EMF/temperature
	• EMF	
Studland to Portland SAC	• Habitat disturbance	• Habitat disturbance/loss
	• Habitat loss	
	• Deposition of sediment (smothering)	• Increased SSC/smothering
	• Increased SSC	
	• Resuspension of contaminated sediments	• Contaminated sediments

Designation	Effects described in submission information#	Presented in screening matrices as
	• Hydrodynamic changes	• Hydrodynamic changes
	• Invasive species	• Invasive species
	• Pollution events	• Pollution (incl. light/noise)
	• Increased light pollution	
	• Noise and vibration	
	• Temperature changes	• EMF/temperature
	• EMF	
Littoral Cauchois SAC	• Habitat disturbance	• Habitat disturbance/loss
	• Habitat loss	
	• Deposition of sediment (smothering)	• Increased SSC/smothering
	• Increased SSC	
	• Resuspension of contaminated sediments	• Contaminated sediments
	• Hydrodynamic changes	• Hydrodynamic changes
	• Invasive species	• Invasive species
	• Pollution events	• Pollution (incl. light/noise)
	• Increased light pollution	
	• Noise and vibration	
	• Temperature changes	• EMF/temperature
	• EMF	

Effects considered within the screening matrices for onshore ecology features

#The information in this column relates to all phases of the project (i.e. construction, operation and decommissioning) unless otherwise stated.

Designation	Effects described in submission information #	Presented in screening matrices as
UK sites identified: Chichester and Langstone Harbours SPA Portsmouth Harbour SPA	Alone: • Disturbance & displacement • Visual disturbance • Light pollution • Indirect effects • INIS • Accidental spills • Litter	• Alone: • Disturbance & displacement • Visual disturbance • Light pollution • Indirect effects • INIS • Accidental spills • Litter

	In combination: • Disturbance & displacement • Visual disturbance • Light pollution • Indirect effects • INIS • Accidental spills • Litter	In combination: • Disturbance & displacement • Visual disturbance • Light pollution • Indirect effects • INIS • Accidental spills • Litter
Pre-screened out sites: Solent and Dorset Coast pSPA Solent and Southampton Water SPA Butser Hill SAC Solent Maritime SAC	Alone: • Disturbance & displacement • Visual disturbance • Light pollution • Indirect effects • INIS • Accidental spills • Litter	Alone: • Disturbance & displacement • Visual disturbance • Light pollution • Indirect effects • INIS • Accidental spills • Litter
	In combination: • Disturbance & displacement • Visual disturbance • Light pollution • Indirect effects • INIS • Accidental spills • Litter	In combination: • Disturbance & displacement • Visual disturbance • Light pollution • Indirect effects • INIS • Accidental spills • Litter

STAGE 1: SCREENING MATRICES

The European sites (within the UK marine area) included within the screening assessments are:

- Solent and Dorset Coast pSPA
- Chichester and Langstone Harbours SPA
- Portsmouth Harbour SPA
- Solent and Southampton Water SPA
- Pagham Harbour SPA
- River Itchen SAC
- River Avon SAC
- River Axe SAC
- Plymouth Sound and Estuaries SAC
- Solent Maritime SAC
- South Wight Maritime SAC

Transboundary European sites included within the screening assessments for fish:
- Littoral Cauchois SAC
- Estuaires et littoral picards (baies de Somme et d'Authie) SAC
- Baie de Canche et couloir des trois estuaires SAC
- Baie de Seine Orientale SAC

Transboundary European sites included within the screening assessments for marine ornithology:
- Littoral Seino-Marin SPA
- Alderney West Coast and Burhou Islands Ramsar

Transboundary European sites included within the screening assessments for marine mammals:
- Récifs Gris-Nez Blanc-Nez SAC
- Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC
- Baie de Canche et couloir des trois estuaires SAC
- Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar
- Littoral Cauchois SAC
- Baie de Seine Orientale SAC
- Estuaire de la Seine SAC

Pre-screened out sites for marine ornithology features:
- Poole Harbour SPA
- Dungeness, Romney Marsh and Rye Bay SPA
- Estuaire et Marais de la Basse Seine SPA

Pre-screened out sites for marine mammal features:
- Southern North Sea SAC

- The Wash and North Norfolk Coast SAC
- Pembrokeshire Marine SAC
- Cardigan Bay SAC

Pre-screened out sites for Annex I habitat features:

- Solent and Isle of Wight Lagoons SAC
- Wight-Barfleur Reef SAC
- Bassurelle Sandbank SAC
- Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC
- Studland to Portland SAC
- Littoral Cauchois SAC

Evidence for, or against, likely significant effects on the European site(s) and its qualifying feature(s) is detailed within the footnotes to the screening matrices below.

Matrix Key:

✓ = Likely significant effect **cannot** be excluded
✕ = Likely significant effect **can** be excluded

C = construction
O = operation (and repair/maintenance)
D = decommissioning

B = breeding
W = wintering/non-breeding
P = passage

Where effects are not applicable to a particular feature they are greyed out.

HRA Screening Matrix 1A: Solent and Dorset Coast pSPA (Marine Ornithology)

Name of European Site: Solent and Dorset Coast pSPA (Marine Ornithology)																			
Distance to Proposed Development: 0.0 km																			
European site feature	**Likely Effects of the Proposed Development (Alone)**																		
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Sandwich tern (B)	**×b**	**×b**	**×b**	**✓c**	**✓c**	**✓c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**✓f**	**✓f**	**✓f**	**✓g**	**✓g**	**✓g**
Little tern (B)	**✓a**	**✓a**	**✓a**	**✓c**	**✓c**	**✓c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**✓f**	**✓f**	**✓f**	**✓g**	**✓g**	**✓g**
Common tern (B)	**×b**	**×b**	**×b**	**✓c**	**✓c**	**✓c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**✓f**	**✓f**	**✓f**	**✓g**	**✓g**	**✓g**
Supporting habitat (water column)	**×h**	**×h**	**×h**	**✓i**	**✓i**	**✓i**				**×j**	**×j**	**×j**	**✓k**	**✓k**	**✓k**	**✓g**	**✓g**	**✓g**

Evidence supporting conclusions (also see HRA Report Section 7.2.4):

a. Due to a restricted foraging range, the presence of vessels and associated activities during all development phases may displace this moderately sensitive feature from favoured foraging habitat through both visual disturbance and unpredictable noise events. Therefore, LSE applies to disturbance and displacement.

b. Given that these features are not considered to be sensitive to disturbance from vessel traffic and associated activities, the potential for an effect from displacement is considered to be negligible across all development phases. Therefore, no LSE applies to disturbance & displacement for these features.

c. Increases in suspended sediment concentrations as a result of HDD works, cable burial activities and cable maintenance may affect prey availability within the foraging range of these features. Therefore, LSE applies to indirect effects.

d. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an effect is therefore considered negligible and therefore no LSE applies to collision.

e. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for these features and therefore no LSE applies to INIS.

f. Unplanned oil or chemical spillages from vessels may occur during all development phases. Spills have the potential to directly affect these features when utilising the sea surface e.g. through direct oiling resulting in mortality. Therefore, LSE applies to accidental spills.

g. Unplanned disposal of industrial or user plastic into the water column during all development phases has the potential to directly affect these features and their prey species present in the water column e.g. through ingestion or entanglement resulting in mortality. Therefore, LSE applies to litter.

h. Disturbance and displacement of prey species present within the water column during all phases of development is considered to be negligible since it is likely that fish species present in the Solent are accustomed to vessel traffic and the presence of vessels towing equipment (e.g. commercial fishing vessels) and will simply navigate round or under any construction or maintenance vessels. Therefore, no LSE applies.

i. Increases in suspended sediment concentrations ('SSC') as a result of HDD works, cable burial activities and cable maintenance may increase turbidity of this supporting habitat, altering prey availability though changes in primary production by phytoplankton, as well as making it harder for visual foraging features to see prey from the sea surface. Therefore, LSE applies to indirect effects.

j. Invasive species may be introduced into the water column via biofouling or ballast water from vessels. However, it is highly unlikely that any of these will be harmful to prey species present in the water column. The introduction of non-burial protection (0.39 km^2) is not predicted to significantly affect the abundance and distribution of INIS which are already abundant and widely distributed in the English Channel. Therefore, no LSE applies to INIS.

k. Unplanned oil or chemical spillages from vessels may occur during all development phases. Oil can cause sublethal impacts on juvenile fish growth and survival, thus potentially affecting prey availability. Therefore, LSE applies to accidental spills.

HRA Screening Matrix 1B: Solent and Dorset Coast pSPA (Marine Ornithology – In Combination)

Name of European Site: Solent and Dorset Coast pSPA (Marine Ornithology)																		
Distance to Proposed Development: 0 km																		
European site feature	**Likely Effects of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Sandwich tern (B)	**×b**	**×b**	**×b**	**✓a**	**✓a**	**✓a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**
Little tern (B)	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**
Common tern (B)	**×b**	**×b**	**×b**	**✓a**	**✓a**	**✓a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**
Supporting habitat (water column)	**×e**	**×e**	**×e**	**✓a**	**✓a**	**✓a**				**×f**	**×f**	**×f**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**

Evidence supporting conclusions (also see HRA Report Section 8.2.4):

a. LSE applies to the Proposed Development alone. Therefore, potential in combination LSE is considered in the Stage 2 Integrity matrices below.

b. Given that these features are not considered to be sensitive to disturbance from vessel traffic and associated activities, the potential for an in combination effect from displacement is considered to be negligible across all development phases. Therefore, no in combination LSE applies to disturbance & displacement for these features.

c. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an effect is therefore considered negligible and therefore no in combination LSE applies to collision.

d. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for these features and therefore no in combination LSE applies to INIS.

e. Disturbance and displacement of prey species present within the water column during all phases of development is considered to be negligible since it is likely that fish species present in the Solent are accustomed to vessel traffic and the presence of vessels towing equipment (e.g. commercial fishing vessels) and will simply navigate round or under any construction or maintenance vessels. Therefore, no in combination LSE applies.

f. Invasive species may be introduced into the water column via biofouling or ballast water from vessels. However, it is highly unlikely that any of these will be harmful to prey species present in the water column. The introduction of non-burial protection (0.39 km^2) is not predicted to significantly affect the abundance and distribution of INIS which are already abundant and widely distributed in the English Channel. Therefore, no in combination LSE applies.

HRA Screening Matrix 2A: Chichester and Langstone Harbours SPA (Marine Ornithology)

Name of European Site: Chichester and Langstone Harbours SPA (Marine Ornithology)																		
Distance to Proposed Development: 0.1 km																		
European site feature	**Likely Effects of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Shelduck (W)																		
Shoveler (W)																		
Wigeon (W)																		
Pintail (W)																		
Teal (W)																		
Red-breasted merganser (W)	**✓a**	**✓a**	**✓a**	**✓c**	**✓c**	**✓c**	**✕e**	**✕e**	**✕e**				**✓h**	**✓h**	**✓h**	**✓i**	**✓i**	**✓i**
Grey plover (W)																		
Ringed plover (W)																		
Curlew (W)																		
Bar-tailed godwit (W)																		
Turnstone (W)																		
Sanderling (W)																		
Dunlin (W)																		
Redshank (W)																		
Sandwich tern (B)	**✕b**	**✕b**	**✕b**	**✓c**	**✓c**	**✓c**	**✕d**	**✕d**	**✕d**	**✕f**	**✕f**	**✕f**	**✓g**	**✓g**	**✓g**	**✓h**	**✓h**	**✓h**
Little tern (B)	**✓a**	**✓a**	**✓a**	**✓c**	**✓c**	**✓c**	**✕d**	**✕d**	**✕d**	**✕f**	**✕f**	**✕f**	**✓g**	**✓g**	**✓g**	**✓h**	**✓h**	**✓h**
Common tern (B)	**✕b**	**✕b**	**✕b**	**✓c**	**✓c**	**✓c**	**✕d**	**✕d**	**✕d**	**✕f**	**✕f**	**✕f**	**✓g**	**✓g**	**✓g**	**✓h**	**✓h**	**✓h**
Supporting habitat (water column)	**✕i**	**✕i**	**✕i**	**✓j**	**✓j**	**✓j**				**✕k**	**✕k**	**✕k**	**✓l**	**✓l**	**✓l**	**✓h**	**✓h**	**✓h**

Evidence supporting conclusions (also see HRA Report Section 7.2.4):

a. The presence of vessels and associated activities during all development phases may displace these moderately sensitive features from favoured foraging and/or roosting habitat through both visual disturbance and unpredictable noise events. Therefore, LSE applies to disturbance and displacement.

b. Given that these features are not considered to be sensitive to disturbance from vessel traffic and associated activities, the potential for an effect from displacement is considered to be negligible across all development phases. Therefore, no LSE applies to disturbance & displacement for these features.

c. Increases in SSC as a result of HDD works, cable burial activities and cable maintenance may affect prey availability within these foraging range of these features. Therefore, LSE applies to indirect effects.

d. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an effect is therefore considered negligible and therefore no LSE applies to collision.

e. Structures or devices which have the potential to pose an above water collision risk to this feature will not be introduced during any development phase. Structures or devices within the water column associated with the Proposed Development will only be used in the context of operating vessels (e.g. vessels towing equipment). Below water collision risk is therefore considered to be negligible since it is likely that this moderately sensitive feature will simply avoid construction or maintenance vessels. Therefore, no LSE applies.

f. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for these features and therefore no LSE applies to INIS.

g. Unplanned oil or chemical spillages from vessels may occur during all development phases. Spills have the potential to directly affect these features when utilising the sea surface e.g. through direct oiling resulting in mortality. Therefore, LSE applies to accidental spills.

h. Unplanned disposal of industrial or user plastic into the water column during all development phases has the potential to directly affect these features and their prey species present in the water column e.g. through ingestion or entanglement resulting in mortality. Therefore, LSE applies to litter.

i. Disturbance and displacement of prey species present within the water column during all phases of development is considered to be negligible since it is likely that fish species present in the Solent are accustomed to vessel traffic and the presence of vessels towing equipment (e.g. commercial fishing vessels) and will simply navigate round or under any construction or maintenance vessels. Therefore, no LSE applies.

j. Increases in SSC as a result of HDD works, cable burial activities and cable maintenance may increase turbidity of this supporting habitat, altering prey availability though changes in primary production by phytoplankton, as well as making it harder for visual foraging features to see prey from the sea surface. Therefore, LSE applies.

k. Invasive species may be introduced into the water column via biofouling or ballast water from vessels. However, it is highly unlikely that any of these will be harmful to prey species present in the water column. The introduction of non-burial protection (0.39 km^2) is not predicted to significantly affect the abundance and distribution of INIS which are already abundant and widely distributed in the English Channel. Therefore, no LSE applies.

l. Unplanned oil or chemical spillages from vessels may occur during all development phases. Oil can cause sublethal impacts on juvenile fish growth and survival, thus potentially affecting prey availability. Therefore, LSE applies to accidental spills.

HRA Screening Matrix 2B: Chichester and Langstone Harbours SPA (Marine Ornithology – In Combination)

Name of European Site: Chichester and Langstone Harbours SPA (Marine Ornithology)																		
Distance to Proposed Development: 0.1 km																		
European site feature	**Likely Effects of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Shelduck (W)																		
Shoveler (W)																		
Wigeon (W)																		
Pintail (W)																		
Teal (W)																		
Red-breasted merganser (W)	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**	✗**d**	✗**d**	✗**d**				✓**a**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**
Grey plover (W)																		

Name of European Site: Chichester and Langstone Harbours SPA (Marine Ornithology)																		
Distance to Proposed Development: 0.1 km																		
European site feature	**Likely Effects of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Ringed plover (W)																		
Curlew (W)																		
Bar-tailed godwit (W)																		
Turnstone (W)																		
Sanderling (W)																		
Dunlin (W)																		
Redshank (W)																		
Sandwich tern (B)	**×b**	**×b**	**×b**	**✓a**	**✓a**	**✓a**	**×c**	**×c**	**×c**	**×e**	**×e**	**×e**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**
Little tern (B)	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**×c**	**×c**	**×c**	**×e**	**×e**	**×e**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**
Common tern (B)	**×b**	**×b**	**×b**	**✓a**	**✓a**	**✓a**	**×c**	**×c**	**×c**	**×e**	**×e**	**×e**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**
Supporting habitat (water column)	**×f**	**×f**	**×f**	**✓a**	**✓a**	**✓a**				**×g**	**×g**	**×g**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**

Evidence supporting conclusions (also see HRA Report Section 8.2.4):

a. LSE applies to the Proposed Development alone. Therefore, potential in combination LSE is considered in the Stage 2 Integrity matrices below.

b. Given that these features are not considered to be sensitive to disturbance from vessel traffic and associated activities, the potential for an in combination effect from displacement is considered to be negligible across all development phases. Therefore, no in combination LSE applies to disturbance & displacement for these features.

c. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an in combination effect is therefore considered negligible and therefore no in combination LSE applies to collision.

d. Structures or devices which have the potential to pose an above water collision risk to this feature will not be introduced during any development phase. Structures or devices within the water column associated with the Proposed Development will only be used in the context of operating vessels (e.g. vessels towing equipment). Below water collision risk is therefore considered to be negligible since it is likely that this moderately sensitive feature will simply avoid construction or maintenance vessels. Therefore, no in combination LSE applies.

e. There is no pathway for marine works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for these features and therefore no in combination LSE applies to INIS.

f. Disturbance and displacement of prey species present within the water column during all phases of development is considered to be negligible since it is likely that fish species present in the Solent are accustomed to vessel traffic and the presence of vessels towing equipment (e.g. commercial fishing vessels) and will simply navigate round or under any construction or maintenance vessels. Therefore, no in combination LSE applies.

g. Invasive species may be introduced into the water column via biofouling or ballast water from vessels. However, it is highly unlikely that any of these will be harmful to prey species present in the water column. The introduction of non-burial protection (0.39 km^2) is not predicted to significantly affect the abundance and distribution of INIS which are already abundant and widely distributed in the English Channel. Therefore, no in combination LSE applies.

HRA Screening Matrix 2C: Chichester and Langstone Harbours SPA (Onshore Ecology)

Name of European Site: Chichester and Langstone Harbours SPA (Marine Ornithology)																					
Distance to Proposed Development: 0.1 km																					
European site feature	**Likely Effects of the Proposed Development (Alone)**																				
	Disturbance & displacement			Visual disturbance			Light pollution			Indirect effects			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Shelduck (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Shoveler (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Wigeon (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Pintail (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Teal (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Red-breasted merganser (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Grey plover (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Ringed plover (W)	×**b**	×**d**	×**b**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Curlew (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Bar-tailed godwit (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Turnstone (W)	×**b**	×**d**	×**b**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Sanderling (W)	×**b**	×**d**	×**b**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Dunlin (W)	×**b**	×**d**	×**b**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Redshank (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Sandwich tern (B)	×**c**	×**c**	×**c**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Little tern (B)	×**c**	×**c**	×**c**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Common tern (B)	×**c**	×**c**	×**c**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Supporting habitat	×**k**	×**k**	×**k**							×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**

Evidence supporting conclusions (also see HRA Report Section 7.3):

a. Cutts et al. (2013) determines that these species are either highly or moderately sensitive to disturbance. All these species were recorded in varying numbers in intertidal areas adjacent to the onshore works of the Proposed Development (ES Technical Appendix 16.13). Therefore, LSE applies to disturbance and displacement.

b. Cutts et al. (2013) determines that turnstone, sanderling, ringed plover and dunlin are of low sensitivity to disturbance. Although all these species were found to be present in intertidal habitat adjacent to onshore works of the Proposed Development (ES Technical Appendix 16.13) these species are considered to be extremely tolerant of any disturbance mechanisms from the Proposed Development and are likely to rapidly habituate. Therefore, no LSE applies to disturbance & displacement for these features.

c. While tern colonies exist within both Chichester and Langstone Harbours, specific surveys for the Proposed Development did not locate any breeding individuals or indeed foraging flights (ES Technical Appendix 16.13). Therefore, terns are not expected to be exposed disturbance and displacement effects from any phase of the Proposed Development from onshore activities.

d. There is predicted to be no disturbance or displacement events as a result of onshore activities during the operational phase. Therefore, no LSE applies to disturbance & displacement for these features.

e. Visual disturbance is considered to be of a negligible magnitude as a result of the Proposed Development. The SPA is in an urban setting and recent research has established that Disturbance does not have a significant impact on waders in an estuary close to conurbations (Goss-Custard et al., 2019). Therefore, no LSE applies to visual disturbance for these features.

f. Onshore works from the Proposed Development are not considered to result in any light spillage in to the SPA. Therefore, no LSE applies to light pollution for these features.

g. Wading bird species are not expected to be affected by any changes in water turbidity. Increases in suspended sediment as a result of HDD works, cable burial activities and cable maintenance is expected to be highly localised and return to within comparable background concentrations within days. Terns are visual foragers and are likely to be affected by an increase in turbidity which can make it harder to see prey in the water column. They are considered to be moderately sensitive to habitat disturbance and subsequent potential effects on prey (Bradbury et al., 2014). Given the distance between the Proposed Development and favoured foraging and breeding grounds of terns species, it is considered that there is no potential for impact during any development phase. Therefore, no LSE applies to indirect effects.

h. There is no pathway for onshore construction work activities associated with the Proposed Development to introduce invasive non-indigenous predators to tern breeding colonies. The risk of other invasive non-indigenous species affecting other waterbird species and supporting habitat is considered negligible through the techniques applied to construction (i.e. HDD). Therefore, no LSE applies to INIS.

i. Unplanned oil or chemical spillages from construction activity may occur during all development phases. Spills have the potential to directly affect all SPA features when in contact supporting habitat through direct oiling resulting in mortality. Therefore, LSE applies to accidental spills.

j. Unplanned disposal of industrial or user plastic during all development phases has the potential to directly affect SPA features and supporting habitat when utilising intertidal habitat through ingestion or entanglement resulting in mortality. Therefore, LSE applies to litter.

k. Disturbance and displacement of prey species present during all phases of development is considered to be negligible due to the construction methodology applied (HDD). Therefore, no LSE applies to disturbance & displacement for these features.

l. No accidental spills or litter events are predicted to occur during the operational phase of the Proposed Development.

HRA Screening Matrix 2D: Chichester and Langstone Harbours SPA (Onshore Ecology – In Combination)

Name of European Site: Chichester and Langstone Harbours SPA (Onshore Ecology – In Combination)

Distance to Proposed Development: 0.1 km

European site feature	**Likely Effects of the Proposed Development (Alone)**																				
	Disturbance & displacement			Visual disturbance			Light pollution			Indirect effects			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Shelduck (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Shoveler (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Wigeon (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Pintail (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Teal (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Red-breasted merganser (W)	×**c**	×**d**	×**c**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Grey plover (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Ringed plover (W)	×**b**	×**d**	×**b**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Curlew (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Bar-tailed godwit (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Turnstone (W)	×**b**	×**d**	×**b**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Sanderling (W)	×**b**	×**d**	×**b**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Dunlin (W)	×**b**	×**d**	×**b**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Redshank (W)	✓**a**	×**d**	✓**a**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Sandwich tern (B)	×**c**	×**c**	×**c**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Little tern (B)	×**c**	×**c**	×**c**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Common tern (B)	×**c**	×**c**	×**c**	×**e**	×**e**	×**e**	×**f**	×**f**	×**f**	×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**
Supporting habitat	×**k**	×**k**	×**k**							×**g**	×**g**	×**g**	×**h**	×**h**	×**h**	✓**i**	×**l**	✓**i**	✓**j**	×**l**	✓**j**

Evidence supporting conclusions (also see HRA Report Section 8.4):

a. LSE applies to the Proposed Development alone. Therefore, potential in combination LSE is considered in the Stage 2 Integrity matrices below.

b. Given that these features are not considered to be sensitive to disturbance the potential for an in combination effect from displacement is considered to be negligible across all development phases. Therefore, no in combination LSE applies to disturbance & displacement for these features.

c. Terns and red-breasted merganser being marine features which have either breeding colonies (terns) and wintering foraging areas (red-breasted merganser) that are distant from onshore components of the Proposed Development. These features are not expected to be exposed disturbance and displacement effects from any phase of the Proposed Development from onshore activities. Therefore, no in combination LSE applies to disturbance & displacement for these features.

d. Given that no operational effects of disturbance are predicted, no in combination LSE applies

e. Visual disturbance is considered to be of a negligible magnitude as a result of the Proposed Development. Therefore, no in combination LSE applies for these features.

f. Onshore works from the Proposed Development are not considered to result in any light spillage in to the SPA. Therefore, no in combination LSE applies for these features.

g. Given that wading bird species are not expected to be affected by any changes in water turbidity and the distance between the Proposed Development and favoured foraging and breeding grounds of tern species, it is considered that there is no potential for impact during any development phase. Therefore, no in combination LSE applies for these features.

h. There is no pathway for onshore construction work activities associated with the Proposed Development to introduce invasive non-indigenous predators to tern breeding colonies. The risk of other invasive non-indigenous species affecting other waterbird species and supporting habitat is considered negligible through the techniques applied to construction (i.e. HDD). Therefore, in combination LSE applies for these features.

i. LSE applies to the Proposed Development alone. Therefore, potential in combination LSE is considered in the Stage 2 Integrity matrices below.

j. LSE applies to the Proposed Development alone. Therefore, potential in combination LSE is considered in the Stage 2 Integrity matrices below.

k. Disturbance and displacement of prey species present during all phases of development is considered to be negligible due to the construction methodology applied (HDD). Therefore, in combination LSE applies for these features.

l. No accidental spills or litter events are predicted to occur during the operational phase of the Proposed Development and therefore no incombination LSE applies.

HRA Screening Matrix 3A: Portsmouth Harbour SPA (Marine Ornithology)

Name of European Site: Portsmouth Harbour SPA (Marine Ornithology)																		
Distance to Proposed Development: 4.9 km																		
European site feature	**Likely Effects of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Red-breasted merganser (W)	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**xc**	**×c**	**×c**				**✓d**	**✓d**	**✓d**	**✓e**	**✓e**	**✓e**
Black-tailed godwit (W)																		
Dunlin (W)																		
Supporting habitat (water column)	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**				**×h**	**×h**	**×h**	**✓i**	**✓i**	**✓i**	**✓e**	**✓e**	**✓e**

Evidence supporting conclusions (also see HRA Report Section 7.2.4):

a. The distance between the Proposed Development and favoured foraging/roosting areas in Portsmouth Harbour is considered to be sufficient as to ensure no disturbance or displacement of red-breasted mergansers utilising this SPA during any development phase.

b. Increases in SSC as a result of HDD works, cable burial activities and cable maintenance is expected to be highly localised. Given the distance between the Proposed Development and favoured foraging and roosting grounds in Portsmouth Harbour, it is considered that there is no potential for impact during any development phase.

c. Structures or devices which have the potential to pose an above water collision risk to this feature will not be introduced during any development phase. Structures or devices within the water column associated with the Proposed Development will only be used in the context of operating vessels (e.g. vessels towing equipment). Below water collision risk is therefore considered to be negligible since it is likely that this moderately sensitive feature will simply avoid construction or maintenance vessels. Therefore, no LSE applies.

d. Unplanned oil or chemical spillages from vessels may occur during all development phases. Spills have the potential to directly affect these features when utilising the sea surface e.g. through direct oiling resulting in mortality. Therefore, LSE applies to accidental spills.

e. Unplanned disposal of industrial or user plastic into the water column during all development phases has the potential to directly affect these features and their prey species present in the water column e.g. through ingestion or entanglement resulting in mortality. Therefore, LSE applies to litter.

f. Disturbance and displacement of prey species present within the water column during all phases of development is considered to be negligible since it is likely that fish species present in the Solent are accustomed to vessel traffic and the presence of vessels towing equipment (e.g. commercial fishing vessels) and will simply navigate round or under any construction or maintenance vessels. Therefore, no LSE applies.

g. Increases in SSC as a result of HDD works, cable burial activities and cable maintenance are expected to be highly localised and unlikely to alter prey availability in the water column at Portsmouth Harbour due to distance. Therefore, no LSE applies.

h. Invasive species may be introduced into the water column via biofouling or ballast water from vessels. However, it is highly unlikely that any of these will be harmful to prey species present in the water column. The introduction of non-burial protection (0.39 km^2) is not predicted to significantly affect the abundance and distribution of INIS which are already abundant and widely distributed in the English Channel. Therefore, no LSE applies.

i. Unplanned oil or chemical spillages from vessels may occur during all development phases. Oil can cause sublethal impacts on juvenile fish growth and survival, thus potentially affecting prey availability. Therefore, LSE applies to accidental spills.

HRA Screening Matrix 3B: Portsmouth Harbour SPA (Marine Ornithology – In Combination)

Name of European Site: Portsmouth Harbour SPA (Marine Ornithology)																			
Distance to Proposed Development: 4.9 km																			
European site feature	**Likely Effects of the Proposed Development (In Combination)**																		
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Red-breasted merganser (W)	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**				**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**
Black-tailed godwit (W)																		
Dunlin (W)																		
Supporting habitat (water column)	**×e**	**×e**	**×e**	**×f**	**×f**	**×f**				**×g**	**×g**	**×g**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**	**✓a**

Evidence supporting conclusions (also see HRA Report Section 8.2.4):

a. LSE applies to the Proposed Development alone. Therefore, potential in combination LSE is considered in the Stage 2 Integrity matrices below.

b. The distance between the Proposed Development and favoured foraging/roosting areas in Portsmouth Harbour is considered to be sufficient as to ensure no disturbance or displacement of red-breasted mergansers utilising this SPA during any development phase. Therefore, no in combination LSE applies.

c. Increases in SSC as a result of HDD works, cable burial activities and cable maintenance is expected to be highly localised. Given the distance between the Proposed Development and favoured foraging and roosting grounds in Portsmouth Harbour, it is considered that there is no potential for in combination impact during any development phase.

d. Structures or devices which have the potential to pose an above water collision risk to this feature will not be introduced during any development phase. Structures or devices within the water column associated with the Proposed Development will only be used in the context of operating vessels (e.g. vessels towing equipment). Below water collision risk is therefore considered to be negligible since it is likely that this moderately sensitive feature will simply avoid construction or maintenance vessels. Therefore, no in combination LSE applies.

e. Disturbance and displacement of prey species present within the water column during all phases of development is considered to be negligible since it is likely that fish species present in the Solent are accustomed to vessel traffic and the presence of vessels towing equipment (e.g. commercial fishing vessels) and will simply navigate round or under any construction or maintenance vessels. Therefore, no in combination LSE applies.

f. Increases in SSC as a result of HDD works, cable burial activities and cable maintenance are expected to be highly localised and unlikely to alter prey availability in the water column at Portsmouth Harbour due to distance. Therefore, no in combination LSE applies.

g. Invasive species may be introduced into the water column via biofouling or ballast water from vessels. However, it is highly unlikely that any of these will be harmful to prey species present in the water column. The introduction of non-burial protection (0.39 km^2) is not predicted to significantly affect the abundance and distribution of INIS which are already abundant and widely distributed in the English Channel. Therefore, no in combination LSE applies.

HRA Screening Matrix 3C: Portsmouth Harbour SPA (Onshore Ecology)

Name of European Site: Portsmouth Harbour SPA (Onshore Ecology)																					
Distance to Proposed Development: 4.9 km																					
European site feature	**Likely Effects of the Proposed Development (Alone)**																				
	Disturbance & displacement			Visual disturbance			Light pollution			Indirect effects			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)	**×a**	**×b**	**×a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**	**×h**	**×h**	**×h**
Red-breasted merganser (W)	**×a**	**×b**	**×a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**	**×h**	**×h**	**×h**
Black-tailed godwit (W)	**×a**	**×b**	**×a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**	**×h**	**×h**	**×h**
Dunlin (W)	**×a**	**×b**	**×a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**	**×h**	**×h**	**×h**
Supporting habitat	**×a**	**×b**	**×a**							**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**	**×h**	**×h**	**×h**

Evidence supporting conclusions (also see HRA Report Section 7.4):

a. The distance between the Proposed Development and favoured foraging/roosting areas in Portsmouth Harbour is considered to be sufficient as to ensure no disturbance or displacement of any qualifying features or supporting habitat takes place during any development phase. Therefore, no LSE applies to disturbance and displacement.

b. There is predicted to be no disturbance or displacement events as a result of onshore activities during the operational phase. Therefore, no LSE applies to disturbance & displacement for these features.

c. The distance between the Proposed Development and favoured foraging/roosting areas in Portsmouth Harbour is considered to be sufficient as to ensure no visual disturbance of any qualifying features or supporting habitat takes place during any development phase. Therefore, no LSE applies to visual disturbance.

d. The distance between the Proposed Development and favoured foraging/roosting areas in Portsmouth Harbour is considered to be sufficient as to ensure no light pollution effects of any qualifying features or supporting habitat takes place during any development phase. Therefore, no LSE applies to light pollution.

e. Increases in suspended sediment as a result of HDD works, cable burial activities and cable maintenance is expected to be highly localised and return to within comparable background concentrations within days. Given the distance between the Proposed Development and favoured foraging, breeding and roosting grounds of the SPA, it is considered that there is no potential for impact during any development phase on either qualifying features or supporting habitat. Therefore, no LSE applies to indirect effects.

f. There is no pathway for onshore construction work activities associated with the Proposed Development to introduce invasive non-indigenous species to the SPA. Therefore, no LSE applies to INIS.

g. Unplanned oil or chemical spillages from onshore works are considered unlikely to impact the SPA due to the distance involved from the Proposed Development and the construction techniques employed. Therefore, no LSE applies.

h. Unplanned disposal of industrial or user plastic during any development phase from onshore works are considered unlikely to impact the SPA due to the distance involved from the Proposed Development and the construction techniques employed. Therefore, no LSE applies.

HRA Screening Matrix 3D: Portsmouth Harbour SPA (Onshore Ecology – In Combination)

Name of European Site: Portsmouth Harbour SPA (Onshore Ecology – In Combination)																					
Distance to Proposed Development: 4.9 km																					
European site feature	**Likely Effects of the Proposed Development (Alone)**																				
	Disturbance & displacement			Visual disturbance			Light pollution			Indirect effects			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)	**×a**	**×b**	**×a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**	**×h**	**×h**	**×h**
Red-breasted merganser (W)	**×a**	**×b**	**×a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**	**×h**	**×h**	**×h**
Black-tailed godwit (W)	**×a**	**×b**	**×a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**	**×h**	**×h**	**×h**
Dunlin (W)	**×a**	**×b**	**×a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**	**×h**	**×h**	**×h**
Supporting habitat	**×a**	**×b**	**×a**							**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**×g**	**×g**	**×g**	**×h**	**×h**	**×h**

Evidence supporting conclusions (also see HRA Report Section 8.2.4):

a. The distance between the Proposed Development and favoured foraging/roosting areas in Portsmouth Harbour is considered to be sufficient as to ensure no disturbance or displacement of any qualifying features or supporting habitat takes place during any development phase. Therefore, no in combination LSE applies to disturbance and displacement.

b. There is predicted to be no disturbance or displacement events as a result of onshore activities during the operational phase. Therefore, no in combination LSE applies to disturbance & displacement for these features.

c. The distance between the Proposed Development and favoured foraging/roosting areas in Portsmouth Harbour is considered to be sufficient as to ensure no visual disturbance of any qualifying features or supporting habitat takes place during any development phase. Therefore, no in combination LSE applies to visual disturbance.

d. The distance between the Proposed Development and favoured foraging/roosting areas in Portsmouth Harbour is considered to be sufficient as to ensure no light pollution effects of any qualifying features or supporting habitat takes place during any development phase. Therefore, no in combination LSE applies to light pollution.

e. Increases in suspended sediment as a result of HDD works, cable burial activities and cable maintenance is expected to be highly localised and return to within comparable background concentrations within days. Given the distance between the Proposed Development and favoured foraging, breeding and roosting grounds of the SPA, it is considered that there is no potential for impact during any development phase on either qualifying features or supporting habitat. Therefore, no in combination LSE applies to indirect effects.

f. There is no pathway for onshore construction work activities associated with the Proposed Development to introduce invasive non-indigenous species to the SPA. Therefore, no in combination LSE applies to INIS.

g. Unplanned oil or chemical spillages from onshore works are considered unlikely to impact the SPA due to the distance involved from the Proposed Development and the construction techniques employed. Therefore, no in combination LSE applies.

h. Unplanned disposal of industrial or user plastic during any development phase from onshore works are considered unlikely to impact the SPA due to the distance involved from the Proposed Development and the construction techniques employed. Therefore, no in combination LSE applies.

HRA Screening Matrix 4A: Solent and Southampton Water SPA (Marine Ornithology)

Name of European Site: Solent and Southampton Water SPA (Marine Ornithology)																		
Distance to Proposed Development: 6.6 km																		
European site feature	**Likely Effects of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Teal (W)																		
Ringed plover (W)																		
Black-tailed godwit (W)																		
Mediterranean gull (B)	✕**f**	✕**f**	✕**f**	✕**g**	✕**g**	✕**g**	✕**b**	✕**b**	✕**b**	✕**c**	✕**c**	✕**c**	✓**d**	✓**d**	✓**d**	✓**e**	✓**e**	✓**e**
Sandwich tern (B)	✕**f**	✕**f**	✕**f**	✕**g**	✕**g**	✕**g**	✕**b**	✕**b**	✕**b**	✕**c**	✕**c**	✕**c**	✓**d**	✓**d**	✓**d**	✓**e**	✓**e**	✓**e**
Little tern (B)	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**b**	✕**b**	✕**b**	✕**c**	✕**c**	✕**c**	✓**d**	✓**d**	✓**d**	✓**e**	✓**e**	✓**e**
Roseate tern (B)	✕**f**	✕**f**	✕**f**	✕**g**	✕**g**	✕**g**	✕**b**	✕**b**	✕**b**	✕**c**	✕**c**	✕**c**	✓**d**	✓**d**	✓**d**	✓**e**	✓**e**	✓**e**
Common tern (B)	✕**f**	✕**f**	✕**f**	✕**g**	✕**g**	✕**g**	✕**b**	✕**b**	✕**b**	✕**c**	✕**c**	✕**c**	✓**d**	✓**d**	✓**d**	✓**e**	✓**e**	✓**e**
Supporting habitat (water column)	✕**h**	✕**h**	✕**h**	✕**g**	✕**g**	✕**g**				✕**i**	✕**i**	✕**i**	✓**j**	✓**j**	✓**j**	✓**e**	✓**e**	✓**e**

Evidence supporting conclusions (also see HRA Report Section 7.2.4):

a. Important breeding and foraging areas within this SPA are located >15 km from the Proposed Development. Therefore, it is considered that there is no potential for impact during any development phase based on this feature's restricted foraging range.

b. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an effect is therefore considered negligible and therefore no LSE applies to collision.

c. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for these features and therefore no LSE applies to INIS.

d. Unplanned oil or chemical spillages from vessels may occur during all development phases. Spills have the potential to directly affect these features when utilising the sea surface e.g. through direct oiling resulting in mortality. Therefore, LSE applies to accidental spills.

e. Unplanned disposal of industrial or user plastic into the water column during all development phases has the potential to directly affect these features and their prey species present in the water column e.g. through ingestion or entanglement resulting in mortality. Therefore, LSE applies to litter

f. Given that these features are not considered to be sensitive to disturbance from vessel traffic and associated activities, the potential for an effect from displacement is considered to be negligible across all development phases. Therefore, no LSE applies to disturbance & displacement for these features.

g. Changes in prey availability and behaviour resulting from offshore works across all development phases has not been identified as likely to occur at a scale as to affect these features. The potential for an effect is considered negligible and therefore no LSE applies to changes in prey.

h. Disturbance and displacement of prey species present within the water column during all phases of development is considered to be negligible since it is likely that fish species present in the Solent are accustomed to vessel traffic and the presence of vessels towing equipment (e.g. commercial fishing vessels) and will simply navigate round or under any construction or maintenance vessels. Therefore, no LSE applies.

i. Invasive species may be introduced into the water column via biofouling or ballast water from vessels. However, it is highly unlikely that any of these will be harmful to prey species present in the water column. The introduction of non-burial protection (0.39 km^2) is not predicted to significantly affect the abundance and distribution of INIS which are already abundant and widely distributed in the English Channel. Therefore, no LSE applies.

j. Unplanned oil or chemical spillages from vessels may occur during all development phases. Oil can cause sublethal impacts on juvenile fish growth and survival, thus potentially affecting prey availability. Therefore, LSE applies to accidental spills.

HRA Screening Matrix 4B: Solent and Southampton Water SPA (Marine Ornithology – In Combination)

Name of European Site: Solent and Southampton Water SPA (Marine Ornithology)																		
Distance to Proposed Development: 6.6 km																		
European site feature	**Likely Impacts of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Teal (W)																		
Ringed plover (W)																		
Black-tailed godwit (W)																		
Mediterranean gull (B)	✕**e**	✕**e**	✕**e**	✕**f**	✕**f**	✕**f**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**
Sandwich tern (B)	✕**e**	✕**e**	✕**e**	✕**f**	✕**f**	✕**f**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**
Little tern (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**
Roseate tern (B)	✕**e**	✕**e**	✕**e**	✕**f**	✕**f**	✕**f**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**
Common tern (B)	✕**e**	✕**e**	✕**e**	✕**f**	✕**f**	✕**f**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**
Supporting habitat (water column)	✕**g**	✕**g**	✕**g**	✕**f**	✕**f**	✕**f**				✕**h**	✕**h**	✕**h**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**	✓**a**

Evidence supporting conclusions (also see HRA Report Section 8.2.4):

a. LSE applies to the Proposed Development alone. Therefore, potential in combination LSE is considered in the Stage 2 Integrity matrices below.

b. Important breeding and foraging areas within this SPA are located >15 km from the Proposed Development. Therefore, it is considered that there is no potential for impact during any development phase based on this feature's restricted foraging range. Therefore, no in combination LSE can be concluded.

c. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an in combination effect is therefore considered negligible and therefore no in combination LSE applies to collision.

d. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for these features and therefore no in combination LSE applies to INIS.

e. Given that these features are not considered to be sensitive to disturbance from vessel traffic and associated activities, the potential for an effect from displacement is considered to be negligible across all development phases. Therefore, no in combination LSE applies to disturbance & displacement for these features.

f. Changes in prey availability and behaviour resulting from offshore works across all development phases has not been identified as likely to occur at a scale as to affect these features. The potential for an effect is considered negligible and therefore no in combination LSE applies to changes in prey.

g. Disturbance and displacement of prey species present within the water column during all phases of development is considered to be negligible since it is likely that fish species present in the Solent are accustomed to vessel traffic and the presence of vessels towing equipment (e.g. commercial fishing vessels) and will simply navigate round or under any construction or maintenance vessels. Therefore, no in combination LSE applies.

h. Invasive species may be introduced into the water column via biofouling or ballast water from vessels. However, it is highly unlikely that any of these will be harmful to prey species present in the water column. The introduction of non-burial protection (0.39 km^2) is not predicted to significantly affect the abundance and distribution of INIS which are already abundant and widely distributed in the English Channel. Therefore, no in combination LSE applies.

HRA Screening Matrix 5A: Pagham Harbour SPA (Marine Ornithology)

Name of European Site: Pagham Harbour SPA (Marine Ornithology)

Distance to Proposed Development: 9.5 km

European site feature	**Likely Effects of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Ruff (W)																		
Little tern (B)	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**	✕**a**
Common tern (B)	✕**b**	✕**b**	✕**b**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✕**e**	✕**e**	✕**e**	✓**f**	✓**f**	✓**f**	✓**g**	✓**g**	✓**g**
Supporting habitat (water column)	✕**h**	✕**h**	✕**h**	✕**c**	✕**c**	✕**c**				✕**i**	✕**i**	✕**i**	✓**j**	✓**j**	✓**j**	✓**g**	✓**g**	✓**g**

Evidence supporting conclusions (also see HRA Report Section 7.2.4):

a. There is no pathway for offshore works to impact this feature as the Proposed Development is situated outside the mean-maximum foraging range (little tern 6.3 km; Thaxter *et al*. 2012).

b. Given that this feature is not considered to be sensitive to disturbance from vessel traffic and associated activities, the potential for an effect from displacement is considered to be negligible across all development phases. Therefore, no LSE applies to disturbance & displacement for this feature.

c. Changes in prey availability and behaviour resulting from offshore works across all development phases has not been identified as likely to occur at a scale as to affect these features. The potential for an effect is considered negligible and therefore no LSE applies.

d. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an effect is therefore considered negligible and therefore no LSE applies to collision.

e. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for this feature and therefore no LSE applies to INIS.

f. Unplanned oil or chemical spillages from vessels may occur during all development phases. Spills have the potential to directly affect these features when utilising the sea surface e.g. through direct oiling resulting in mortality. Therefore, LSE applies to accidental spills.

g. Unplanned disposal of industrial or user plastic into the water column during all development phases has the potential to directly affect these features and their prey species present in the water column e.g. through ingestion or entanglement resulting in mortality. Therefore, LSE applies to litter.

h. Disturbance and displacement of prey species present within the water column during all phases of development is considered to be negligible since it is likely that fish species present in the Solent are accustomed to vessel traffic and the presence of vessels towing equipment (e.g. commercial fishing vessels) and will simply navigate round or under any construction or maintenance vessels. Therefore, no LSE applies.

i. Invasive species may be introduced into the water column via biofouling or ballast water from vessels. However, it is highly unlikely that any of these will be harmful to prey species present in the water column. The introduction of non-burial protection (0.39 km^2) is not predicted to significantly affect the abundance and distribution of INIS which are already abundant and widely distributed in the English Channel. Therefore, no LSE applies.

j. Unplanned oil or chemical spillages from vessels may occur during all development phases. Oil can cause sublethal impacts on juvenile fish growth and survival, thus potentially affecting prey availability. Therefore, LSE applies to accidental spills.

HRA Screening Matrix 5B: Pagham Harbour SPA (Marine Ornithology – In Combination)

Name of European Site: Pagham Harbour SPA (Marine Ornithology)																			
Distance to Proposed Development: 9.5 km																			
European site feature	**Likely Effects of the Proposed Development (In Combination)**																		
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Ruff (W)																		
Little tern (B)	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Common tern (B)	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**×f**	**×f**	**×f**	**✓b**	**✓b**	**✓b**	**✓b**	**✓b**	**✓b**
Supporting habitat (water column)	**×g**	**×g**	**×g**	**×d**	**×d**	**×d**				**×h**	**×h**	**×h**	**✓b**	**✓b**	**✓b**	**✓b**	**✓b**	**✓b**

Evidence supporting conclusions (also see HRA Report Section 8.2.4):

a. There is no pathway for offshore works to impact this feature as the Proposed Development is situated outside the mean-maximum foraging range (little tern 6.3 km; Thaxter *et al*. 2012).

b. LSE applies to the Proposed Development alone. Therefore, potential in combination LSE is considered in the Stage 2 Integrity matrices below.

c. Given that this feature is not considered to be sensitive to disturbance from vessel traffic and associated activities, the potential for an in combination effect from displacement is considered to be negligible across all development phases. Therefore, no in combination LSE applies to disturbance & displacement for this feature.

d. Changes in prey availability and behaviour resulting from offshore works across all development phases has not been identified as likely to occur at a scale as to affect these features. The potential for an in combination effect is considered negligible and therefore no in combination LSE applies.

e. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an in combination effect is therefore considered negligible and therefore no in combination LSE applies to collision.

f. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for this feature and therefore no in combination LSE applies to INIS.

g. Disturbance and displacement of prey species present within the water column during all phases of development is considered to be negligible since it is likely that fish species present in the Solent are accustomed to vessel traffic and the presence of vessels towing equipment (e.g. commercial fishing vessels) and will simply navigate round or under any construction or maintenance vessels. Therefore, no in combination LSE applies.

h. Invasive species may be introduced into the water column via biofouling or ballast water from vessels. However, it is highly unlikely that any of these will be harmful to prey species present in the water column. The introduction of non-burial protection (0.39 km^2) is not predicted to significantly affect the abundance and distribution of INIS which are already abundant and widely distributed in the English Channel. Therefore, no in combination LSE applies.

HRA Screening Matrix 6: River Itchen SAC (Fish)

Name of European site and designation: River Itchen SAC (Fish)																												
EU Code: UK0012599																												
Distance to Proposed Development: 27.5 km																												
European site features	**Likely effects of NSIP**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1106 Atlantic salmon (Salmo salar)	✓ **a**	✓ **a**	✓**a**	**x b**	**x b**	**x b**	**x c**	**x c**	**x c**	✓ **d**	✓ **d**	✓ **d**	**x e**	**x e**	**x e**	**xf**	**x f**	**xf**		**x g**			**x h**		✓ **i**	✓ **i**	✓**i**
1044 Southern damselfly (Coenagrion mercurial)																												
1163 Bullhead (Cottus gobio)																												
1092 White-clawed (or Atlantic stream) crayfish																												
1096 Brook lamprey (Lampetra planeri)																												
1355 Otter (Lutra lutra)																												
3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation																												

Evidence supporting conclusions (also see HRA Report Sections 7.2.2 and 8.2.2):

a. The potential increase in SSC as a result of both inshore and offshore construction, operation and decommissioning activities may cause a barrier to migration, as such it is considered that LSE cannot be ruled out.

b. Salmon are highly mobile and able to avoid collisions with installation and maintenance vessels and infrastructure. Therefore, no LSE as a result of physical injury can be concluded.

c. Invasive species such as parasites or migratory fish species introduced as a result of construction, operation and decommissioning which could harmful to salmon is highly unlikely given that there is no evidence to suggest that these types of species are introduced via biofouling or ballast water. Therefore, no LSE as a result of invasive species can be concluded.

d. Potential for hydrocarbon and/or chemical pollution events exists, therefore LSE cannot be ruled out.
e. Salmon are hearing generalists with potential underwater noise emissions from the construction, operation and decommissioning of the Proposed Development falling below the levels expected to produce mortality, mortal injury or recoverable injury. Therefore, no LSE as a result of noise and vibration can be concluded.
f. Salmon will be accustomed to vessels traffic and will navigate round or under installation, maintenance and decommissioning vessels. Therefore, no LSE as a result of visual disturbance can be concluded.
g. Salmon are pelagic and generally use the zone close to the sea surface for migration so are unlikely to come into contact with EMF during operation of the Proposed Development. In addition, salmon show a lack of behavioural response to EMF below 95 µT with predicted EMF for the Proposed Development being 42 µT. Therefore, no LSE as a result of EMF can be concluded.
h. Salmon are pelagic and generally use the zone close to the sea surface for migration so are unlikely to come into contact with any temperature changes during operation of the Proposed Development. Therefore, no LSE as a result of temperature changes can be concluded.
i. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on salmon with the exception of SSC and pollution events. Therefore LSE cannot be ruled out for both of these effects in combination.

HRA Screening Matrix 7: River Avon SAC (Fish)

Name of European site and designation: River Avon SAC (Fish)																												
EU Code: UK0013016																												
Distance to Proposed Development: 51.4 km																												
European site features	**Likely effects of NSIP**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1095 Sea lamprey (Petromyzon marinus)	✓ **a**	✓ **a**	✓ **a**	x **b**	x **b**	x **b**	x **c**	x **c**	x **c**	✓ **d**	✓ **d**	✓ **d**	x **e**	x **e**	**xe**					x **g**					✓ **i**	✓ **i**	**✓i**
1106 Atlantic salmon	✓ **a**	✓ **a**	✓ **a**	x **b**	x **b**	x **b**	x **c**	x **c**	x **c**	✓ **d**	✓ **d**	✓ **d**	x **e**	x **e**	**xe**	**xf**	**xf**	**xf**		x **g**			x **h**		✓ **i**	✓ **i**	**✓i**
1016 Desmoulin's whorl snail (Vertigo moulinsiana)																												
1096 Brook lamprey																												
1163 Bullhead																												
3260 Water courses of plain to montane levels with the Ranunclion fluitantis and Callitricho-Batrachion vegetation																												

Evidence supporting conclusions (also see HRA Report Sections 7.2.2 and 8.2.2):

a. The potential increase in SSC as a result of both inshore and offshore construction, operation and decommissioning activities may cause a barrier to migration, as such it is considered that LSE cannot be ruled out.

b. Both salmon and sea lamprey are highly mobile and able to avoid collisions with installation and maintenance vessels and infrastructure. Therefore, no LSE as a result of physical injury can be concluded.
c. Invasive species such as parasites or migratory fish species introduced as a result of construction, operation and decommissioning which could harmful to salmon or sea lamprey is highly unlikely given that there is no evidence to suggest that these types of species are introduced via biofouling or ballast water. Therefore, no LSE as a result of invasive species can be concluded.
d. Potential for hydrocarbon and/or chemical pollution events exists, therefore LSE cannot be ruled out.
e. Salmon and sea lamprey are hearing generalists with potential underwater noise emissions from the construction, operation and decommissioning of the Proposed Development falling below the levels expected to produce mortality, mortal injury or recoverable injury. Therefore, no LSE as a result of noise and vibration can be concluded.
f. Salmon and sea lamprey will be accustomed to vessels traffic and will navigate round or under installation, maintenance and decommissioning vessels. Therefore, no LSE as a result of visual disturbance can be concluded.
g. Salmon are pelagic and generally use the zone close to the sea surface for migration so are unlikely to come into contact with EMF during operation of the Proposed Development. In addition, salmon show a lack of behavioural response to EMF below 95 µT with predicted EMF for the Proposed Development being 42 µT. Sea lamprey use both the pelagic and benthic zones for migration and may therefore come into contact with weak EMF from the Proposed Development however no responses to electromagnetic fields have been recorded for this species. Therefore, no LSE as a result of EMF can be concluded.
h. Salmon are pelagic and generally use the zone close to the sea surface for migration so are unlikely to come into contact with any temperature changes during operation of the Proposed Development. Therefore, no LSE as a result of temperature changes can be concluded.
i. . There is negligible potential for the Proposed Development to contribute to any potential in combination effects on salmon and sea lamprey with the exception of SSC and pollution events. Therefore, LSE cannot be ruled out for both of these effects in combination.

HRA Screening Matrix 8: River Axe SAC (Fish)

Name of European site and designation: River Axe SAC (Fish)																												
EU Code: UK0030248																												
Distance to Proposed Development: 168 km																												
European site features	**Likely effects of NSIP**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1095 Sea lamprey	**x a**	**x a**	**x a**	**x b**	**x b**	**x b**	**x c**	**x c**	**x c**	**✓ d**	**✓ d**	**✓ d**	**x e**	**x e**	**xe**					**xf**					**✓ g**	**✓ g**	**✓g**
1096 Brook lamprey																											
1163 Bullhead																											
3260 Water courses of plain to montane levels with the Ranunclion fluitantis and Callitricho-Batrachion vegetation																											

Evidence supporting conclusions (also see HRA Report Sections 7.2.2 and 8.2.2):

a. Sea lamprey (and transformers) are tolerant of naturally high levels of SSC given their riverine migration and are able to swim through of navigate round areas of elevated SSC in the marine environment. Therefore, no LSE as a result of increased SSC during construction, operation and decommissioning can be concluded.
b. Sea lamprey are highly mobile and able to avoid collisions with installation and maintenance vessels and infrastructure. Therefore, no LSE as a result of physical injury can be concluded.
c. Invasive species such as parasites or migratory fish species introduced as a result of construction, operation and decommissioning which could harmful to sea lamprey is highly unlikely given that there is no evidence to suggest that these types of species are introduced via biofouling or ballast water. Therefore, no LSE as a result of invasive species can be concluded.
d. Potential for hydrocarbon and/or chemical pollution events exists, therefore LSE cannot be ruled out.
e. Sea lamprey are hearing generalists with potential underwater noise emissions from the construction, operation and decommissioning of the Proposed Development falling below the levels expected to produce mortality, mortal injury or recoverable injury. Therefore, no LSE as a result of noise and vibration can be concluded.
f. Sea lamprey use both the pelagic and benthic zones for migration and may therefore come into contact with weak EMF from the Proposed Development however no responses to electromagnetic fields have been recorded for this species. Therefore, no LSE as a result of EMF can be concluded.
g. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on sea lamprey with the exception of pollution events. Therefore, LSE cannot be ruled out for this effect in combination.

HRA Screening Matrix 9: Plymouth Sound and Estuaries SAC (Fish)

Name of European site and designation: Plymouth Sound and Estuaries SAC (Fish)																												
EU Code: UK0030248																												
Distance to Proposed Development: 229 km																												
European site features	**Likely effects of NSIP**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1102 Allis shad (Alosa alosa)	**x a**	**x a**	**x a**	**x b**	**x b**	**x b**	**x c**	**x c**	**x c**	**✓ d**	**✓ d**	**✓ d**	**x e**	**x e**	**xe**	**xf**		**xf**		**x g**			**x h**		**✓ i**	**✓ i**	**✓i**
1110 Sandbanks which are slightly covered by sea water all the time																												
1130 Estuaries																												
1160 Large shallow inlets and bays																												
1170 Reefs																												
1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)																												
1140 Mudflats and sandflats not covered by seawater at low tide																												

1441 Shore dock																										

Evidence supporting conclusions (also see HRA Report Sections 7.2.2 and 8.2.2):

a. Allis shad are tolerant of naturally high levels of SSC given their riverine migration and are able to swim through of navigate round areas of elevated SSC in the marine environment. Therefore, no LSE as a result of increased SSC during construction, operation and decommissioning can be concluded.
b. Allis shad are highly mobile and able to avoid collisions with installation and maintenance vessels and infrastructure. Therefore, no LSE as a result of physical injury can be concluded.
c. Invasive species such as parasites or migratory fish species introduced as a result of construction, operation and decommissioning which could be harmful to allis shad is highly unlikely given that there is no evidence to suggest that these types of species are introduced via biofouling or ballast water. Therefore, no LSE as a result of invasive species can be concluded.
d. Potential for hydrocarbon and/or chemical pollution events exists, therefore LSE cannot be ruled out.
e. Allis shad are hearing specialists due to the coupling of the ear with the swim bladder. Although TTS may occur if an individual is within 160m of trenching equipment it is considered as this species is highly mobile and generally pelagic that they will move away before an impact occurs. Therefore, no LSE as a result of noise and vibration can be concluded.
f. Allis shad will be accustomed to vessels traffic and will navigate round or under installation, maintenance and decommissioning vessels. Therefore, no LSE as a result of visual disturbance can be concluded.
g. Allis shad are generally pelagic so are unlikely to come into contact with EMF during operation of the Proposed Development. In addition, shad do not possess ampullary organs, instead relying on sight or sensory organs to locate prey so are not susceptible to EMF. Therefore, no LSE as a result of EMF can be concluded.
h. Allis shad are generally pelagic so are unlikely to come into contact with any temperature changes during operation of the Proposed Development. Therefore, no LSE as a result of temperature changes can be concluded.
i. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on allis shad with the exception of pollution events. Therefore, LSE cannot be ruled out for this effect in combination.

HRA Screening Matrix 10A: Littoral Seino-Marin SPA (Marine Ornithology)

Name of European Site: Littoral Seino-Marin SPA (Marine Ornithology)																		
Distance to Proposed Development: 30.6 km																		
European site feature	**Likely Impacts of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Greylag goose (W)																		
White-fronted goose (W)																		
Shelduck (W)																		
Eider (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Velvet scoter (W)																		
Common scoter (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Red-breasted merganser (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Red-throated diver (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Black-throated diver (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Great northern diver (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Storm petrel (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Leach's storm petrel (P)																		
Fulmar (B)	×b	×b	×b	×c	×c	×c	×d	×d	×d	×e	×e	×e	✓f	✓f	✓f	✓g	✓g	✓g
Manx shearwater (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a

Name of European Site: Littoral Seino-Marin SPA (Marine Ornithology)

Distance to Proposed Development: 30.6 km

European site feature	**Likely Impacts of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Balearic shearwater (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Great crested grebe (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Slavonian grebe (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Black-necked grebe (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Spoonbill (W)																		
Little egret (W)																		
Gannet (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Shag (B)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Cormorant (B)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Honey buzzard (W)																		
Hen harrier (W)																		
Avocet (W)																		
Purple sandpiper (W)																		
Common sandpiper (W)																		
Kittiwake (B)	×b	×b	×b	×c	×c	×c	×d	×d	×d	×e	×e	×e	✓f	✓f	✓f	✓g	✓g	✓g
Sabine's gull (P)																		
Little gull (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Mediterranean gull (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Great black-backed gull (B)	×b	×b	×b	×c	×c	×c	×d	×d	×d	×e	×e	×e	✓f	✓f	✓f	✓g	✓g	✓g
Herring gull (B)	×b	×b	×b	×c	×c	×c	×d	×d	×d	×e	×e	×e	✓f	✓f	✓f	✓g	✓g	✓g
Lesser black-backed gull (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Gull-billed tern (P)																		
Sandwich tern (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Little tern (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Common tern (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Arctic tern (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Great skua (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Pomarine skua (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Arctic skua (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Guillemot (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Razorbill (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Short-eared owl (W)																		
Merlin (W)																		
Peregrine (B)																		
Woodlark (W)																		

Evidence supporting conclusions (also see HRA Report Section 7.2.4):

a. There is no pathway for offshore works to impact these features due to distance (Thaxter *et al*. 2012).

b. Given that these features are not considered to be vulnerable to disturbance from vessel traffic and associated activities, the potential for an effect from displacement is considered to be negligible across all development phases. Therefore, no LSE applies to disturbance & displacement for these features.

c. Change in prey availability and behaviour resulting from offshore works across all development phases has not been identified as likely to occur at a scale as to affect these features. Given the short term and temporary nature of any effect and the assessment of fish and benthic ecology, the potential for an effect is considered negligible. Therefore, no LSE applies to indirect effects.

d. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an effect is therefore considered negligible and therefore no LSE applies to collision.

e. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for these features and therefore no LSE applies to INIS.

f. Unplanned oil or chemical spillages from vessels may occur during all development phases. Spills have the potential to directly affect these features when utilising the sea surface e.g. through direct oiling resulting in mortality. Therefore, LSE applies to accidental spills.

g. Unplanned disposal of industrial or user plastic during all development phases has the potential to directly affect these features when utilising the sea surface e.g. through ingestion or entanglement resulting in mortality. Therefore, LSE applies to accidental spills

.

HRA Screening Matrix 10B: Littoral Seino-Marin SPA (Marine Ornithology – In Combination)

Name of European Site: Littoral Seino-Marin SPA (Marine Ornithology)																		
Distance to Proposed Development: 30.6 km																		
European site feature	**Likely Impacts of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Greylag goose (W)																		
White-fronted goose (W)																		
Shelduck (W)																		
Eider (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Velvet scoter (W)																		
Common scoter (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Red-breasted merganser (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Red-throated diver (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Black-throated diver (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Great northern diver (W)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Storm petrel (P)	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a	×a
Leach's storm petrel (P)																		
Fulmar (B)	×b	×b	×b	×c	×c	×c	×d	×d	×d	×e	×e	×e	✓f	✓f	✓f	✓f	✓f	✓f

Name of European Site: Littoral Seino-Marin SPA (Marine Ornithology)																		
Distance to Proposed Development: 30.6 km																		
European site feature	**Likely Impacts of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Manx shearwater (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Balearic shearwater (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Great crested grebe (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Slavonian grebe (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Black-necked grebe (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Spoonbill (W)																		
Little egret (W)																		
Gannet (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Shag (B)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Cormorant (B)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Honey buzzard (W)																		
Hen harrier (W)																		
Avocet (W)																		
Purple sandpiper (W)																		
Common sandpiper (W)																		
Kittiwake (B)	✕b	✕b	✕b	✕c	✕c	✕c	✕d	✕d	✕d	✕e	✕e	✕e	✓f	✓f	✓f	✓f	✓f	✓f
Sabine's gull (P)																		
Little gull (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Mediterranean gull (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Great black-backed gull (B)	✕b	✕b	✕b	✕c	✕c	✕c	✕d	✕d	✕d	✕e	✕e	✕e	✓f	✓f	✓f	✓f	✓f	✓f
Herring gull (B)	✕b	✕b	✕b	✕c	✕c	✕c	✕d	✕d	✕d	✕e	✕e	✕e	✓f	✓f	✓f	✓f	✓f	✓f
Lesser black-backed gull (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Gull-billed tern (P)																		
Sandwich tern (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Little tern (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Common tern (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Arctic tern (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Great skua (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Pomarine skua (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Arctic skua (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Guillemot (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Razorbill (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Short-eared owl (W)																		
Merlin (W)																		
Peregrine (B)																		
Woodlark (W)																		

Evidence supporting conclusions (also see HRA Report Section 8.2.4):

a. There is no pathway for offshore works to impact these features due to distance (Thaxter et al. 2012).

b. Given that these features are not considered to be vulnerable to disturbance from vessel traffic and associated activities, the potential for an effect from displacement is considered to be negligible across all development phases. Therefore, no LSE applies to disturbance & displacement for these features.

c. Change in prey availability and behaviour resulting from offshore works across all development phases has not been identified as likely to occur at a scale as to affect these features. Given the short term and temporary nature of any effect and the assessment of fish and benthic ecology, the potential for an effect is considered negligible. Therefore, no LSE applies to indirect effects.

d. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an effect is therefore considered negligible and therefore no LSE applies to collision.

e. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for these features and therefore no LSE applies to INIS.

f. LSE applies to the Proposed Development alone. Therefore, potential in combination LSE is considered in the Stage 2 Integrity matrices below.

HRA Screening Matrix 11: Dungeness, Romney Marsh and Rye Bay SPA (Pre-screened out for Marine Ornithology)

Name of European Site: Dungeness, Romney Marsh and Rye Bay SPA (Marine Ornithology)																		
Distance to Proposed Development: 61.0 km																		
European site feature	**Likely Effects of the Proposed Development (Alone and In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Bewick's swan (W)																		
Shoveler (W)																		
Bittern (W)																		
Marsh harrier (W)																		
Hen harrier (W)																		
Avocet (B)																		
Golden plover (W)																		
Ruff (W)																		
Mediterranean gull (B)	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Sandwich tern (B)	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Little tern (B)	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Common tern (B)	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Aquatic warbler (W)																		
Supporting habitat (water column)	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**

Evidence supporting conclusions (also see HRA Report Section 6.2.5):

a. There is no pathway for marine works to impact this European site due to distance. It is situated outside the maximum foraging range of all breeding ornithological features (common tern 30 km; Sandwich tern 54 km; Mediterranean gull 20 km; Thaxter *et al*. 2012).

HRA Screening Matrix 12: Poole Harbour SPA (Pre-screened out for Marine Ornithology)

Name of European Site: Poole Harbour SPA (Marine Ornithology)																		
Distance to Proposed Development: 63.8 km																		
European site feature	**Likely Effects of the Proposed Development (Alone and In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Bewick's swan (W)																		
Shoveler (W)																		
Bittern (W)																		
Marsh harrier (W)																		
Hen harrier (W)																		
Avocet (B)																		
Golden plover (W)																		
Ruff (W)																		
Mediterranean gull (B)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Sandwich tern (B)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Common tern (B)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Aquatic warbler (W)																		
Supporting habitat (water column)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a

Evidence supporting conclusions (also see HRA Report Section 6.2.5):

a. There is no pathway for marine works to impact this European site due to distance. It is situated outside the mean-maximum foraging range of all breeding ornithological features (common tern 30 km; Sandwich tern 54 km; Mediterranean gull 20 km; Thaxter *et al*. 2012).

HRA Screening Matrix 13: Estuaire et Marais de la Basse Seine SPA (Pre-screened out for Marine Ornithology)

Name of European Site: Estuaire et Marais de la Basse Seine SPA (Marine Ornithology)																		
Distance to Proposed Development: 86.9 km																		
European site feature	**Likely Effects of the Proposed Development (Alone and In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Brent goose (W)																		
Greylag goose (W)																		
White-fronted goose (W)																		

Name of European Site: Estuaire et Marais de la Basse Seine SPA (Marine Ornithology)																		
Distance to Proposed Development: 86.9 km																		
European site feature	**Likely Effects of the Proposed Development (Alone and In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Shelduck (B)																		
Garganey (B)																		
Shoveler (W)																		
Gadwall (W)																		
Wigeon (W)																		
Pintail (B)																		
Teal (B)																		
Red-crested pochard (W)																		
Pochard (W)																		
Tufted duck (W)																		
Scaup (P)																		
Eider (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Velvet scoter (W)																		
Common scoter (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Goldeneye (B)																		
Smew (W)																		
Goosander (W)																		
Red-breasted merganser (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Red-throated diver (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Black-throated diver (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Great northern diver (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Red-necked grebe (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Great crested grebe (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Slavonian grebe (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Black stork (W)																		
White stork (B)																		
Spoonbill (W)																		
Bittern (B)																		
Little bittern (B)																		
Grey heron(W)																		
Purple heron (W)																		
Little egret (W)																		
Cormorant (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Osprey (W)																		
Honey buzzard (B)																		
Booted eagle (W)																		
Marsh harrier (B)																		

Name of European Site: Estuaire et Marais de la Basse Seine SPA (Marine Ornithology)																		
Distance to Proposed Development: 86.9 km																		
European site feature	**Likely Effects of the Proposed Development (Alone and In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Hen harrier (B)																		
Montagu's harrier (W)																		
Red kite (W)																		
Black kite (W)																		
Corncrake (B)																		
Spotted crake (B)																		
Crane (W)																		
Oystercatcher (B)																		
Black-winged stilt (B)																		
Avocet (B)																		
Lapwing (B)																		
Golden plover (W)																		
Grey plover (W)																		
Ringed plover (B)																		
Little ringed plover (B)																		
Kentish plover (W)																		
Whimbrel (W)																		
Curlew (B)																		
Bar-tailed godwit (W)																		
Black-tailed godwit (B)																		
Turnstone (W)																		
Knot (W)																		
Ruff (W)																		
Curlew sandpiper (W)																		
Temmink's stint (W)																		
Sanderling (W)																		
Dunlin (B)																		
Little stint (W)																		
Snipe (B)																		
Common sandpiper (W)																		
Green sandpiper (W)																		
Redshank (B)																		
Wood sandpiper (W)																		
Spotted redshank (W)																		
Greenshank (W)																		
Little gull (P)	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**
Mediterranean gull (P)	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**

Name of European Site: Estuaire et Marais de la Basse Seine SPA (Marine Ornithology)																		
Distance to Proposed Development: 86.9 km																		
European site feature	**Likely Effects of the Proposed Development (Alone and In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Gull-billed tern (P)																		
Caspian tern (P)																		
Sandwich tern (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Common tern (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Arctic tern (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Whiskered tern (P)																		
Black tern (P)																		
Great skua (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Arctic skua (P)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Guillemot (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Razorbill (W)	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a
Little owl (W)																		
Long-eared owl (B)																		
Short-eared owl (B)																		
Nightjar (B)																		
Kingfisher (B)																		
Merlin (W)																		
Peregrine (B)																		
Red-backed shrike (B)																		
Bearded tit (B)																		
Woodlark (W)																		
Cetti's warbler (B)																		
Aquatic warbler (W)																		
Reed warbler (B)																		
Marsh warbler (B)																		
Grasshopper warbler (B)																		
Bluethroat (B)																		
Redstart (B)																		
Whinchat (B)																		
Stonechat (B)																		
Wheatear (W)																		
Tawny pipit (W)																		
Siskin (W)																		
Ortolan bunting																		
Reed bunting (B)																		

Evidence supporting conclusions (also see HRA Report Section 6.2.5):

a. There is no pathway for marine works to impact this European site due to distance.

HRA Screening Matrix 14A: Alderney West Coast and Burhou Islands Ramsar (Marine Ornithology)

Name of European Site: Alderney West Coast and Burhou Islands Ramsar (Marine Ornithology)																		
Distance to Proposed Development: 142.0 km																		
European site feature	**Likely Impacts of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Gannet (B)	✕**a**	✕**a**	✕**a**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✕**e**	✕**e**	✕**e**	✓**f**	✓**f**	✓**f**	✓**g**	✓**g**	✓**g**
Storm petrel (B)	✕**a**	✕**a**	✕**a**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✕**e**	✕**e**	✕**e**	✓**f**	✓**f**	✓**f**	✓**g**	✓**g**	✓**g**
Shag (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Cormorant (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Kittiwake (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Great black-backed gull (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Herring gull (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Lesser black-backed gull (B)	✕**a**	✕**a**	✕**a**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✕**e**	✕**e**	✕**e**	✓**f**	✓**f**	✓**f**	✓**g**	✓**g**	✓**g**
Guillemot (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Razorbill (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Puffin (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**

Evidence supporting conclusions (also see HRA Report Section 7.2.4):

a. Given that these features range widely and are not considered to be vulnerable to disturbance from vessel traffic and associated activities, the potential for an effect from displacement is considered to be negligible across all development phases. Therefore, no LSE applies to disturbance & displacement for these features.

b. There is no pathway for offshore works to impact these features as it is situated outside their mean-maximum foraging ranges (cormorant 25.0 km; shag 14.5 km; kittiwake 60.0 km; herring gull 61.1 km; great black-backed gull 61.1 km[†]; guillemot 84.2 km; razorbill 48.5 km; puffin 105.4 km; Thaxter *et al*. 2012).

c. Given their extremely large foraging ranges relative to the area of impact and/or plasticity in diet, the potential for an effect from changes in prey is negligible across all development phases for these features. Therefore, no LSE applies to indirect effects.

d. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an effect is therefore considered negligible and therefore no LSE applies to collision.

e. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for these features.

f. Unplanned oil or chemical spillages from vessels may occur during all development phases. Spills have the potential to directly affect these features when utilising the sea surface e.g. through direct oiling resulting in mortality. Therefore, LSE applies to accidental spills.

[†] In the absence of a species-specific mean-max foraging range, herring gull was used as a proxy for great black-backed gull. Herring gull was considered to be the most suitable model species, as lesser black-backed gull is a long distant migrant (unlike great black-backed gull) and is morphologically adapted to longer flights (Snow & Perrins 1998; Klaassen *et al*., 2011). The mean maximum foraging range cited for herring gull is 61.1 ± 44 km (Thaxter *et al*., 2012).

g. Unplanned disposal of industrial or user plastic during all development phases has the potential to directly affect these features when utilising the sea surface e.g. through ingestion or entanglement resulting in mortality. Therefore, LSE applies to litter.

HRA Screening Matrix 14B: Alderney West Coast and Burhou Islands Ramsar (Marine Ornithology – In Combination)

Name of European Site: Alderney West Coast and Burhou Islands Ramsar (Marine Ornithology)																		
Distance to Proposed Development: 142.0 km																		
European site feature	**Likely Impacts of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Gannet (B)	✕**a**	✕**a**	✕**a**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✕**e**	✕**e**	✕**e**	✓**f**	✓**f**	✓**f**	✓**f**	✓**f**	✓**f**
Storm petrel (B)	✕**a**	✕**a**	✕**a**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✕**e**	✕**e**	✕**e**	✓**f**	✓**f**	✓**f**	✓**f**	✓**f**	✓**f**
Shag (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Cormorant (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Kittiwake (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Great black-backed gull (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Herring gull (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Lesser black-backed gull (B)	✕**a**	✕**a**	✕**a**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✕**e**	✕**e**	✕**e**	✓**f**	✓**f**	✓**f**	✓**f**	✓**f**	✓**f**
Guillemot (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Razorbill (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**
Puffin (B)	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**e**	✕**e**	✕**e**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**	✕**b**

Evidence supporting conclusions (also see HRA Report Section 8.2.4):

a. Given that these features range widely and are not considered to be vulnerable to disturbance from vessel traffic and associated activities, the potential for an in combination effect from displacement is considered to be negligible across all development phases. Therefore, no in combination LSE applies to disturbance & displacement for these features.

b. There is no pathway for offshore works to impact these features as it is situated outside their mean-maximum foraging ranges (cormorant 25.0 km; shag 14.5 km; kittiwake 60.0 km; herring gull 61.1 km; great black-backed gull 61.1 km[†]; guillemot 84.2 km; razorbill 48.5 km; puffin 105.4 km; Thaxter *et al*. 2012).

c. Given their extremely large foraging ranges relative to the area of impact and/or plasticity in diet, the potential for an in combination effect from changes in prey is negligible across all development phases for these features. Therefore, no in combination LSE applies to indirect effects.

d. Structures or devices which have the potential to pose an above water collision risk to these features will not be introduced during any development phase. Surface feeding species are not considered to be vulnerable to below water collisions. The potential for an in combination effect is therefore considered negligible and therefore no in combination LSE applies to collision.

e. There is no pathway for offshore works to introduce invasive non-indigenous predators (e.g. mink) to breeding colonies for these features.

f. LSE applies to the Proposed Development alone. Therefore, potential in combination LSE is considered in the Stage 2 Integrity matrices below.

HRA Screening Matrix 15A: Estuaires et Littoral Picards (Baies de Somme et d'Authie) SAC (Fish)

Name of European site and designation: Estuaries et Littoral Picards (Baie de Somme et d'Authie) SAC (fish)																													
EU Code: FR2200346																													
Distance to Proposed Development: 84.6 km																													
European site features	**Likely effects of NSIP**																												
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1099 River lamprey	**x a**	**x a**	**x a**	**x b**	**x b**	**x b**	**x c**	**x c**	**x c**	**✓ d**	**✓ d**	**✓ d**	**x e**	**x e**	**xe**				**xf**	**xf**	**xf**				**✓ g**	**✓ g**	**✓ g**
1166 Crested newt																													
1614 Creeping marshwort (Apium repens)																													
1903 Fen Orchid (Liparis loeselii)																													
6199 Jersey Tigar																													
1042 Yellow-spotted Whiteface (Leucorrhinia pectotalis)																													
1014 Narrow-mouthed whorl snail (Vertigo angustior)																													
1016 Desmoulin's whorl snail																													
1364 Grey seal																													
1321 Geoffroy's bat																													
1365 Common seal																													
1351 Common Porpoise																													
1349 Bottle-nosed Dolphin																													
1110 Sandbanks which are slighty covered by seawater all the time																													
1130 Estuaries																													
1140 Mudflats and sandflats not covered by seawater at low tide																													
1150 Coastal lagoons																													
1170 Reefs																													
1210 Annual vegetation of drift lines																													
1220 Perennial vegetation of stony banks																													
1230 Vegetated sea cliffs of the Atlantic and Baltic coasts																													
1310 Salicornia and other annuals colonizing mud and sand																													
1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)																													
1420 Mediterranean and thermos-Atlantic halophilous scrubs (Sarcocornetea fructicosi)																													

Name of European site and designation: Estuaries et Littoral Picards (Baie de Somme et d'Authie) SAC (fish)																												
EU Code: FR2200346																												
Distance to Proposed Development: 84.6 km																												
European site features	**Likely effects of NSIP**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
2130 Embryonic shifting dunes																												
2120 Shifting dunes along the shoreline with Ammophila arenaria ('white dunes')																												
2130 Fixed coastal dunes with herbacceous vegetation ('grey dunes')																												
2160 Dunes with Hippophae rhamnoides																												
2170 Dunes with Salix repens ssp argentea (Salicion arenariae)																												
2180 Wooded dunes of the Atlantic, Continental and Boreal region																												
2190 Humid dune slacks																												
3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)																												
3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp																												
3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition – type vegetation																												
3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation																												
6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)																												
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels																												
6510 Lowland hay meadows (Alopecurus prtensis, Sanguisorba officinalis)																												
7230 Alkine fens																												
91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)																												

Evidence supporting conclusions (also see HRA Report Section 7.2.2 and 8.2.2.):

- **a.** River lamprey (and transformers) are tolerant of naturally high levels of SSC given their riverine migration and are able to swim through of navigate round areas of elevated SSC in the marine environment. Therefore, no LSE as a result of increased SSC during construction, operation and decommissioning can be concluded.
- **b.** River lamprey are highly mobile and able to avoid collisions with installation and maintenance vessels and infrastructure. Therefore, no LSE as a result of physical injury can be concluded.

c. Invasive species such as parasites or migratory fish species introduced as a result of construction, operation and decommissioning which could harmful to river lamprey is highly unlikely given that there is no evidence to suggest that these types of species are introduced via biofouling or ballast water. Therefore, no LSE as a result of invasive species can be concluded.
d. Potential for hydrocarbon and/or chemical pollution events exists, therefore LSE cannot be ruled out.
e. River lamprey are hearing generalists with potential underwater noise emissions from the construction, operation and decommissioning of the Proposed Development falling below the levels expected to produce mortality, mortal injury or recoverable injury. Therefore, no LSE as a result of noise and vibration can be concluded.
f. River lamprey use both the pelagic and benthic zones for migration and may therefore come into contact with weak EMF from the Proposed Development however no responses to electromagnetic fields have been recorded for this species. Therefore, no LSE as a result of EMF can be concluded.
g. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on river lamprey with the exception of pollution events. Therefore, LSE cannot be ruled out for this effect in combination.

HRA Screening Matrix 15B: Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar (Marine Mammals)

Name of European site and designation: Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar (marine mammals)																		
EU Code: FR2200346																		
Distance to Proposed Development: 87 km																		
European site features‡	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1349 Bottlenose dolphin	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓f**	**✓f**	**✓f**
1351 Harbour porpoise	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓f**	**✓f**	**✓f**
1364 Grey seal	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓f**	**✓f**	**✓f**
1365 Harbour seal	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓f**	**✓f**	**✓f**
1614 Apium repens																		
6199 Euplagia quadripunctaria																		
1099 Lampetra fluviatilis																		
1042 Leucorrhinia pectoralis																		
1903 Liparis loeselii																		
1321 Myotis emarginatus																		
1166 Triturus cristatus																		
1014 Vertigo angustior																		
1016 Vertigo moulinsiana																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1130 Estuaries																		
1140 Mudflats and sandflats not covered by seawater at low tide																		
1150 Coastal lagoons																		
1170 Reefs																		
1210 Annual vegetation of drift lines																		
1220 Perennial vegetation of stony banks																		
1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts																		

‡ As per https://eunis.eea.europa.eu/sites/FR2200346 [accessed 11/06/2019]

Name of European site and designation: Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar (marine mammals)																		
EU Code: FR2200346																		
Distance to Proposed Development: 87 km																		
European site features‡	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1310 Salicornia and other annuals colonizing mud and sand																		
1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)																		
1420 Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)																		
2110 Embryonic shifting dunes																		
2120 Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")																		
2130 Fixed coastal dunes with herbaceous vegetation ("grey dunes")																		
2160 Dunes with Hippophaë rhamnoides																		
2170 Dunes with Salix repens ssp. argentea (Salicion arenariae)																		
2180 Wooded dunes of the Atlantic, Continental and Boreal region																		
2190 Humid dune slacks																		
3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)																		
3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.																		
3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation																		
3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation																		
6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)																		
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels																		
6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)																		
7230 Alkaline fens																		
91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)																		

Evidence supporting conclusions (also see HRA Report Section 7.2.3 and 8.2.3):

a. Given the geophysical survey and positioning equipment likely to be used, and the activities which have been proposed, there is negligible potential for the sound produced to induce the onset of auditory injury (PTS). Therefore, no LSE as a result of auditory injury can be concluded.

b. Although there is potential for disturbance of a very small number of individuals as a result of increased anthropogenic noise from the geophysical survey and positioning equipment likely to be used, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Disturbance ranges as a result of increased anthropogenic noise from the activities and vessels proposed are likely to be small therefore there is negligible potential for disturbance; furthermore, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Any changes to swimming behaviour as a result of the presence of EMF (operational phase only) are likely to be corrected within a few metres and therefore have minimal effect. The potential for disturbance of seals hauled out within this SAC is considered to be nil due to the distance between the Proposed Development and the SAC (87 km). Therefore, no LSE as a result of disturbance can be concluded.

c. Given the number, type and behaviour of vessels required, and the fact that the species under consideration are small and agile, the risk of collision is considered to be negligible. Therefore, no LSE as a result of collision can be concluded.

d. Indirect effects such as changes in suspended sediment levels as a result of trenching and dredging have the potential to affect prey availability/quality and alter marine mammal foraging behaviour/success. However, because marine mammals range widely and forage in a variety of habitats using a variety of cues, any short-term local level changes in prey availability/quality are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of indirect effects can be concluded.

e. Pollution (unplanned spills/disposal of litter) may affect marine mammal species directly (if water quality is affected as a result of an unplanned spill, litter is ingested or animals become entangled in marine debris) and/or indirectly (if contaminated prey items are ingested). Therefore LSE applies to pollution.

f. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on either bottlenose dolphin, harbour porpoise, grey seal or harbour seal which are qualifying features of the Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar with the exception of pollution. This is because there is negligible potential for the sound produced by the Proposed Development to induce the onset of auditory injury (PTS), any disturbance is likely to be temporary and reversible with suitable alternative local habitat being available in the meantime, the risk of collision with vessels is considered to be negligible, and short term local level changes in prey availability/quality as a result of indirect effects are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of the contribution of the Proposed Development to any potential in combination effects (with the exception of pollution) on the marine mammal features of the Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar can be concluded. However, LSE applies in relation to pollution therefore in combination effects for pollution have been taken through to AA.

HRA Screening Matrix 16A: Baie de Canche et Couloir des trois Estuaires SAC (Fish)

Name of European site and designation: Baie de Canche et Couloir des trois Estuaires SAC																												
EU Code: FR3102005																												
Distance to Proposed Development: 86.5 km																												
European site features	**Likely effects of NSIP**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1102 Allis shad	**xa**	**xa**	**xa**	**xb**	**xb**	**xb**	**xc**	**xc**	**xc**	**✓d**	**✓d**	**✓d**	**xe**	**xe**	**xe**	**xf**		**xf**		**xg**			**xh**		**✓i**	**✓i**	**✓i**
1095 Sea lamprey	**xa**	**xa**	**xa**	**xb**	**xb**	**xb**	**xc**	**xc**	**xc**	**✓d**	**✓d**	**✓d**	**xe**	**xe**	**xe**					**xg**					**✓i**	**✓i**	**✓i**
1099 River lamprey	**xa**	**xa**	**xa**	**xb**	**xb**	**xb**	**xc**	**xc**	**xc**	**✓d**	**✓d**	**✓d**	**xe**	**xe**	**xe**					**xg**					**✓i**	**✓i**	**✓i**
1106 Atlantic salmon	**xa**	**xa**	**xa**	**xb**	**xb**	**xb**	**xc**	**xc**	**xc**	**✓d**	**✓d**	**✓d**	**xe**	**xe**	**xe**	**xf**	**xf**	**xf**		**xg**			**xh**		**✓i**	**✓i**	**✓i**
1351 Harbour porpoise																												
1364 Grey seal																												

Name of European site and designation: Baie de Canche et Couloir des trois Estuaires SAC																													
EU Code: FR3102005																													
Distance to Proposed Development: 86.5 km																													
European site features	**Likely effects of NSIP**																												
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1365 Harbour seal																											
1351 Common Porpoise																											
1110 Sandbanks which are slightly covered by sea water all the time																											
1130 Estuaries																											
1140 Mudflats and sandflats not covered by seawater at low tide																											
1210 Annual vegetation of drift lines																											
1310 Salicornia and other annuals colonising mud and sand																											
1330 Atlantic salt meadows																											

Evidence supporting conclusions (also see HRA Report Section 7.2.2 and 8.2.2):

a. Allis shad, sea lamprey (and transformers), river lamprey (and transformers) and salmon (and smolts) are tolerant of naturally high levels of SSC given their riverine migration and are able to swim through of navigate round areas of elevated SSC in the marine environment. Therefore, no LSE as a result of increased SSC during construction, operation and decommissioning can be concluded.

b. Allis shad, sea lamprey, river lamprey and salmon are highly mobile and able to avoid collisions with installation and maintenance vessels and infrastructure. Therefore, no LSE as a result of physical injury can be concluded.

c. Invasive species such as parasites or migratory fish species introduced as a result of construction, operation and decommissioning which could harmful to allis shad, sea lamprey, river lamprey and salmon is highly unlikely given that there is no evidence to suggest that these types of species are introduced via biofouling or ballast water. Therefore, no LSE as a result of invasive species can be concluded.

d. Potential for hydrocarbon and/or chemical pollution events exists, therefore LSE cannot be ruled out.

e. Allis shad are hearing specialists due to the coupling of the ear with the swim bladder. Although TTS may occur if an individual is within 160m of trenching equipment it is considered as this species is highly mobile and generally pelagic that they will move away before an impact occurs. River lamprey, sea lamprey and salmon are hearing generalists with potential underwater noise emissions from the construction, operation and decommissioning of the Proposed Development falling below the levels expected to produce mortality, mortal injury or recoverable injury. Therefore, no LSE as a result of noise and vibration can be concluded.

f. Allis shad and salmon will be accustomed to vessels traffic and will navigate round or under installation, maintenance and decommissioning vessels. Therefore, no LSE as a result of visual disturbance can be concluded.

g. Salmon and allis shad are pelagic and generally use the zone close to the sea surface for migration so are unlikely to come into contact with EMF during operation of the Proposed Development. In addition, salmon show a lack of behavioural response to EMF and shad do not poses ampullary organs instead relying on sight or sensory organs to locate prey. River and sea lamprey use both the pelagic and benthic zones for migration and may therefore come into contact with weak EMF from the Proposed Development however no responses to electromagnetic fields have been recorded for this species. Therefore, no LSE as a result of EMF can be concluded.

h. Allis shad and salmon are pelagic and generally use the zone close to the sea surface for migration so are unlikely to come into contact with any temperature changes during operation of the Proposed Development. Therefore, no LSE as a result of temperature changes can be concluded.

i. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on allis shad, sea lamprey, river lamprey and salmon with the exception of pollution events. Therefore, LSE cannot be ruled out for this effect in combination..

HRA Screening Matrix 16B: Baie de Canche et couloir des trois estuaires SAC (Marine Mammals)

Name of European site and designation: Baie de Canche et couloir des trois estuaires SAC (Marine Mammals)																		
EU Code: FR3102005																		
Distance to Proposed Development: 85 km																		
European site features[§]	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1351 Harbour porpoise	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓f**	**✓f**	**✓f**
1364 Grey seal	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓f**	**✓f**	**✓f**
1365 Harbour seal	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓f**	**✓f**	**✓f**
1095 Sea lamprey																		
1099 River lamprey																		
1102 Allis shad																		
1106 Atlantic salmon																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1130 Estuaries																		
1140 Mudflats and sandflats not covered by seawater at low tide																		
1210 Annual vegetation of drift lines																		
1310 Salicornia and other annuals colonising mud and sand																		
1330 Atlantic salt meadows																		

Evidence supporting conclusions (also see HRA Report Section 7.2.3 and 8.2.3):

a. Given the geophysical survey and positioning equipment likely to be used, and the activities which have been proposed, there is negligible potential for the sound produced to induce the onset of auditory injury (PTS). Therefore, no LSE as a result of auditory injury can be concluded.

b. Although there is potential for disturbance of a very small number of individuals as a result of increased anthropogenic noise from the geophysical survey and positioning equipment likely to be used, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Disturbance ranges as a result of increased anthropogenic noise from the activities and vessels proposed are likely to be small therefore there is negligible potential for disturbance; furthermore, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Any changes to swimming behaviour as a result of the presence of EMF (operational phase only) are likely to be corrected within a few metres and therefore have minimal effect. The potential for disturbance of seals hauled out within this SAC is considered to be nil due to the distance between the Proposed Development and the SAC (85 km). Therefore, no LSE as a result of disturbance can be concluded.

c. Given the number, type and behaviour of vessels required, and the fact that the species under consideration are small and agile, the risk of collision is considered to be negligible. Therefore, no LSE as a result of collision can be concluded.

[§] As per https://inpn.mnhn.fr/docs/natura2000/fsdpdf/FR3102005.pdf [accessed 05/06/2019]

d. Indirect effects such as changes in suspended sediment levels as a result of trenching and dredging have the potential to affect prey availability/quality and alter marine mammal foraging behaviour/success. However, because marine mammals range widely and forage in a variety of habitats using a variety of cues, any short-term local level changes in prey availability/quality are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of indirect effects can be concluded.

e. Pollution (unplanned spills/disposal of litter) may affect marine mammal species directly (if water quality is affected as a result of an unplanned spill, litter is ingested or animals become entangled in marine debris) and/or indirectly (if contaminated prey items are ingested). Therefore, LSE applies to pollution.

f. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on either harbour porpoise, grey seal or harbour seal which are qualifying features of the Baie de Canche et couloir des trois estuaires SAC with the exception of pollution. This is because there is negligible potential for the sound produced by the Proposed Development to induce the onset of auditory injury (PTS), any disturbance is likely to be temporary and reversible with suitable alternative local habitat being available in the meantime, the risk of collision with vessels is considered to be negligible, and short term local level changes in prey availability/quality as a result of indirect effects are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of the contribution of the Proposed Development to any potential in combination effects (with the exception of pollution) on the marine mammal features of the Baie de Canche et couloir des trois estuaires SAC can be concluded. However, LSE applies in relation to pollution therefore in combination effects for pollution have been taken through to AA.

HRA Screening Matrix 17A: Baie de Seine Orientale SAC (Fish)

Name of European site and designation: Baie de Seine Orientale SAC (fish)																												
EU Code: FR2502021																												
Distance to Proposed Development: 90.9 km																												
European site features	**Likely effects of NSIP**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1102 Allis shad	**x a**	**x a**	**x a**	**x b**	**x b**	**x b**	**x c**	**x c**	**x c**	**✓ d**	**✓ d**	**✓ d**	**x e**	**x e**	**xe**	**xf**		**xf**		**x g**			**x h**		**✓ i**	**✓ i**	**✓i**
1103 Twait shad	**x a**	**x a**	**x a**	**x b**	**x b**	**x b**	**x c**	**x c**	**x c**	**✓ d**	**✓ d**	**✓ d**	**x e**	**x e**	**xe**	**xf**		**xf**		**x g**			**x h**		**✓ i**	**✓ i**	**✓i**
1095 Sea lamprey	**x a**	**x a**	**x a**	**x b**	**x b**	**x b**	**x c**	**x c**	**x c**	**✓ d**	**✓ d**	**✓ d**	**x e**	**x e**	**xe**					**x g**					**✓ i**	**✓ i**	**✓i**
1099 River lamprey	**x a**	**x a**	**x a**	**x b**	**x b**	**x b**	**x c**	**x c**	**x c**	**✓ d**	**✓ d**	**✓ d**	**x e**	**x e**	**xe**					**x g**					**✓ i**	**✓ i**	**✓i**
1106 Atlantic salmon	**x a**	**x a**	**x a**	**x b**	**x b**	**x b**	**x c**	**x c**	**x c**	**✓ d**	**✓ d**	**✓ d**	**x e**	**x e**	**xe**	**xf**	**xf**	**xf**		**x g**			**x h**		**✓ i**	**✓ i**	**✓i**
1351 Harbour porpoise																												
1364 Grey seal																												
1365 Harbour seal																												
1349 Bottle nose dolphin																												
1110 Sandbanks which are slightly covered by sea water all the time																												
1160 Large shallow inlets and bays																												
1170 Reefs																												
1210 Annual vegetation of drift lines																												
1310 Salicornia and other annuals colonising mud and sand																												

Name of European site and designation: Baie de Seine Orientale SAC (fish)																													
EU Code: FR2502021																													
Distance to Proposed Development: 90.9 km																													
European site features	**Likely effects of NSIP**																												
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1330 Atlantic salt meadows																											

Evidence supporting conclusions (also see HRA Report Section 7.2.2 and 8.2.2):

- **a.** Twaite shad, allis shad, sea lamprey (and transformers), river lamprey (and transformers) and salmon (and smolts) are tolerant of naturally high levels of SSC given their riverine migration and are able to swim through of navigate round areas of elevated SSC in the marine environment. Therefore, no LSE as a result of increased SSC during construction, operation and decommissioning can be concluded.
- **b.** Twaite shad, allis shad, sea lamprey, river lamprey and salmon are highly mobile and able to avoid collisions with installation and maintenance vessels and infrastructure. Therefore, no LSE as a result of physical injury can be concluded.
- **c.** Invasive species such as parasites or migratory fish species introduced as a result of construction, operation and decommissioning which could be harmful to twaite shad, allis shad, sea lamprey, river lamprey and salmon is highly unlikely given that there is no evidence to suggest that these types of species are introduced via biofouling or ballast water. Therefore, no LSE as a result of invasive species can be concluded.
- **d.** Potential for hydrocarbon and/or chemical pollution events exists, therefore LSE cannot be ruled out.
- **e.** Twaite and allis shad are hearing specialists due to the coupling of the ear with the swim bladder. Although TTS may occur if an individual is within 160m of trenching equipment it is considered as this species is highly mobile and generally pelagic that they will move away before an impact occurs. River lamprey, sea lamprey and salmon are hearing generalists with potential underwater noise emissions from the construction, operation and decommissioning of the Proposed Development falling below the levels expected to produce mortality, mortal injury or recoverable injury. Therefore, no LSE as a result of noise and vibration can be concluded.
- **f.** Twaite shad, allis shad and salmon will be accustomed to vessels traffic and will navigate round or under installation, maintenance and decommissioning vessels. Therefore, no LSE as a result of visual disturbance can be concluded.
- **g.** Twaite shad, allis shad and salmon are pelagic and generally use the zone close to the sea surface for migration so are unlikely to come into contact with EMF during operation of the Proposed Development. In addition, salmon show a lack of behavioural response to EMF and shad do not poses ampullary organs instead relying on sight or sensory organs to locate prey. River and sea lamprey use both the pelagic and benthic zones for migration and may therefore come into contact with weak EMF from the Proposed Development however no responses to electromagnetic fields have been recorded for this species. Therefore, no LSE as a result of EMF can be concluded.
- **h.** Twaite shad, allis shad and salmon are pelagic and generally use the zone close to the sea surface for migration so are unlikely to come into contact with any temperature changes during operation of the Proposed Development. Therefore, no LSE as a result of temperature changes can be concluded.
- **i.** There is negligible potential for the Proposed Development to contribute to any potential in combination effects on twaite shad, allis shad, sea lamprey, river lamprey and salmon with the exception of pollution events. Therefore, LSE cannot be ruled out for this effect in combination.

HRA Screening Matrix 17B: Baie de Seine Orientale SAC (Marine Mammals)

Name of European site and designation: Baie de Seine Orientale SAC (marine mammals)																		
EU Code: FR2502021																		
Distance to Proposed Development: 91 km																		
European site features**	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1349 Bottlenose dolphin	×a	×a	×a	×b	×b	×b	×c	×c	×c	×d	×d	×d	✓e	✓e	✓e	✓f	✓f	✓f
1351 Harbour porpoise	×a	×a	×a	×b	×b	×b	×c	×c	×c	×d	×d	×d	✓e	✓e	✓e	✓f	✓f	✓f
1364 Grey seal	×a	×a	×a	×b	×b	×b	×c	×c	×c	×d	×d	×d	✓e	✓e	✓e	✓f	✓f	✓f
1365 Harbour seal	×a	×a	×a	×b	×b	×b	×c	×c	×c	×d	×d	×d	✓e	✓e	✓e	✓f	✓f	✓f
1095 Sea lamprey																		
1099 River lamprey																		
1102 Allis shad																		
1103 Twaite shad																		
1106 Atlantic salmon																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1160 Large shallow inlets and bays																		
1170 Reefs																		

Evidence supporting conclusions (also see HRA Report Section 7.2.3 and 8.2.3):

a. Given the geophysical survey and positioning equipment likely to be used, and the activities which have been proposed, there is negligible potential for the sound produced to induce the onset of auditory injury (PTS). Therefore, no LSE as a result of auditory injury can be concluded.

b. Although there is potential for disturbance of a very small number of individuals as a result of increased anthropogenic noise from the geophysical survey and positioning equipment likely to be used, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Disturbance ranges as a result of increased anthropogenic noise from the activities and vessels proposed are likely to be small therefore there is negligible potential for disturbance; furthermore, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Any changes to swimming behaviour as a result of the presence of EMF (operational phase only) are likely to be corrected within a few metres and therefore have minimal effect. The potential for disturbance of seals hauled out within this SAC is considered to be nil due to the distance between the Proposed Development and the SAC (91 km). Therefore, no LSE as a result of disturbance can be concluded.

c. Given the number, type and behaviour of vessels required, and the fact that the species under consideration are small and agile, the risk of collision is considered to be negligible. Therefore, no LSE as a result of collision can be concluded.

d. Indirect effects such as changes in suspended sediment levels as a result of trenching and dredging have the potential to affect prey availability/quality and alter marine mammal foraging behaviour/success. However, because marine mammals range widely and forage in a variety of habitats using a variety of cues, any short-term local level changes in prey availability/quality are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of indirect effects can be concluded.

** As per https://inpn.mnhn.fr/docs/natura2000/fsdpdf/FR2502021.pdf [accessed 02/06/2019]

e. Pollution (unplanned spills/disposal of litter) may affect marine mammal species directly (if water quality is affected as a result of an unplanned spill, litter is ingested or animals become entangled in marine debris) and/or indirectly (if contaminated prey items are ingested). Therefore, LSE applies to pollution.

f. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on either bottlenose dolphin, harbour porpoise, grey seal or harbour seal which are qualifying features of the Baie de Seine Orientale SAC with the exception of pollution. This is because there is negligible potential for the sound produced by the Proposed Development to induce the onset of auditory injury (PTS), any disturbance is likely to be temporary and reversible with suitable alternative local habitat being available in the meantime, the risk of collision with vessels is considered to be negligible, and short term local level changes in prey availability/quality as a result of indirect effects are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of the contribution of the Proposed Development to any potential in combination effects (with the exception of pollution) on the marine mammal features of the Baie de Seine Orientale SAC can be concluded. However, LSE applies in relation to pollution therefore in combination effects for pollution have been taken through to AA.

HRA Screening Matrix 18A: Littoral Cauchois SAC (Fish)

Name of European site and designation: Littoral Cauchois SAC (fish)																												
EU Code: FR2300139																												
Distance to Proposed Development: 52.7 km																												
European site features	**Likely effects of NSIP**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1103 Twaite shad (Alosa fallax)	**xa**	**xa**	**xa**	**xb**	**xb**	**xb**	**xc**	**xc**	**xc**	**✓d**	**✓d**	**✓d**	**xe**	**xe**	**xe**	**xf**		**xf**		**xg**			**xh**		**✓i**	**✓i**	**✓i**
1099 River lamprey (Lampetra fluviatilis)	**xa**	**xa**	**xa**	**xb**	**xb**	**xb**	**xc**	**xc**	**xc**	**✓d**	**✓d**	**✓d**	**xe**	**xe**	**xe**				**xg**	**xg**	**xg**				**✓i**	**✓i**	**✓i**
1095 Sea lamprey	**xa**	**xa**	**xa**	**xb**	**xb**	**xb**	**xc**	**xc**	**xc**	**✓d**	**✓d**	**✓d**	**xe**	**xe**	**xe**					**xg**					**✓i**	**✓i**	**✓i**
1166 Crested newt (triturus cristatus)																											
1163 Freshwater sculpin (Cottus gobio)																											
1044 Southern coenagrion																											
6199 Jersey tiger (Euplagia quadripunctaria)																											
1083 Stag beatle (Lucanus cervus)																											
1308 Barbastelle (barbastelle barbastellus)																											
1364 Grey seal (Halichoerus grypus)																											
1323 Bechsteins bat (Myotis bechsteinii)																											
1321 Geoffroy's bat (Myotis emarginatus)																											
1324 Greater mouse-eared bat (Myotis myotis)																											
1365 Harbour seal (Phoca vitulina)																											
1351 Common Porpoise (Phocoena phocoena)																											
1304 Greater horseshoe bat (Rhinolophus ferrumequinum)																											
1303 Lesser horseshoe bat (Rhinolophus hipposideros)																											
1349 Bottle-nosed Dolphin (Tursiops truncates)																											
1170 Reefs																											

Name of European site and designation: Littoral Cauchois SAC (fish)																											
EU Code: FR2300139																											
Distance to Proposed Development: 52.7 km																											
European site features	**Likely effects of NSIP**																										
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1220 Perennial vegetation of stony banks																											
1230 Vegetated sea cliffs of the Atlantic and Baltic coasts																											
3110 Oligatrophic waters containing very few minerals of sandy plains (littorelletalia uniflorae)																											
3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp																											
3150 Natural eutrophic lakes and Magnopotamion or Hydrocharition – type vegetation																											
4020 Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix																											
4030 European dry heaths																											
6410 Molina meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)																											
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels																											
6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)																											
7220 Petrifying springs with tufa formation (Cratoneurion)																											
7230 Alkaline fens																											
8310 Caves not open to the public																											
9120 Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in shrublayer (Quercion robori-petraeae or Ilici-fagenion)																											
9130 Asperulo-Fagetum beech forests																											
9180 Tilio-Acerion forests of slopes, screes and ravines																											
9190 Old acidophilous oak woods with Quercus rubur on sandy plains																											
91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)																											

Evidence supporting conclusions (also see HRA Report Section 7.2.2 and 8.2.2):

- **a.** Twaite shad, river lamprey (and transformers) and sea lamprey (and transformers) are tolerant of naturally high levels of SSC given their riverine migration and are able to swim through of navigate round areas of elevated SSC in the marine environment. Therefore, no LSE as a result of increased SSC during construction, operation and decommissioning can be concluded.
- **b.** Twaite shad, river lamprey and sea lamprey are highly mobile and able to avoid collisions with installation and maintenance vessels and infrastructure. Therefore, no LSE as a result of physical injury can be concluded.

c. Invasive species such as parasites or migratory fish species introduced as a result of construction, operation and decommissioning which could be harmful to twaite shad, river lamprey and sea lamprey is highly unlikely given that there is no evidence to suggest that these types of species are introduced via biofouling or ballast water. Therefore, no LSE as a result of invasive species can be concluded.
d. Potential for hydrocarbon and/or chemical pollution events exists, therefore LSE cannot be ruled out.
e. Twaite shad are hearing specialists due to the coupling of the ear with the swim bladder. Although TTS may occur if an individual is within 160m of trenching equipment it is considered as this species is highly mobile and generally pelagic that they will move away before an impact occurs. Both river and sea lamprey are hearing generalists with potential underwater noise emissions from the construction, operation and decommissioning of the Proposed Development falling below the levels expected to produce mortality, mortal injury or recoverable injury. Therefore, no LSE as a result of noise and vibration can be concluded.
f. Twaite shad will be accustomed to vessels traffic and will navigate round or under installation, maintenance and decommissioning vessels. Therefore, no LSE as a result of visual disturbance can be concluded.
g. Twaite shad are generally pelagic so are unlikely to come into contact with EMF during operation of the Proposed Development. In addition, shad do not possess ampullary organs instead relying on sight or sensory organs to locate prey. Both river and sea lamprey use both the pelagic and benthic zones for migration and may therefore come into contact with weak EMF from the Proposed Development however no responses to electromagnetic fields have been recorded for this species. Therefore, no LSE as a result of EMF can be concluded.
h. Twaite shad are generally pelagic so are unlikely to come into contact with any temperature changes during operation of the Proposed Development. Therefore, no LSE as a result of temperature changes can be concluded.
i. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on twaite shad, river lamprey and sea lamprey with the exception of pollution events. Therefore, LSE cannot be ruled out for this effect in combination. No LSE was concluded for both of these effects in combination with other projects.

HRA Screening Matrix 18B: Littoral Cauchois SAC (Marine Mammals)

Name of European site and designation: Littoral Cauchois SAC (Marine Mammals)																		
EU Code: FR2300139																		
Distance to NSIP: 53 km																		
European site features††	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1349 Bottlenose dolphin	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓×f**	**✓f**	**✓f**
1351 Harbour porpoise	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓f**	**✓f**	**✓f**
1364 Grey seal	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓f**	**✓f**	**✓f**
1365 Harbour seal	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**✓e**	**✓e**	**✓e**	**✓f**	**✓f**	**✓f**
1103 Alosa fallax																		
1308 Barbastella barbastellus																		
1044 Coenagrion mercurial																		
1163 Cottus gobio																		
6199 Euplagia quadripunctaria																		
1099 Lampetra fluviatilis																		
1083 Lucanus cervus																		
1323 Myotis bechsteinii																		

†† As per https://eunis.eea.europa.eu/sites/FR2300139 [accessed 11/06/2019]

Name of European site and designation: Littoral Cauchois SAC (Marine Mammals)

EU Code: FR2300139

Distance to NSIP: 53 km

European site features††	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1321 Myotis emarginatus																		
1324 Myotis myotis																		
1095 Petromyzon marinus																		
1304 Rhinolophus ferrumequinum																		
1303 Rhinolophus hipposideros																		
1166 Triturus cristatus																		
1170 Reefs																		
1220 Perennial vegetation of stony banks																		
1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts																		
3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)																		
3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.																		
3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation																		
4020 Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix																		
4030 European dry heaths																		
6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)																		
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels																		
6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)																		
7220 Petrifying springs with tufa formation (Cratoneurion)																		
7230 Alkaline fens																		
8310 Caves not open to the public																		
9120 Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)																		
9130 Asperulo-Fagetum beech forests																		
9180 Tilio-Acerion forests of slopes, screes and																		

Name of European site and designation: Littoral Cauchois SAC (Marine Mammals)																		
EU Code: FR2300139																		
Distance to NSIP: 53 km																		
European site features††	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
ravines																		
9190 Old acidophilous oak woods with Quercus robur on sandy plains																		
91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)																		

Evidence supporting conclusions (also see HRA Report Section 7.2.3 and 8.2.3):

a. Given the geophysical survey and positioning equipment likely to be used, and the activities which have been proposed, there is negligible potential for the sound produced to induce the onset of auditory injury (PTS). Therefore, no LSE as a result of auditory injury can be concluded.

b. Although there is potential for disturbance of a very small number of individuals as a result of increased anthropogenic noise from the geophysical survey and positioning equipment likely to be used, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Disturbance ranges as a result of increased anthropogenic noise from the activities and vessels proposed are likely to be small therefore there is negligible potential for disturbance; furthermore, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Any changes to swimming behaviour as a result of the presence of EMF (operational phase only) are likely to be corrected within a few metres and therefore have minimal effect. The potential for disturbance of seals hauled out within this SAC is considered to be nil due to the distance between the Proposed Development and the SAC (53 km). Therefore, no LSE as a result of disturbance can be concluded.

c. Given the number, type and behaviour of vessels required, and the fact that the species under consideration are small and agile, the risk of collision is considered to be negligible. Therefore, no LSE as a result of collision can be concluded.

d. Indirect effects such as changes in suspended sediment levels as a result of trenching and dredging have the potential to affect prey availability/quality and alter marine mammal foraging behaviour/success. However, because marine mammals range widely and forage in a variety of habitats using a variety of cues, any short-term local level changes in prey availability/quality are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of indirect effects can be concluded.

e. Pollution (unplanned spills/disposal of litter) may affect marine mammal species directly (if water quality is affected as a result of an unplanned spill, litter is ingested or animals become entangled in marine debris) and/or indirectly (if contaminated prey items are ingested). Therefore, LSE applies to pollution.

f. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on either bottlenose dolphin, harbour porpoise, grey seal or harbour seal which are qualifying features of the Littoral Cauchois SAC with the exception of pollution. This is because there is negligible potential for the sound produced by the Proposed Development to induce the onset of auditory injury (PTS), any disturbance is likely to be temporary and reversible with suitable alternative local habitat being available in the meantime, the risk of collision with vessels is considered to be negligible, and short term local level changes in prey availability/quality as a result of indirect effects are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of the contribution of the Proposed Development to any potential in combination effects (with the exception of pollution) on the marine mammal features of the Littoral Cauchois SAC can be concluded. However, LSE applies in relation to pollution therefore in combination effects for pollution have been taken through to AA.

HRA Screening Matrix 19: Récifs Gris-Nez Blanc-Nez SAC (Marine Mammals)

Name of European site and designation: Récifs Gris-Nez Blanc-Nez SAC (Marine Mammals)	
EU Code: FR3102003	
Distance to Proposed Development: 104 km	
European site	**Likely effects of NSIP**

features‡‡																		
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1351 Harbour porpoise	✕**a**	✕**a**	✕**a**	✕**b**	✕**b**	✕**b**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✓**e**	✓**e**	✓**e**	✓**f**	✓**f**	✓**f**
1364 Grey seal	✕**a**	✕**a**	✕**a**	✕**b**	✕**b**	✕**b**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✓**e**	✓**e**	✓**e**	✓**f**	✓**f**	✓**f**
1365 Harbour seal	✕**a**	✕**a**	✕**a**	✕**b**	✕**b**	✕**b**	✕**c**	✕**c**	✕**c**	✕**d**	✕**d**	✕**d**	✓**e**	✓**e**	✓**e**	✓**f**	✓**f**	✓**f**
1110 Sandbanks which are slightly covered by sea water all the time																		
1170 Reefs																		

Evidence supporting conclusions (also see HRA Report Section 7.2.3 and 8.2.3):

a. Given the geophysical survey and positioning equipment likely to be used, and the activities which have been proposed, there is negligible potential for the sound produced to induce the onset of auditory injury (PTS). Therefore, no LSE as a result of auditory injury can be concluded.

b. Although there is potential for disturbance of a very small number of individuals as a result of increased anthropogenic noise from the geophysical survey and positioning equipment likely to be used, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Disturbance ranges as a result of increased anthropogenic noise from the activities and vessels proposed are likely to be small therefore there is negligible potential for disturbance; furthermore, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Any changes to swimming behaviour as a result of the presence of EMF (operational phase only) are likely to be corrected within a few metres and therefore have minimal effect. The potential for disturbance of seals hauled out within this SAC is considered to be nil due to the distance between the Proposed Development and the SAC (104 km). Therefore, no LSE as a result of disturbance can be concluded.

c. Given the number, type and behaviour of vessels required, and the fact that the species under consideration are small and agile, the risk of collision is considered to be negligible. Therefore, no LSE as a result of collision can be concluded.

d. Indirect effects such as changes in suspended sediment levels as a result of trenching and dredging have the potential to affect prey availability/quality and alter marine mammal foraging behaviour/success. However, because marine mammals range widely and forage in a variety of habitats using a variety of cues, any short term local level changes in prey availability/quality are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of indirect effects can be concluded.

e. Pollution (unplanned spills/disposal of litter) may affect marine mammal species directly (if water quality is affected as a result of an unplanned spill, litter is ingested or animals become entangled in marine debris) and/or indirectly (if contaminated prey items are ingested). Therefore, LSE applies to pollution.

f. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on either harbour porpoise, grey seal or harbour seal which are qualifying features of the Récifs Gris-Nez Blanc-Nez SAC with the exception of pollution. This is because there is negligible potential for the sound produced by the Proposed Development to induce the onset of auditory injury (PTS), any disturbance is likely to be temporary and reversible with suitable alternative local habitat being available in the meantime, the risk of collision with vessels is considered to be negligible, and short term local level changes in prey availability/quality as a result of indirect effects are unlikely to result in a reduction in either fitness or breeding success. Therefore no LSE as a result of the contribution of the Proposed Development to any potential in combination effects (with the exception of pollution) on the marine mammal features of the Récifs Gris-Nez Blanc-Nez SAC can be concluded. However, LSE applies in relation to pollution therefore in combination effects for pollution have been taken through to AA.

HRA Screening Matrix 20: Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC (Marine Mammals)

Name of European site and designation: Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC (Marine Mammals)	
EU Code: FR3102004	
Distance to Proposed Development: 59 km	
European site features§§	**Likely effects of NSIP**

‡‡ As per https://inpn.mnhn.fr/docs/natura2000/fsdpdf/FR3102003.pdf [accessed 05/06/2019]

Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1351 Harbour porpoise	✕a	✕a	✕a	✕b	✕b	✕b	✕c	✕c	✕c	✕d	✕d	✕d	✓e	✓e	✓e	✓f	✓f	✓f
1364 Grey seal	✕a	✕a	✕a	✕b	✕b	✕b	✕c	✕c	✕c	✕d	✕d	✕d	✓e	✓e	✓e	✓f	✓f	✓f
1365 Harbour seal	✕a	✕a	✕a	✕b	✕b	✕b	✕c	✕c	✕c	✕d	✕d	✕d	✓e	✓e	✓e	✓f	✓f	✓f
1110 Sandbanks which are slightly covered by sea water all the time																		
1170 Reefs																		

§§ As per https://inpn.mnhn.fr/docs/natura2000/fsdpdf/FR3102004.pdf [accessed 05/06/2019]

Evidence supporting conclusions (also see HRA Report Section 7.2.3 and 8.2.3):

a. Given the geophysical survey and positioning equipment likely to be used, and the activities which have been proposed, there is negligible potential for the sound produced to induce the onset of auditory injury (PTS). Therefore, no LSE as a result of auditory injury can be concluded.

b. Although there is potential for disturbance of a very small number of individuals as a result of increased anthropogenic noise from the geophysical survey and positioning equipment likely to be used, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Disturbance ranges as a result of increased anthropogenic noise from the activities and vessels proposed are likely to be small therefore there is negligible potential for disturbance; furthermore, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Any changes to swimming behaviour as a result of the presence of EMF (operational phase only) are likely to be corrected within a few metres and therefore have minimal effect. The potential for disturbance of seals hauled out within this SAC is considered to be nil due to the distance between the Proposed Development and the SAC (59 km). Therefore, no LSE as a result of disturbance can be concluded.

c. Given the number, type and behaviour of vessels required, and the fact that the species under consideration are small and agile, the risk of collision is considered to be negligible. Therefore, no LSE as a result of collision can be concluded.

d. Indirect effects such as changes in suspended sediment levels as a result of trenching and dredging have the potential to affect prey availability/quality and alter marine mammal foraging behaviour/success. However, because marine mammals range widely and forage in a variety of habitats using a variety of cues, any short term local level changes in prey availability/quality are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of indirect effects can be concluded.

e. Pollution (unplanned spills/disposal of litter) may affect marine mammal species directly (if water quality is affected as a result of an unplanned spill, litter is ingested or animals become entangled in marine debris) and/or indirectly (if contaminated prey items are ingested). Therefore, LSE applies to pollution.

f. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on either harbour porpoise, grey seal or harbour seal which are qualifying features of the Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC with the exception of pollution. This is because there is negligible potential for the sound produced by the Proposed Development to induce the onset of auditory injury (PTS), any disturbance is likely to be temporary and reversible with suitable alternative local habitat being available in the meantime, the risk of collision with vessels is considered to be negligible, and short term local level changes in prey availability/quality as a result of indirect effects are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of the contribution of the Proposed Development to any potential in combination effects (with the exception of pollution) on the marine mammal features of the Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC can be concluded. However, LSE applies in relation to pollution therefore in combination effects for pollution have been taken through to AA.

HRA Screening Matrix 21: Estuaire de la Seine SAC (Marine Mammals)

Name of European site and designation: Estuaire de la Seine SAC (Marine Mammals)																		
EU Code: FR2300121																		
Distance to NSIP: 90 km																		
European site features* **	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1351 Harbour porpoise	✕a	✕a	✕a	✕b	✕b	✕b	✕c	✕c	✕c	✕d	✕d	✕d	✓e	✓e	✓e	✓f	✓f	✓f
1364 Grey seal	✕a	✕a	✕a	✕b	✕b	✕b	✕c	✕c	✕c	✕d	✕d	✕d	✓e	✓e	✓e	✓f	✓f	✓f
1365 Harbour seal	✕a	✕a	✕a	✕b	✕b	✕b	✕c	✕c	✕c	✕d	✕d	✕d	✓e	✓e	✓e	✓f	✓f	✓f
1044 Southern damselfly																		
1065 Marsh fritillary butterfly																		
1083 Stag beetle																		
1095 Sea lamprey																		
1096 Brook lamprey																		
1099 River lamprey																		
1103 Twaite shad																		
1106 Atlantic salmon																		

*** As per https://inpn.mnhn.fr/docs/natura2000/fsdpdf/FR2300121.pdf [accessed 02/06/2019]

Name of European site and designation: Estuaire de la Seine SAC (Marine Mammals)																		
EU Code: FR2300121																		
Distance to NSIP: 90 km																		
European site features* **	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1166 Great crested newt																		
1304 Greater horseshoe bat																		
1308 Barbastelle																		
1324 Greater mouse-eared bat																		
5315 Bullhead																		
6199 Jersey tiger																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1130 Estuaries																		
1140 Mudflats and sandflats not covered by seawater at low tide																		
1170 Reefs																		
1210 Annual vegetation of drift lines																		
1220 Perennial vegetation of stony banks																		
1310 Salicornia and other annuals colonizing mud and sand																		
1330 Atlantic salt meadows																		
2110 Embryonic shifting dunes																		
2120 Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")																		
2130 Fixed coastal dunes with herbaceous vegetation ("grey dunes")																		
2160 Dunes with Hippophae rhamnoides																		
2180 Wooded dunes of the Atlantic, Continental and Boreal region																		
2190 Humid dune slacks																		
3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.																		
3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation																		
3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation																		
6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)																		
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels																		
6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)																		
9120 Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-																		

Name of European site and designation: Estuaire de la Seine SAC (Marine Mammals)																		
EU Code: FR2300121																		
Distance to NSIP: 90 km																		
European site features* **	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
petraeae or Ilici-Fagenion)																		
9130 Asperulo-Fagetum beech forests																		
9180 Tilio-Acerion forests of slopes, screes and ravines																		

Evidence supporting conclusions (also see HRA Report Section 7.2.3 and 8.2.3):

a. Given the geophysical survey and positioning equipment likely to be used, and the activities which have been proposed, there is negligible potential for the sound produced to induce the onset of auditory injury (PTS). Therefore, no LSE as a result of auditory injury can be concluded.

b. Although there is potential for disturbance of a very small number of individuals as a result of increased anthropogenic noise from the geophysical survey and positioning equipment likely to be used, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Disturbance ranges as a result of increased anthropogenic noise from the activities and vessels proposed are likely to be small therefore there is negligible potential for disturbance; furthermore, any effects are likely to be temporary and reversible with suitable alternative local habitat being available in the meantime. Any changes to swimming behaviour as a result of the presence of EMF (operational phase only) are likely to be corrected within a few metres and therefore have minimal effect. The potential for disturbance of seals hauled out within this SAC is considered to be nil due to the distance between the Proposed Development and the SAC (90 km). Therefore, no LSE as a result of disturbance can be concluded.

c. Given the number, type and behaviour of vessels required, and the fact that the species under consideration are small and agile, the risk of collision is considered to be negligible. Therefore no LSE as a result of collision can be concluded.

d. Indirect effects such as changes in suspended sediment levels as a result of trenching and dredging have the potential to affect prey availability/quality and alter marine mammal foraging behaviour/success. However, because marine mammals range widely and forage in a variety of habitats using a variety of cues, any short-term local level changes in prey availability/quality are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of indirect effects can be concluded.

e. Pollution (unplanned spills/disposal of litter) may affect marine mammal species directly (if water quality is affected as a result of an unplanned spill, litter is ingested or animals become entangled in marine debris) and/or indirectly (if contaminated prey items are ingested). Therefore, LSE applies to pollution.

f. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on either harbour porpoise, grey seal or harbour seal which are qualifying features of the Estuaire de la Seine SAC with the exception of pollution. This is because there is negligible potential for the sound produced by the Proposed Development to induce the onset of auditory injury (PTS), any disturbance is likely to be temporary and reversible with suitable alternative local habitat being available in the meantime, the risk of collision with vessels is considered to be negligible, and short term local level changes in prey availability/quality as a result of indirect effects are unlikely to result in a reduction in either fitness or breeding success. Therefore, no LSE as a result of the contribution of the Proposed Development to any potential in combination effects (with the exception of pollution) on the marine mammal features of the Estuaire de la Seine SAC can be concluded. However, LSE applies in relation to pollution therefore in combination effects for pollution have been taken through to AA.

HRA Screening Matrix 22: Solent Maritime SAC (Annex I Features)

Name of European site and designation: Solent Maritime SAC																								
EU Code: UK0030059																								
Distance to Proposed Development: 0 km																								
European site features	**Likely effects of NSIP**																							
Effect	Increased SSC/smothering			Contaminated sediments			Habitat disturbance/loss			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Estuaries [1130]	**✓a**	**✓b**	**✓a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**✓f**	**✓f**	**✓f**	**✓g**	**✓g**	**✓g**		**×h**		**✓i**	**✓i**	**✓i**
Mudflats and sandflats (not submerged	**✓a**	**✓b**	**✓a**	**×c**	**×c**	**×c**	**×d**	**×d**	**×d**	**×e**	**×e**	**×e**	**✓f**	**✓f**	**✓f**	**✓g**	**✓g**	**✓g**		**×h**		**✓i**	**✓i**	**✓i**

Name of European site and designation: Solent Maritime SAC																								
EU Code: UK0030059																								
Distance to Proposed Development: 0 km																								
European site features	**Likely effects of NSIP**																							
Effect	Increased SSC/smothering			Contaminated sediments			Habitat disturbance/loss			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
at low tide) [1140]																								
Sandbanks (slightly covered by seawater all the time) [1110]	✓**a**	✓**b**	✓**a**	×**c**	×**c**	×**c**	×**d**	×**d**	×**d**	×**e**	×**e**	×**e**	✓**f**	✓**f**	✓**f**	✓**g**	✓**g**	✓**g**		×**h**		✓**i**	✓**i**	✓**i**
Spartina swards [1320]	✓**a**	✓**b**	✓**a**	×**c**	×**c**	×**c**	×**d**	×**d**	×**d**	×**e**	×**e**	×**e**	✓**f**	✓**f**	✓**f**	✓**g**	✓**g**	✓**g**		×**h**		✓**i**	✓**i**	✓**i**
Atlantic salt meadows [1330]	✓**a**	✓**b**	✓**a**	×**c**	×**c**	×**c**	×**d**	×**d**	×**d**	×**e**	×**e**	×**e**	✓**f**	✓**f**	✓**f**	✓**g**	✓**g**	✓**g**		×**h**		✓**i**	✓**i**	✓**i**
Salicornia and other annuals colonising mud and sand [1310]	✓**a**	✓**b**	✓**a**	×**c**	×**c**	×**c**	×**d**	×**d**	×**d**	×**e**	×**e**	×**e**	✓**f**	✓**f**	✓**f**	✓**g**	✓**g**	✓**g**		×**h**		✓**i**	✓**i**	✓**i**
Shifting dunes along the shoreline [2120]																								
Coastal lagoons [1150]																								
Annual vegetation of drift lines [1210]																								
Perennial vegetation of stony banks [1220]																								
Desmoulin's whorl snail (*Vertigo moulinsiana*) [1016]																								

Evidence supporting conclusions (also see HRA Report Section 7.2.1 and 8.2.1):

- **a.** Due to the close proximity of the Solent Maritime SAC (including Langstone harbour, the mouth of which is located less than a kilometre from the Marine Cable Corridor), and the resulting potential for high levels of SSC and sediment deposition within the SAC, it is considered that LSE cannot be ruled out for any feature which has connectivity to the work.
- **b.** Due to the close proximity of the Solent Maritime SAC, and the resulting potential for increased SSC and sediment deposition within the SAC during maintenance and repair work, it is considered that LSE cannot be ruled out for any feature which has connectivity to the work.
- **c.** Background levels of contaminants in sediments are generally low, and it is therefore considered that there is no potential to LSE to arise from any such resuspension.
- **d.** No connectivity as no marine activities will take place within designated areas.
- **e.** Any hydrodynamic changes resulting from seabed works for the project will be highly localised and are not therefore considered likely to result in significant effects.
- **f.** Potential for transfer of INIS exists, therefore LSE cannot be ruled out.
- **g.** Potential for hydrocarbon and/or chemical pollution events exists, therefore LSE cannot be ruled out as a result of such events. There is however no potential for LSE from light or noise effects to arise.
- **h.** Due to burial depths, there will be negligible change in EMF compared to background levels, and as such it is considered there is no potential for LSE. Due to the use of HDD, the target burial depth under the SAC is 5 m. At this depth and as the cable will be contained within a duct, no temperature increases are considered likely to be detectable at the surface. It is considered there is no potential for LSE.
- **i.** There is negligible potential for the Proposed Development to contribute to any potential in combination effects on Solent Maritime SAC features with the exception of increased SSC/smothering, invasive species and pollution events. Therefore, LSE cannot be ruled out for these effects in combination..

HRA Screening Matrix 23: South Wight Maritime SAC (Annex I Features)

Name of European site and designation: South Wight Maritime SAC
EU Code: UK0030061

Distance to Proposed Development: 3.3 km																								
European site features	**Likely effects of NSIP**																							
Effect	Increased SSC/smothering			Habitat disturbance/loss			Contaminated sediments			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Reefs [1170]	✓**a**	✓**b**	✓**a**	✗**c**	✗**c**	✗**c**	✗**d**	✗**d**	✗**d**	✗**e**	✗**e**	✗**e**	✓**f**	✓**f**	✓**f**	✓**g**	✓**g**	✓**g**		✗**c**		✓**h**	✓**h**	✓**h**
Vegetated sea cliffs of the Atlantic and Baltic Coasts [1230]																								
Submerged or partially submerged sea caves [8330]	✓**a**	✓**b**	✓**a**	✗**c**	✗**c**	✗**c**	✗**d**	✗**d**	✗**d**	✗**e**	✗**e**	✗**e**	✓**f**	✓**f**	✓**f**	✓**g**	✓**g**	✓**g**		✗**c**		✓**h**	✓**h**	✓**h**

Evidence supporting conclusions (also see HRA Report Section 7.2.1 and 8.2.1):

a. Due to the proximity of the SAC, and the resulting potential for SSC and sediment deposition within the SAC, it is considered that LSE cannot be ruled out for any feature which has connectivity to the work.
b. Due to the proximity of the SAC, and the resulting potential for SSC and sediment deposition within the SAC during maintenance and repair work, it is considered that LSE cannot be ruled out for any feature which has connectivity to the work.
c. No connectivity as no marine activities/cable installation will take place within designated area.
d. Background levels of contaminants in sediments are generally low, and it is therefore considered that there is no potential to LSE to arise from any such resuspension.
e. Any hydrodynamic changes resulting from seabed works for the project will be highly localised and are not therefore considered likely to result in significant effects.
f. Potential for transfer of INIS exists, therefore LSE cannot be ruled out.
g. Potential for hydrocarbon and/or chemical pollution events exists, therefore LSE cannot be ruled out as a result of such events. There is however no potential for LSE from light or noise effects to arise.
h. There is negligible potential for the Proposed Development to contribute to any potential in combination effects on South Wight Maritime SAC features with the exception of increased SSC/smothering, invasive species and pollution events. Therefore, LSE cannot be ruled out for these effects in combination.

HRA Screening Matrix 24: Solent and Isle of Wight Lagoons SAC (pre-screened out for Annex I features)

Name of European site and designation: Solent and Isle of Wight Lagoons SAC																								
EU Code: UK0017073																								
Distance to Proposed Development: 4.6 km																								
European site features		**Likely effects of NSIP**																						
Effect	Increased SSC/smothering			Habitat disturbance/loss			Contaminated sediments			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Coastal lagoons [1150]	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**	✗**a**		✗**a**		✗**a**	✗**a**	✗**a**

Evidence supporting conclusions (also see HRA Report Section 6.2.2):

a. Coastal lagoons do not overlap with the Marine Cable Corridor and are isolated from the sea via a barrier such as seawalls and sluice gates. and have no connectivity with marine activities.

HRA Screening Matrix 25: Wight-Barfleur Reef SAC (pre-screened out for Annex I features)

Name of European site and designation: Wight-Barfleur Reef SAC																								
EU Code: UK0030380																								
Distance to Proposed Development: 34 km																								
European site features				**Likely effects of NSIP**																				
Effect	Increased SSC/smothering			Habitat disturbance/loss			Contaminated sediments			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Reefs [1170]	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a		✕a		✕a	✕a	✕a

Evidence supporting conclusions (also see HRA Report Section 6.2.2):

a. No connectivity between proposed Project and Designated site.

HRA Screening Matrix 26: Bassurelle Sandbank SAC (pre-screened out for Annex I features)

Name of European site and designation: Bassurelle Sandbank SAC																								
EU Code: UK0030368																								
Distance to Proposed Development: 60 km																								
European site features				**Likely effects of NSIP**																				
Effect	Increased SSC/smothering			Habitat disturbance/loss			Contaminated Sediments			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Sandbanks (slightly covered by seawater all the time) [1110]	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a		✕a		✕a	✕a	✕a

Evidence supporting conclusions (also see HRA Report Section 6.2.2):

a. No connectivity between proposed Project and Designated site.

HRA Screening Matrix 27: Studland to Portland SAC (pre-screened out for Annex I features)

Name of European site and designation: Studland to Portland SAC																								
EU Code: UK0030382																								
Distance to Proposed Development: 70 km																								
European site features				**Likely effects of NSIP**																				
Effect	Increased SSC/smothering			Habitat disturbance/loss			Contaminated Sediments			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Sandbanks (slightly covered by seawater all the time) [1110]	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a	✕a		✕a		✕a	✕a	✕a

Evidence supporting conclusions (also see HRA Report Section 6.2.2):

a. No connectivity between proposed Project and Designated site.

HRA Screening Matrix 28: Littoral Cauchois ZSC (pre-screened out for Annex I features)

Name of European site and designation: Littoral Cauchois ZSC																						
EU Code: FR2300139																						
Distance to Proposed Development: 52.7 km																						
European site features	**Likely effects of NSIP**																					
Effect	Increased SSC/smothering			Habitat disturbance/loss			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Récifs (Reefs) [1170]	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**		**✕a**		**✕a**	**✕a**	**✕a**
Perennial vegetation of stony banks [1220]																					
Vegetated sea cliffs Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]																					
Nutrient-poor shallow waters with aquatic vegetation on sandy plains Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) [3110]																					
Calcium-rich nutrient-poor lakes, lochs and pools Hard oligo-mesotrophic waters with benthic vegetation of *Chara spp*. [3140]																					
Naturally nutrient-rich lakes or lochs which are often dominated by pondweed Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*-type vegetation [3150]																					
Wet heathland with Dorset heath and cross-leaved heath Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix* [4020]																					
Dry heaths European dry heaths [4030]																					
Purple moor-grass meadows *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410]																					
Tall herb communities *Hydrophilous* tall herb fringe communities of plains and of the montane to alpine levels [6430]																					
Lowland hay meadows Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*) [6510]																					
Hard-water springs depositing lime Petrifying springs with tufa formation (*Cratoneurion*) [7220]																					
Alkaline fens [7230]																					

Name of European site and designation: Littoral Cauchois ZSC																					
EU Code: FR2300139																					
Distance to Proposed Development: 52.7 km																					
European site features	**Likely effects of NSIP**																				
Effect	Increased SSC/smothering			Habitat disturbance/loss			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Récifs (Reefs) [1170]	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**		**×a**		**×a**	**×a**	**×a**
Caves not open to the public [8310]																					
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0]																					
Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*) [9120]																					
Asperulo-Fagetum beech forests [9130]																					
Tilio-Acerion forests of slopes, screes and ravines [9180]																					
Old acidophilous oak woods with *Quercus robur* on sandy plains [9190]																					
Great crested newt (*Triturus cristatus*) [1166]																					

Evidence supporting conclusions (also see HRA Report Section 6.2.2):

a. No connectivity between proposed Project and Designated site.

HRA Screening Matrix 29: Ridens et dunes hydrauliques du détroit du Pas-de-Calais ZSC (pre-screened out for Annex I features)

Name of European site and designation: Ridens et dunes hydrauliques du détroit du Pas-de-Calais ZSC																					
EU Code: FR3102004																					
Distance to NSIP: 58.8 km																					
European site features	**Likely effects of NSIP**																				
Effect	Increased SSC/smothering			Habitat disturbance/loss			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Reefs (Récifs) [1170]	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**		**×a**		**×a**	**×a**	**×a**

Evidence supporting conclusions (also see HRA Report Section 6.2.2):

a. No connectivity between proposed Project and Designated site.

HRA Screening Matrix 30: Southern North Sea SAC (pre-screened out for marine mammal features)

Name of European site and designation: Southern North Sea SAC																		
EU Code: UK0030395																		
Distance to NSIP: 137 km																		
European site features†††	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1351 Harbour porpoise	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
Supporting habitats (water column)										**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**

Evidence supporting conclusions (also see HRA Report Section 6.2.4):

a. The potential for connectivity of harbour porpoises which use the Southern North Sea SAC and the Proposed Development is considered to be negligible (see Appendix 2 of the HRA Report document reference 6.8.1). Therefore, the Southern North Sea SAC has been pre-screened out of the HRA.

b. Because the potential for connectivity of harbour porpoises which use the Southern North Sea SAC and the Proposed Development is considered to be negligible, there is no potential for the Proposed Development to contribute to any potential in combination effects on harbour porpoises which are a qualifying feature of the Southern North Sea SAC.

c. The Proposed Development is too far from the Southern North Sea SAC (137 km) for there to be any potential effect on the supporting habitat (water column) within the SAC. Because there is no effect pathway there is no potential for LSE either alone or in combination.

HRA Screening Matrix 31: The Wash and North Norfolk Coast SAC (pre-screened out for marine mammal features)

Name of European site and designation: The Wash and North Norfolk Coast SAC																		
EU Code: UK0017075																		
Distance to Proposed Development: 370 km																		
European site features‡‡‡	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1365 Harbour seal	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
Supporting habitats (water column)										**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**
1355 Otter																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1140 Mudflats and sandflats not covered by seawater at low tide																		
1160 Large shallow inlets and bays																		
1170 Reefs																		

††† As per http://jncc.defra.gov.uk/protectedsites/sacselection/n2kforms/UK0030395.pdf [accessed 11/06/2019]
‡‡‡ As per http://jncc.defra.gov.uk/ProtectedSites/SACselection/sac.asp?EUcode=UK0017075 [accessed 11/06/2019]

Name of European site and designation: The Wash and North Norfolk Coast SAC																		
EU Code: UK0017075																		
Distance to Proposed Development: 370 km																		
European site features‡‡‡	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1310 Salicornia and other annuals colonising mud and sand																		
1330 Atlantic salt meadows																		
1420 Mediterranean and thermo-Atlantic halophilous scrubs																		
1150 Coastal lagoons																		

Evidence supporting conclusions (also see HRA Report Section 6.2.4):

a. The potential for connectivity of harbour seals which use The Wash and North Norfolk Coast SAC and the Proposed Development is considered to be negligible (see Appendix 2 of the HRA Report document reference 6.8.1). Therefore, The Wash and North Norfolk Coast SAC has been pre-screened out of the HRA.

b. Because the potential for connectivity of harbour seals which use The Wash and North Norfolk Coast SAC and the Proposed Development is considered to be negligible, there is no potential for the Proposed Development to contribute to any potential in combination effects on harbour seals which are a qualifying feature of The Wash and North Norfolk Coast SAC.

c. The Proposed Development is too far from The Wash and North Norfolk Coast SAC (370 km) for there to be any potential effect on the supporting habitat (water column) within the SAC. Because there is no effect pathway there is no potential for LSE either alone or in combination.

HRA Screening Matrix 32: Pembrokeshire Marine SAC (pre-screened out for marine mammal features)

Name of European site and designation: Pembrokeshire Marine SAC																		
EU Code: UK0013116																		
Distance to Proposed Development: 542 km																		
European site features§§§	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1364 Grey seal	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
Supporting habitats (water column)										**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**
1355 Otter																		
1095 Sea lamprey																		
1099 River lamprey																		
1102 Allis shad																		
1103 Twaite shad																		
1441 Shore dock																		
1130 Estuaries																		
1160 Large shallow inlets and bays																		
1170 Reefs																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1140 Mudflats and sandflats not covered by seawater at																		

§§§ As per http://jncc.defra.gov.uk/ProtectedSites/SACselection/sac.asp?EUcode=UK0013116 [accessed 11/06/2019]

Name of European site and designation: Pembrokeshire Marine SAC																		
EU Code: UK0013116																		
Distance to Proposed Development: 542 km																		
European site features§§§	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
low tide																		
1150 Coastal lagoons																		
1330 Atlantic salt meadows																		
8330 Submerged or partially submerged sea caves																		

Evidence supporting conclusions (also see HRA Report Section 6.2.4):

a. The potential for connectivity of grey seals which use the Pembrokeshire Marine SAC and the Proposed Development is considered to be negligible (see Appendix 2 of the HRA Report document reference 6.8.1). Therefore, the Pembrokeshire Marine SAC has been pre-screened out of the HRA.

b. Because the potential for connectivity of grey seals which use the Pembrokeshire Marine SAC and the Proposed Development is considered to be negligible, there is no potential for the Proposed Development to contribute to any potential in combination effects on grey seals which are a qualifying feature of the Pembrokeshire Marine SAC.

c. The Proposed Development is too far from the Pembrokeshire Marine SAC (542 km) for there to be any potential effect on the supporting habitat (water column) within the SAC. Because there is no effect pathway there is no potential for LSE either alone or in combination.

HRA Screening Matrix 33: Cardigan Bay SAC (pre-screened out for marine mammal features)

Name of European site and designation: Cardigan Bay SAC																		
EU Code: UK0012712																		
Distance to Proposed Development: 618 km																		
European site features****	**Likely effects of NSIP**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1349 Bottlenose dolphin	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1364 Grey seal	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**	**×c**
Supporting habitats (water column)										**×d**	**×d**	**×d**	**×d**	**×d**	**×d**	**×d**	**×d**	**×d**
1095 Sea lamprey																		
1099 River lamprey																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1170 Reefs																		
8330 Submerged or partially submerged sea caves																		

**** As per http://jncc.defra.gov.uk/ProtectedSites/SACselection/sac.asp?EUcode=UK0012712 [accessed 11/06/2019]

Evidence supporting conclusions (also see HRA Report Section 6.2.4):

a. The potential for connectivity of bottlenose dolphins which use the Cardigan Bay SAC and the Proposed Development is considered to be negligible (see Appendix 2 of the HRA Report document reference 6.8.1). Therefore, the Cardigan Bay SAC has been pre-screened out of the HRA.

b. Because the potential for connectivity of bottlenose dolphins which use the Cardigan Bay SAC and the Proposed Development is considered to be negligible, there is no potential for the Proposed Development to contribute to any potential in combination effects on bottlenose dolphins which are a qualifying feature of the Cardigan Bay SAC.

c. The potential for connectivity of grey seals which use the Cardigan Bay SAC and the Proposed Development is considered to be negligible because the Proposed Development does not fall within the likely foraging range of grey seals which are a feature of the Cardigan Bay SAC (none of the grey seals using the Welsh coast were tracked further east into the Channel than the area off Torquay; see Appendix 2 of the HRA Report document reference 6.8.1). There is therefore no potential for the Proposed Development to contribute to any potential alone or in combination effects on grey seals which are a qualifying feature of the Cardigan Bay SAC.

d. The Proposed Development is too far from the Cardigan Bay SAC (618 km) for there to be any potential effect on the supporting habitat (water column) within the SAC. Because there is no effect pathway there is no potential for LSE either alone or in combination.

Integrity Matrices - Potential Effects

Potential effects upon the European site(s)†††† which are considered within the submitted HRA Report (document reference 6.8.1) are provided in the table below. Effects have been grouped where appropriate for ease of presentation.

Effects considered within the integrity matrices for marine ornithology

#The information in this column relates to all phases of the project (i.e. construction, operation and decommissioning) unless otherwise stated.

Designation	Effects described in submission information#	Effects in screening matrices as
UK sites identified: • Solent and Dorset Coast pSPA • Chichester and Langstone Harbours SPA.	**Alone:** • Disturbance & displacement • Indirect effects	**Alone:** • Disturbance & displacement • Indirect effects
	In combination: • Disturbance & displacement • Indirect effects	**In combination:** • Disturbance & displacement • Indirect effects

Effects considered within the integrity matrices for Annex I Habitats

#The information in this column relates to all phases of the project (i.e. construction, operation and decommissioning) unless otherwise stated.

Designation	Effects described in submission information#	Effects in screening matrices as
UK sites identified: • Solent Maritime SAC • South Wight Maritime SAC	**Alone:** • Deposition of Sediment (Smothering) • Increased SSC • Pollution • Invasive Species	**Alone:** • Increased SSC/smothering • Pollution • Invasive Species
	In combination: • Deposition of Sediment (Smothering) • Increased SSC • Pollution • Invasive Species	**In combination:** • Increased SSC/smothering • Pollution • Invasive Species

Effects considered within the integrity matrices for Fish

#The information in this column relates to all phases of the project (i.e. construction, operation and decommissioning) unless otherwise stated.

Designation	Effects described in submission information#	Effects in screening matrices as
UK sites identified: • River Itchen SAC • River Avon SAC	**Alone:** • Increased SSC • Pollution	**Alone:** • Increased SSC • Pollution

†††† As defined in Advice Note 10.

Designation	Effects described in submission information#	Effects in screening matrices as
	In combination: • Increased SSC • Pollution	**In combination:** • Increased SSC • Pollution
• River Axe SAC • Plymouth Sounds and Estuaries SAC	**Alone:** • Pollution	**Alone:** • Pollution
	In combination: • Pollution	**In combination:** • Pollution
French sites identified: • Littoral Cauchois SAC • Estuaires et Littoral Picards (Baies de Somme et d'Authie) SAC • Baie de Canche et Couloir des Trois Estuaires SAC • Baie de Seine Orientale SAC	**Alone:** • Pollution	**Alone:** • Pollution
	In combination: • Pollution	**In combination:** • Pollution

Effects considered within the integrity matrices for marine mammals

#The information in this column relates to all phases of the project (i.e. construction, operation and decommissioning) unless otherwise stated.

Designation	Effects described in submission information#	Effects in integrity matrices as
French sites identified: • Littoral Cauchois SAC • Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC • Baie de Canche et couloir des trois estuaires SAC • Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar • Estuaire de la Seine SAC • Baie de Seine Orientale SAC • Récifs Gris-Nez Blanc-Nez SAC	• Pollution	• Pollution

Effects considered within the integrity matrices for onshore ecology

The information in this column relates to all phases of the project (i.e. construction, operation and decommissioning) unless otherwise stated.

Designation	Effects described in submission information#	Effects in screening matrices as

UK sites identified: Chichester and Langstone Harbours SPA.	**Alone:** • Disturbance & displacement • Accidental spills • Litter	**Alone:** • Disturbance & displacement • Accidental spills • Litter
	In combination: • Disturbance & displacement • Accidental spills • Litter	**In combination:** • Disturbance & displacement • Indirect effects

STAGE 2: INTEGRITY MATRICES

The UK European sites for which a LSE has been identified are as follows:

- Solent and Dorset Coast pSPA
- Chichester and Langstone Harbours SPA
- Portsmouth Harbour SPA
- Solent and Southampton Water SPA
- Pagham Harbour SPA
- Solent Maritime SAC
- South Wight Maritime SAC
- River Itchen SAC
- River Avon SAC
- River Axe SAC
- Plymouth Sound and Estuaries SAC

The transboundary European sites for which LSE has been identified are as follows:

- Littoral Cauchois SAC
- Littoral Seino-Marin SPA
- Alderney West Coast and Burhou Islands Ramsar
- Estuaires et Littoral Picards (Baies de Somme et d'Authie) SAC/Baie de Somme Ramsar
- Baie de Canche et Couloir des Trois Estuaires SAC
- Baie de Seine Orientale SAC
- Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC
- Estuaire de la Seine SAC
- Récifs Gris-Nez Blanc-Nez SAC

Evidence for the conclusions reached in integrity is detailed within the footnotes to the matrices below.

Matrix Key:

✓ = Adverse effect on site integrity **cannot** be excluded
✖ = Adverse effect on site integrity **can** be excluded

C = construction
O = operation (and repair/maintenance)
D = decommissioning

B = breeding
W = wintering/non-breeding
P = passage

Where effects are not applicable to a particular feature they are greyed out.

HRA Integrity Matrix 1A: Solent and Dorset Coast pSPA (Marine Ornithology)

Name of European Site: Solent and Dorset Coast pSPA (Marine Ornithology)																		
Distance to Proposed Development: 0.0 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Little tern (B)	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**							**×c**	**×c**	**×c**	**×c**	**×c**	**×c**
Common tern (B)				**×b**	**×b**	**×b**							**×c**	**×c**	**×c**	**×c**	**×c**	**×c**
Sandwich tern (B)				**×b**	**×b**	**×b**							**×c**	**×c**	**×c**	**×c**	**×c**	**×c**
Supporting habitat (water column)				**×b**	**×b**	**×b**							**×c**	**×c**	**×c**	**×c**	**×c**	**×c**

Evidence supporting conclusions (also see HRA Report Section 10.3):

a. HDD works in Langstone Harbour will occur *c*.4 km from the closest breeding colony on Baker's Island, with little terns often foraging within 1 km of their nest site. Noise and visual disturbance associated with construction and repair/maintenance works is unlikely to be noticeable above baseline levels of disturbance within Langstone Harbour. Whilst considered unlikely, should little terns be temporarily disturbed from foraging habitat in the vicinity of the landfall within Langstone Harbour, other equivalent shallow water foraging sites are present within their maximum foraging range. Therefore, there is no adverse effect on site integrity.

b. Where the cable corridor crosses Langstone Harbour, HDD will be used. The exit point is expected to be onshore, thus an increase in SSC and any resultant smothering and/or reduced dissolved oxygen ('DO') is not predicted to affect key prey species present in the water column at Langstone Harbour. Outside of Langstone Harbour, the permanent loss of fish, shellfish and benthic habitat as a result of non-burial cable protection is not predicted to significantly affect key prey species since these measures will be limited in spatial extent. Therefore, there is no adverse effect on site integrity.

c. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore there is no adverse effect on site integrity.

HRA Integrity Matrix 1B: Solent and Dorset Coast pSPA (Marine Ornithology – In combination)

Name of European Site: Solent and Dorset Coast pSPA (Marine Ornithology)																		
Distance to Proposed Development: 0.0 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Little tern (B)	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**							**×c**	**×c**	**×c**	**×c**	**×c**	**×c**
Common tern (B)				**×b**	**×b**	**×b**							**×c**	**×c**	**×c**	**×c**	**×c**	**×c**
Sandwich tern (B)				**×b**	**×b**	**×b**							**×c**	**×c**	**×c**	**×c**	**×c**	**×c**
Supporting habitat (water column)				**×b**	**×b**	**×b**							**×c**	**×c**	**×c**	**×c**	**×c**	**×c**

Evidence supporting conclusions (also see HRA Report Section 10.3):

a. HDD works in Langstone Harbour will occur *c*.4 km from the closest breeding colony on Baker's Island, with little terns often foraging within 1 km of their nest site. Little terns are known to breed and forage within Chichester and Langstone Harbours despite baseline levels of anthropogenic noise and visual disturbance. Disturbance associated with construction and

repair/maintenance works is unlikely to be noticeable above baseline levels of disturbance within Langstone Harbour. Whilst considered unlikely, should little terns be temporarily disturbed from foraging habitat in the vicinity of the landfall within Langstone Harbour, other equivalent shallow water foraging sites are present within their maximum foraging range. Therefore, there is no significant adverse effect from disturbance and displacement. As no significant effects are predicted for the Proposed Development, there is no contribution to in combination displacement. Therefore, there is no adverse effect on site integrity in combination. .

b. Where the cable corridor crosses Langstone Harbour, HDD will be used. The exit point is expected to be onshore, thus an increase in SSC and any resultant smothering and/or reduced dissolved oxygen ('DO') is not predicted to affect key prey species present in the water column at Langstone Harbour. Outside of Langstone Harbour, the permanent loss of fish, shellfish and benthic habitat as a result of non-burial cable protection is not predicted to significantly affect key prey species since these measures will be limited in spatial extent (0.39 km^2 in total). As no significant effects are predicted for the Proposed Development, there is no contribution to in combination effects on prey species. Therefore, there is no adverse effect on site integrity in combination.

c. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore not significantly adverse. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effect on site integrity in combination.

HRA Integrity Matrix 2A: Chichester and Langstone Harbours SPA (Marine Ornithology)

Name of European Site: Chichester and Langstone Harbours SPA (Marine Ornithology)																		
Distance to Proposed Development: 0.1 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Shelduck (W)																		
Shoveler (W)																		
Wigeon (W)																		
Pintail (W)																		
Teal (W)																		
Red-breasted merganser (W)	**×a**	**×a**	**×a**	**×b**	**×b**	**×b**							**×d**	**×d**	**×d**	**×d**	**×d**	**×d**
Grey plover (W)																		
Ringed plover (W)																		
Curlew (W)																		
Bar-tailed godwit (W)																		
Turnstone (W)																		
Sanderling (W)																		
Dunlin (W)																		
Redshank (W)																		
Sandwich tern (B)				**×b**	**×b**	**×b**							**×d**	**×d**	**×d**	**×d**	**×d**	**×d**
Little tern (B)	**×c**	**×c**	**×c**	**×b**	**×b**	**×b**							**×d**	**×d**	**×d**	**×d**	**×d**	**×d**
Common tern (B)				**×b**	**×b**	**×b**							**×d**	**×d**	**×d**	**×d**	**×d**	**×d**
Supporting habitat (water column)				**×b**	**×b**	**×b**							**×d**	**×d**	**×d**	**×d**	**×d**	**×d**

Evidence supporting conclusions (also see HRA Report Section 10.4):

a. HDD works in Langstone Harbour will occur >4 km from the closest wintering site at Farlington Marshes. Noise and visual disturbance associated with construction and maintenance/repair works is unlikely to be noticeable above baseline levels of disturbance within Langstone Harbour. Whilst considered unlikely, should red-breasted merganser be temporarily disturbed from their wintering sites within Langstone Harbour, other equivalent foraging and roosting sites are present in Chichester Harbour. Therefore, there is no adverse effect on site integrity.

b. Where the cable corridor crosses Langstone Harbour, HDD will be used. The exit point is expected to be onshore, thus an increase in SSC and any resultant smothering and/or reduced dissolved oxygen ('DO') is not predicted to affect key prey species present in the water column at Langstone Harbour. Outside of Langstone Harbour, the permanent loss of fish, shellfish and benthic habitat as a result of non-burial cable protection is not predicted to significantly affect key prey species since these measures will be limited in spatial extent. Therefore, there is no adverse effect on site integrity.

c. HDD works in Langstone Harbour will occur *c*.4 km from the closest breeding colony on Baker's Island, with little terns often foraging within 1 km of their nest site. Noise and visual disturbance associated with construction and repair/maintenance works is unlikely to be noticeable above baseline levels of disturbance within Langstone Harbour. Whilst considered unlikely, should little terns be temporarily disturbed from foraging habitat in the vicinity of the landfall within Langstone Harbour, other equivalent shallow water foraging sites are present within their maximum foraging range. Therefore, there is no adverse effect on site integrity.

d. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore there is no adverse effect on site integrity.

HRA Integrity Matrix 2B: Chichester and Langstone Harbours SPA (Marine Ornithology – In Combination)

Name of European Site: Chichester and Langstone Harbours SPA (Marine Ornithology)																		
Distance to Proposed Development: 0.1 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Shelduck (W)																		
Shoveler (W)																		
Wigeon (W)																		
Pintail (W)																		
Teal (W)																		
Red-breasted merganser (W)	**✕a**	**✕a**	**✕a**	**✕b**	**✕b**	**✕b**							**✕d**	**✕d**	**✕d**	**✕d**	**✕d**	**✕d**
Grey plover (W)																		
Ringed plover (W)																		
Curlew (W)																		
Bar-tailed godwit (W)																		
Turnstone (W)																		
Sanderling (W)																		
Dunlin (W)																		
Redshank (W)																		

Name of European Site: Chichester and Langstone Harbours SPA (Marine Ornithology)																		
Distance to Proposed Development: 0.1 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Sandwich tern (B)													**×d**	**×d**	**×d**	**×d**	**×d**	**×d**
Little tern (B)	**×c**	**×c**	**×c**	**×b**	**×b**	**×b**							**×d**	**×d**	**×d**	**×d**	**×d**	**×d**
Common tern (B)													**×d**	**×d**	**×d**	**×d**	**×d**	**×d**
Supporting habitat (water column)				**×b**	**×b**	**×b**							**×d**	**×d**	**×d**	**×d**	**×d**	**×d**

Evidence supporting conclusions (also see HRA Report Section 10.4):

a. HDD works in Langstone Harbour will occur >4 km from the closest wintering site at Farlington Marshes. Red-breasted mergansers are known to roost and forage within Chichester and Langstone Harbours despite baseline levels of anthropogenic noise and visual disturbance. Disturbance associated with construction and maintenance/repair works is unlikely to be noticeable above baseline levels of disturbance within Langstone Harbour. Whilst considered unlikely, should red-breasted merganser be temporarily disturbed from their wintering sites within Langstone Harbour, other equivalent foraging and roosting sites are present in Chichester Harbour. Therefore, there is no significant adverse effect from disturbance and displacement. As no significant effects are predicted for the Proposed Development, there is no contribution to in combination displacement. Therefore, there is no adverse effect on site integrity in combination.

b. Where the cable corridor crosses Langstone Harbour, HDD will be used. The exit point is expected to be onshore, thus an increase in SSC and any resultant smothering and/or reduced dissolved oxygen ('DO') is not predicted to affect key prey species present in the water column at Langstone Harbour. Outside of Langstone Harbour, the permanent loss of fish, shellfish and benthic habitat as a result of non-burial cable protection is not predicted to significantly affect key prey species since these measures will be limited in spatial extent (0.39 km^2 in total). As no significant effects are predicted for the Proposed Development, there is no contribution to in combination effects on prey species. Therefore, there is no adverse effect on site integrity in combination.

c. HDD works in Langstone Harbour will occur *c*.4 km from the closest breeding colony on Baker's Island, with little terns often foraging within 1 km of their nest site. Little terns are known to breed and forage within Chichester and Langstone Harbours despite baseline levels of anthropogenic noise and visual disturbance. Disturbance associated with construction and repair/maintenance works is unlikely to be noticeable above baseline levels of disturbance within Langstone Harbour. Whilst considered unlikely, should little terns be temporarily disturbed from foraging habitat in the vicinity of the landfall within Langstone Harbour, other equivalent shallow water foraging sites are present within their maximum foraging range. Therefore, there is no significant adverse effect from disturbance and displacement. As no significant effects are predicted for the Proposed Development, there is no contribution to in combination displacement. Therefore, there is no adverse effect on site integrity in combination.

d. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore not significantly adverse. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effect on site integrity in combination.

HRA Integrity Matrix 2C: Chichester and Langstone Harbours SPA (Onshore Ecology)

Name of European Site: Chichester and Langstone Harbours SPA (Marine Ornithology)																						
Distance to Proposed Development: 0.1 km																						
European site feature	**Adverse Effect on Integrity from of the Proposed Development (Alone)**																					
	Disturbance & displacement			Visual disturbance			Light pollution			Indirect effects			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)	**×a**		**×a**													**×c**		**×c**	**×d**		**×d**
Shelduck (W)	**×b**		**×b**													**×c**		**×c**	**×d**		**×d**
Shoveler (W)	**×b**		**×b**													**×c**		**×c**	**×d**		**×d**
Wigeon (W)	**×b**		**×b**													**×c**		**×c**	**×d**		**×d**
Pintail (W)	**×b**		**×b**													**×c**		**×c**	**×d**		**×d**
Teal (W)	**×b**		**×b**													**×c**		**×c**	**×d**		**×d**
Red-breasted merganser (W)																**×c**		**×c**	**×d**		**×d**
Grey plover (W)	**×b**		**×b**													**×c**		**×c**	**×d**		**×d**
Ringed plover (W)																**×c**		**×c**	**×d**		**×d**
Curlew (W)	**×b**		**×b**													**×c**		**×c**	**×d**		**×d**
Bar-tailed godwit (W)	**×b**		**×b**													**×c**		**×c**	**×d**		**×d**
Turnstone (W)																**×c**		**×c**	**×d**		**×d**
Sanderling (W)																**×c**		**×c**	**×d**		**×d**
Dunlin (W)																**×c**		**×c**	**×d**		**×d**
Redshank (W)	**×b**		**×b**													**×c**		**×c**	**×d**		**×d**
Sandwich tern (B)																**×c**		**×c**	**×d**		**×d**
Little tern (B)																**×c**		**×c**	**×d**		**×d**
Common tern (B)																**×c**		**×c**	**×d**		**×d**
Supporting habitat																**×c**		**×c**	**×d**		**×d**

Evidence supporting conclusions (also see HRA Report Section 7.4):

m. Effects of the construction stage on Chichester and Langstone Harbour SPA and it's wintering intertidal bird community will be avoided by restricting works within the winter season, defined as October to March (the period when SPA birds such as dark-bellied brent goose arrive from their breeding grounds (Snow and Perrins, 1998). Details of the working restriction are provided in Chapter 16: Onshore Ecology and Appendix 16.14: Winter Working Restriction for Features of Chichester & Langstone Harbours SPA, and comprise eight principles that will be incorporated into working methods. Adoption of these principles will offset direct effects on SWBGS sites (as these sites will not be subject to works in the winter period when they are used by SPA birds), and effects of noise and vibration on birds within the SPA itself. Additionally, principles mandate that vibropiling associated with HDD sites 2 and 3 will not take place during the period where dark-bellied brent geese are present, and therefore will not disturb them. Therefore, there is no adverse effect on site integrity.

n. Other than where HDD routes underlie the SPA, the Order Limits do not coincide with the SPA itself. Furthermore, effects of the construction stage on Chichester and Langstone Harbour SPA and it's wintering intertidal bird community will be avoided by restricting works within the winter season, defined as October to March (the period when SPA birds such as redshank arrive from their breeding grounds. Details of the working restriction are provided in Chapter 16: Onshore Ecology and Appendix 16.14: Winter Working Restriction for features of

Chichester & Langstone Harbours SPA, and comprise eight principles that will be incorporated into working methods. Adoption of these principles will offset direct effects of noise and vibration on birds within the SPA. Additionally, the principles mandate that vibropiling associated with HDD sites 2 and 3 will not take place during the period where redshank are present in notable numbers, and therefore will not disturb them. Therefore, there is no adverse effect on site integrity.

o. Routine mitigation measures of standard best practice in terms of pollution prevention measures (see Onshore Outline Construction Environmental Management Plan ('CEMP') (document reference 6.9)) will make the likelihood of these events occurring highly unlikely and therefore not resulting in an adverse effect on site integrity.

p. Routine mitigation measures of standard best practice in terms of waste management (see Onshore Outline CEMP) will make the likelihood of these events occurring highly unlikely and therefore not resulting in an adverse effect on site integrity.

HRA Integrity Matrix 2D: Chichester and Langstone Harbours SPA (Onshore Ecology – In Combination)

Name of European Site: Chichester and Langstone Harbours SPA (Marine Ornithology)																					
Distance to Proposed Development: 0.1 km																					
European site feature	**Adverse Effect on Integrity from of the Proposed Development (In Combination)**																				
	Disturbance & displacement			Visual disturbance			Light pollution			Indirect effects			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)	**×a**		**×a**													**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Shelduck (W)	**×b**		**×b**													**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Shoveler (W)	**×b**		**×b**													**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Wigeon (W)	**×b**		**×b**													**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Pintail (W)	**×b**		**×b**													**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Teal (W)	**×b**		**×b**													**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Red-breasted merganser (W)																**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Grey plover (W)	**×b**		**×b**													**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Ringed plover (W)																**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Curlew (W)	**×b**		**×b**													**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Bar-tailed godwit (W)	**×b**		**×b**													**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Turnstone (W)																**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Sanderling (W)																**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Dunlin (W)																**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Redshank (W)	**×b**		**×b**													**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Sandwich tern (B)																**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Little tern (B)																**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Common tern (B)																**×c**	**×c**	**×c**	**×d**	**×d**	**×d**
Supporting habitat																**×c**	**×c**	**×c**	**×d**	**×d**	**×d**

Evidence supporting conclusions (also see HRA Report Section 7.2.4):

a. No construction works will occur in SWBGS sites that lie within the Proposed Developments Order Limits during the winter period October – March. Therefore, no disturbance and displacement will occur in these sites which support brent geese and are functionally linked to the SPA. Furthermore, HDD works adjacent to the SPA will also not take place in October – March while other construction work is considered not to provide disturbance beyond existing levels. Therefore, there is no in combination adverse effect on site integrity.

b. Other than where HDD routes underlie the SPA, the Order Limits do not coincide with the SPA itself. Furthermore, effects of the construction stage on Chichester and Langstone Harbour SPA and it's wintering intertidal bird community will be avoided by restricting works within the winter season, defined as October to March (the period when SPA birds such as redshank arrive from their breeding grounds. Therefore, there is no in combination adverse effect on site integrity.

c. Routine mitigation measures of standard best practice in terms of pollution prevention measures (see Onshore Outline CEMP) will make the likelihood of these events occurring highly unlikely. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, no in combination adverse effect is predicted.

d. Routine mitigation measures of standard best practice in terms of waste management (Onshore Outline CEMP) will make the likelihood of these events occurring highly unlikely. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, no in combination adverse effect is predicted.

HRA Integrity Matrix 3A: Portsmouth Harbour SPA (Marine Ornithology)

Name of European Site: Portsmouth Harbour SPA (Marine Ornithology)																		
Distance to Proposed Development: 4.9 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Red-breasted merganser (W)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Black-tailed godwit (W)																		
Dunlin (W)																		
Supporting habitat (water column)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**

Evidence supporting conclusions (also see HRA Report Section 10.5):

a. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore there is no adverse effect on site integrity.

HRA Integrity Matrix 3B: Portsmouth Harbour SPA (Marine Ornithology – In Combination)

Name of European Site: Portsmouth Harbour SPA (Marine Ornithology)																		
Distance to Proposed Development: 4.9 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Red-breasted merganser (W)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Black-tailed godwit (W)																		
Dunlin (W)																		
Supporting habitat (water column)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**

Evidence supporting conclusions(also see HRA Report Section 10.5):

a. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore not significantly adverse. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effect on site integrityin combination.

HRA Integrity Matrix 4A: Solent and Southampton Water SPA (Marine Ornithology)

Name of European Site: Solent and Southampton Water SPA (Marine Ornithology)																		
Distance to Proposed Development: 6.6 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Teal (W)																		
Ringed plover (W)																		
Black-tailed godwit (W)																		
Mediterranean gull (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Sandwich tern (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Little tern (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Roseate tern (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Common tern (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Supporting habitat (water column)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**

Evidence supporting conclusions(also see HRA Report Section 10.6):

a. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore there is no adverse effect on site integrity..

HRA Integrity Matrix 4B: Solent and Southampton Water SPA (Marine Ornithology – In Combination)

Name of European Site: Solent and Southampton Water SPA (Marine Ornithology)																		
Distance to Proposed Development: 6.6 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Dark-bellied brent goose (W)																		
Teal (W)																		
Ringed plover (W)																		
Black-tailed godwit (W)																		
Mediterranean gull (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Sandwich tern (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Little tern (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Roseate tern (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Common tern (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Supporting habitat (water column)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**

Evidence supporting conclusions (also see HRA Report Section 10.6):

a. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore not significantly adverse. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effect on site integrity in combination. .

HRA Integrity Matrix 5A: Pagham Harbour SPA (Marine Ornithology)

Name of European Site: Pagham Harbour SPA (Marine Ornithology)																			
Distance to Proposed Development: 9.5 km																			
European site feature	**Adverse Effect on Integrity from of the Proposed Development (Alone)**																		
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter			
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	
Dark-bellied brent goose (W)																			
Ruff (W)																			
Little tern (B)																			
Common tern (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	
Supporting habitat (water column)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	

Evidence supporting conclusions (also see HRA Report Section 10.7):

a. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore no adverse effect on site integrity.

HRA Integrity Matrix 5B: Pagham Harbour SPA (Marine Ornithology – In Combination)

Name of European Site: Pagham Harbour SPA (Marine Ornithology)																			
Distance to Proposed Development: 9.5 km																			
European site feature	**Adverse Effect on Integrity from of the Proposed Development (In Combination)**																		
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter			
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	
Dark-bellied brent goose (W)																			
Ruff (W)																			
Little tern (B)																			
Common tern (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	
Supporting habitat (water column)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**	

Evidence supporting conclusions (also see HRA Report Section 10.7):

a. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore not significantly adverse. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effect on site integrity in combination.

HRA Integrity Matrix 6A: Littoral Seino-Marin SPA (Marine Ornithology)

Name of European Site: Littoral Seino-Marin SPA (Marine Ornithology)																		
Distance to Proposed Development: 30.6 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Greylag goose (W)																		
White-fronted goose (W)																		
Shelduck (W)																		
Eider (W)																		
Velvet scoter (W)																		
Common scoter (W)																		
Red-breasted merganser (W)																		
Red-throated diver (W)																		
Black-throated diver (W)																		
Great northern diver (W)																		
Storm petrel (P)																		
Leach's storm petrel (P)																		
Fulmar (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Manx shearwater (P)																		
Balearic shearwater (P)																		
Great crested grebe (W)																		
Slavonian grebe (W)																		
Black-necked grebe (P)																		
Spoonbill (W)																		
Little egret (W)																		
Gannet (W)																		
Shag (B)																		
Cormorant (B)																		
Honey buzzard (W)																		
Hen harrier (W)																		
Avocet (W)																		
Purple sandpiper (W)																		
Common sandpiper (W)																		
Kittiwake (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**

Name of European Site: Littoral Seino-Marin SPA (Marine Ornithology)

Distance to Proposed Development: 30.6 km

European site feature	**Adverse Effect on Integrity from of the Proposed Development (Alone)**																		
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter			
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	
Sabine's gull (P)																			
Little gull (P)																			
Mediterranean gull (W)																			
Lesser black-backed gull (W)																			
Herring gull (B)													**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	
Great black-backed gull (B)													**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	
Gull-billed tern (P)																			
Sandwich tern (P)																			
Little tern (P)																			
Common tern (P)																			
Arctic tern (P)																			
Great skua (W)																			
Pomarine skua (P)																			
Arctic skua (P)																			
Guillemot (W)																			
Razorbill (W)																			
Short-eared owl (W)																			
Merlin (W)																			
Peregrine (B)																			
Woodlark (W)																			

Evidence supporting conclusions (also see HRA Report Section 10.8):

a. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore there is no adverse effect on site integrity.

HRA Integrity Matrix 6B: Littoral Seino-Marin SPA (Marine Ornithology – In Combination)

Name of European Site: Littoral Seino-Marin SPA (Marine Ornithology)																		
Distance to Proposed Development: 30.6 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Greylag goose (W)																		
White-fronted goose (W)																		
Shelduck (W)																		
Eider (W)																		
Velvet scoter (W)																		
Common scoter (W)																		
Red-breasted merganser (W)																		
Red-throated diver (W)																		
Black-throated diver (W)																		
Great northern diver (W)																		
Storm petrel (P)																		
Leach's storm petrel (P)																		
Fulmar (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Manx shearwater (P)																		
Balearic shearwater (P)																		
Great crested grebe (W)																		
Slavonian grebe (W)																		
Black-necked grebe (P)																		
Spoonbill (W)																		
Little egret (W)																		
Gannet (W)																		
Shag (B)																		
Cormorant (B)																		
Honey buzzard (W)																		
Hen harrier (W)																		
Avocet (W)																		
Purple sandpiper (W)																		
Common sandpiper (W)																		
Kittiwake (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**
Sabine's gull (P)																		
Little gull (P)																		
Mediterranean gull (W)																		
Lesser black-backed gull (W)																		
Herring gull (B)													**×a**	**×a**	**×a**	**×a**	**×a**	**×a**

Name of European Site: Littoral Seino-Marin SPA (Marine Ornithology)																		
Distance to Proposed Development: 30.6 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Great black-backed gull (B)													**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**
Gull-billed tern (P)																		
Sandwich tern (P)																		
Little tern (P)																		
Common tern (P)																		
Arctic tern (P)																		
Great skua (W)																		
Pomarine skua (P)																		
Arctic skua (P)																		
Guillemot (W)																		
Razorbill (W)																		
Short-eared owl (W)																		
Merlin (W)																		
Peregrine (B)																		
Woodlark (W)																		

Evidence supporting conclusions (also see HRA Report Section 10.8):

a. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore not significantly adverse. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effect on site integrity in combination.

HRA Integrity Matrix 7A: Alderney West Coast and Burhou Islands Ramsar (Marine Ornithology)

Name of European Site: Alderney West Coast and Burhou Islands Ramsar (Marine Ornithology)																		
Distance to Proposed Development: 142.0 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Gannet (B)													**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**
Storm petrel (B)													**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**
Shag (B)																		
Cormorant (B)																		
Kittiwake (B)																		
Lesser black-backed gull (B)													**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**

Name of European Site: Alderney West Coast and Burhou Islands Ramsar (Marine Ornithology)																		
Distance to Proposed Development: 142.0 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (Alone)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Herring gull (B)																		
Great black-backed gull (B)																		
Guillemot (B)																		
Razorbill (B)																		
Puffin (B)																		

Evidence supporting conclusions(also see HRA Report Section 10.9):

a. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore there is no adverse effect on site integrity.

HRA Integrity Matrix 7B: Alderney West Coast and Burhou Islands Ramsar (Marine Ornithology – In Combination)

Name of European Site: Alderney West Coast and Burhou Islands Ramsar (Marine Ornithology)																		
Distance to Proposed Development: 142.0 km																		
European site feature	**Adverse Effect on Integrity from of the Proposed Development (In Combination)**																	
	Disturbance & displacement			Indirect effects			Collision			INIS			Accidental spills			Litter		
	C	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Gannet (B)													**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**
Storm petrel (B)													**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**
Shag (B)																		
Cormorant (B)																		
Kittiwake (B)																		
Lesser black-backed gull (B)													**✕a**	**✕a**	**✕a**	**✕a**	**✕a**	**✕a**
Herring gull (B)																		
Great black-backed gull (B)																		
Guillemot (B)																		
Razorbill (B)																		
Puffin (B)																		

Evidence supporting conclusions (also see HRA Report Section 10.9):

a. Routine mitigation measures of standard best practice in terms of waste management, pollution prevention measures and strict navigational protocols will make the likelihood of these events occurring highly unlikely and therefore not significantly adverse. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effect on site integrity in combination.

HRA Integrity Matrix 8: Solent Maritime SAC (Annex I Habitats)

Name of European site and designation: Solent Maritime SAC																								
EU Code: UK0030059																								
Distance to Proposed Development: 0 km																								
European site features	**Adverse effect on integrity**																							
Effect	Increased SSC/smothering			Contaminated sediments			Habitat disturbance/loss			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Estuaries [1130]	**xa**	**×b**	**xa**										**xc**	**xc**	**xc**	**xd**	**xgd**	**xd**				**×e**	**×e**	**×e**
Mudflats and sandflats (not submerged at low tide) [1140]	**xa**	**×b**	**xa**										**xc**	**xc**	**xc**	**xd**	**xe**	**xd**				**×e**	**×e**	**×e**
Sandbanks (slightly covered by seawater all the time) [1110]	**xa**	**×b**	**xa**										**xc**	**xc**	**xc**	**xd**	**xd**	**xd**				**×e**	**×e**	**×e**
Spartina swards [1320]	**xa**	**×b**	**xa**										**xc**	**xc**	**xc**	**xd**	**xd**	**xd**				**×e**	**×e**	**×e**
Atlantic salt meadows [1330]	**xa**	**×b**	**xa**										**xc**	**xc**	**xc**	**xd**	**xd**	**xd**				**×e**	**×e**	**×e**
Salicornia and other annuals colonising mud and sand [1310]	**xa**	**×b**	**xa**										**xc**	**xc**	**xc**	**xd**	**xd**	**xd**				**×e**	**×e**	**×e**
Shifting dunes along the shoreline [2120]																								
Coastal lagoons [1150]																								
Annual vegetation of drift lines [1210]																								
Perennial vegetation of stony banks [1220]																								
Desmoulin's whorl snail (*Vertigo moulinsiana*) [1016]																								

Evidence supporting conclusions (also see HRA Report Section 10.10):

a. Due to the potential for high levels of sediment deposition within the SAC as a result of sediment disposal activities, it was considered that LSE could not be ruled out for any connected feature (HRA Report document reference 6.8.1, Section 7.2.1). It has been determined that adverse effects as a result of sediment disposal can be avoided through mitigation. It is proposed that sediment disposal activities be restricted to outwith Water Framework Directive (WFD) waters (plus a buffer of 3 km). Modelling indicates that this mitigation will result in no connectivity between SAC features and sediment disposal activities, and therefore no potential for adverse effects on site integrity. Normal cable construction activities (excluding dredged sediment deposition) will take place at a minimum distance of 0.24 km from SAC features and are likely to result in light, temporary deposits only which are anticipated to be removed within a few tide cycles as a result of tidal forcing, therefore there is no adverse effect on site integrity.

b. Operation effects are expected to be less or equal to construction. Therefore, there is no adverse effect on site integrity

c. Adoption of routine best practice management measures for prevention of INIS will ensure that the risk of introduction of such species is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a biosecurity plan (as part of the CEMP). Therefore, there is no adverse effect on site integrity.

d. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Marine Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effect on site integrity.

e. Considering the very small (e.g. within natural background of variation for SSC) and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude, coupled with the fact that best practice measures will be in place for both INIS and pollution, it is considered that there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 9: South Wight Maritime SAC (Annex I Habitats)

Name of European site and designation: South Wight Maritime SAC																								
EU Code: UK0030061																								
Distance to Proposed Development: 3.3 km																								
European site features	**Adverse effect on integrity**																							
Effect	Increased SSC/smothering			Habitat disturbance/loss			Contaminated sediments			Hydrodynamic changes			Invasive species			Pollution events			EMF/Temperature			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
Reefs [1170]	**xa**	**✕b**	**xa**										**xc**	**xc**	**xc**	**xd**	**xd**	**xd**				**✕e**	**✕e**	**✕e**
Vegetated sea cliffs of the Atlantic and Baltic Coasts [1230]																								
Submerged or partially submerged sea caves [8330]	**xa**	**✕b**	**xa**										**xc**	**xc**	**xc**	**xd**	**xd**	**xd**				**✕e**	**✕e**	**✕e**

Evidence supporting conclusions (also see HRA Report Section 10.11):

a. Due to the potential for sediment deposition within the SAC, it was considered that LSE could not be ruled out for any connected feature as a result of sediment disposal or cable installation activities (HRA Report Section 7.2.1). It has been determined that adverse effects as a result of sediment disposal can be avoided through mitigation. It is proposed that sediment disposal activities be restricted to outwith Water Framework Directive (WFD) waters (plus a buffer of 3 km). Modelling indicates that this mitigation will result in no connectivity between SAC features and sediment disposal activities, and therefore no potential for adverse effects on site integrity can arise. Normal cable construction activities (excluding dredged sediment deposition) will take place at a minimum distance of 3.3 km from SAC features and are unlikely to result in any deposits other than very light temporary settlement which would be removed under normal tidal forcing, therefore there is adverse effects on site integrity.

b. Operation effects are expected to be less or equal to construction. Therefore, there is no adverse effect on site integrity

c. Adoption of routine best practice management measures for prevention of INIS will ensure that the risk of introduction of such species is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a biosecurity plan (as part of the CEMP). Therefore, there is no adverse effect on site integrity.

d. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Marine Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effect on site integrity.

e. Considering the very small (e.g. within natural background of variation for SSC) and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude, coupled with the fact that best practice measures will be in place for both INIS and pollution, it is considered that there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 10: River Itchen SAC (Fish)

Name of European site and designation: River Itchen SAC (Fish)																												
EU Code: UK0012599																												
Distance to Proposed Development: 27.5 km																												
European site features	**Adverse effect on integrity**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1106 Atlantic salmon (Salmo salar)	**xa**	**xa**	**xa**							**xb**	**xb**	**xb**													**xc**	**xc**	**xc**
1044 Southern damselfly (Coenagrion mercurial)																												
1163 Bullhead (Cottus gobio)																												
1092 White-clawed (or Atlantic stream) crayfish																												
1096 Brook lamprey (Lampetra planeri)																												
1355 Otter (Lutra lutra)																												
3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation																												

Evidence supporting conclusions (also see HRA Report Sections 10.12):

a. Both salmon and smolts are inherently tolerant of naturally high and variable levels of SSC given that they spawn in riverine environments and are frequently exposed to increases in SSC from flood events and land run off. In addition, both salmon life stages are highly mobile so can navigate round or through areas of elevated SSC. Therefore, there will be no adverse effects on site integrity.

b. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

c. Considering the very small (e.g. within natural background of variation for SSC) and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude, it is considered that there is no potential for adverse effects on site integrity in combination. In addition, similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 11: River Avon SAC (Fish)

Name of European site and designation: River Avon SAC (Fish)																													
EU Code: UK0013016																													
Distance to Proposed Development: 51.4 km																													
European site features	**Adverse effect on integrity**																												
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1095 Sea lamprey (Petromyzon marinus)	**x a**	**x a**	**x a**							**x b**	**x b**	**x b**													**x c**	**x c**	**x c**
1106 Atlantic salmon	**x a**	**x a**	**x a**							**x b**	**x b**	**x b**													**x c**	**x c**	**xc**
1016 Desmoulin's whorl snail (Vertigo moulinsiana)																											
1096 Brook lamprey																											
1163 Bullhead																											
3260 Water courses of plain to montane levels with the Ranunclion fluitantis and Callitricho-Batrachion vegetation																											

Evidence supporting conclusions (also see HRA Report Sections 10.13):

a. Both salmon (and smolts) and sea lamprey (and transformers) are inherently tolerant of naturally high and variable levels of SSC given that they spawn in riverine environments and are frequently exposed to increases in SSC from flood events and land run off. In addition, salmon and sea lamprey are highly mobile so can navigate round or through areas of elevated SSC. Therefore, there is no adverse effects on site integrity..

b. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

c. Considering the very small (e.g. within natural background of variation for SSC) and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude, it is considered that there is no potential for adverse effects on site integrity in combination. In addition, similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 12: River Axe SAC (Fish)

Name of European site and designation: River Axe SAC (Fish)																												
EU Code: UK0030248																												
Distance to Proposed Development: 168 km																												
European site features	**Adverse effect on integrity**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1095 Sea lamprey										**x a**	**x a**	**x a**													**x b**	**x b**	**x b**
1096 Brook lamprey																											
1163 Bullhead																											
3260 Water courses of plain to montane levels with the Ranunclion fluitantis and Callitricho-Batrachion vegetation																											

Evidence supporting conclusions (also see HRA Report Sections 10.14):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 13: Plymouth Sound and Estuaries SAC (Fish)

Name of European site and designation: Plymouth Sound and Estuaries SAC (Fish)																												
EU Code: UK0030248																												
Distance to Proposed Development: 229 km																												
European site features	**Adverse effect on integrity**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1102 Allis shad (Alosa alosa)										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1110 Sandbanks which are slightly covered by sea water all the time																											
1130 Estuaries																											
1160 Large shallow inlets and bays																											
1170 Reefs																											
1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)																											
1140 Mudflats and sandflats not covered by seawater at low tide																											
1441 Shore dock																											

Evidence supporting conclusions (also see HRA Report Sections 10.15):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 14: Estuaires et Littoral Picards (Baies de Somme et d'Authie) SAC (Fish)

Name of European site and designation: Estuaries et Littoral Picards (Baie de Somme et d'Authie) SAC (fish)																												
EU Code: FR2200346																												
Distance to Proposed Development: 84.6 km																												
European site features	**Adverse effect on integrity**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1099 River lamprey										**x a**	**x a**	**x a**													**x b**	**x b**	**x b**
1166 Crested newt																												
1614 Creeping marshwort (Apium repens)																												
1903 Fen Orchid (Liparis loeselii)																												
6199 Jersey Tigar																												
1042 Yellow-spotted Whiteface (Leucorrhinia pectotalis)																												
1014 Narrow-mouthed whorl snail (Vertigo angustior)																												
1016 Desmoulin's whorl snail																												
1364 Grey seal																												
1321 Geoffroy's bat																												
1365 Common seal																												
1351 Common Porpoise																												
1349 Bottle-nosed Dolphin																												
1110 Sandbanks which are slighty covered by seawater all the time																												
1130 Estuaries																												
1140 Mudflats and sandflats not covered by seawater at low tide																												
1150 Coastal lagoons																												
1170 Reefs																												
1210 Annual vegetation of drift lines																												
1220 Perennial vegetation of stony banks																												
1230 Vegetated sea cliffs of the Atlantic and Baltic coasts																												
1310 Salicornia and other annuals colonizing mud and sand																												
1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)																												
1420 Mediterranean and thermos-Atlantic halophilous scrubs (Sarcocornetea fructicosi)																												

Name of European site and designation: Estuaries et Littoral Picards (Baie de Somme et d'Authie) SAC (fish)																												
EU Code: FR2200346																												
Distance to Proposed Development: 84.6 km																												
European site features	**Adverse effect on integrity**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
2130 Embryonic shifting dunes																												
2120 Shifting dunes along the shoreline with Ammophila arenaria ('white dunes')																												
2130 Fixed coastal dunes with herbacceous vegetation ('grey dunes')																												
2160 Dunes with Hippophae rhamnoides																												
2170 Dunes with Salix repens ssp argentea (Salicion arenariae)																												
2180 Wooded dunes of the Atlantic, Continental and Boreal region																												
2190 Humid dune slacks																												
3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)																												
3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp																												
3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition – type vegetation																												
3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation																												
6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)																												
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels																												
6510 Lowland hay meadows (Alopecurus prtensis, Sanguisorba officinalis)																												
7230 Alkine fens																												
91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)																												

Evidence supporting conclusions (also see HRA Report Section 10.17):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 15: Baie de Canche et Couloir des trois Estuaires SAC (Fish)

Name of European site and designation: Baie de Canche et Couloir des trois Estuaires SAC																													
EU Code: FR3102005																													
Distance to Proposed Development: 86.5 km																													
European site features	**Adverse effect on integrity**																												
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1102 Allis shad										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1095 Sea lamprey										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1099 River lamprey										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1106 Atlantic salmon										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1351 Harbour porpoise																											
1364 Grey seal																											
1365 Harbour seal																											
1351 Common Porpoise																											
1110 Sandbanks which are slightly covered by sea water all the time																											
1130 Estuaries																											
1140 Mudflats and sandflats not covered by seawater at low tide																											
1210 Annual vegetation of drift lines																											
1310 Salicornia and other annuals colonising mud and sand																											
1330 Atlantic salt meadows																											

Evidence supporting conclusions (also see HRA Report Section 10.18):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 16: Baie de Seine Orientale SAC (Fish)

Name of European site and designation: Baie de Seine Orientale SAC (fish)																											
EU Code: FR2502021																											
Distance to Proposed Development: 90.9 km																											
European site features	**Adverse effect on integrity**																										
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1102 Allis shad										**x a**	**x a**	**x d**													**x b**	**x b**	**xb**
1103 Twait shad										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1095 Sea lamprey										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1099 River lamprey										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1106 Atlantic salmon										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1351 Harbour porpoise																											
1364 Grey seal																											
1365 Harbour seal																											
1349 Bottle nose dolphin																											
1110 Sandbanks which are slightly covered by sea water all the time																											
1160 Large shallow inlets and bays																											
1170 Reefs																											
1210 Annual vegetation of drift lines																											
1310 Salicornia and other annuals colonising mud and sand																											
1330 Atlantic salt meadows																											

Evidence supporting conclusions (also see HRA Report Section 10.19):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 17: Littoral Cauchois SAC (Fish)

Name of European site and designation: Littoral Cauchois SAC (fish)																											
EU Code: FR2300139																											
Distance to Proposed Development: 52.7 km																											
European site features	**Adverse effect on integrity**																										
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1103 Twaite shad (Alosa fallax)										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1099 River lamprey (Lampetra fluviatilis)										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1095 Sea lamprey										**x a**	**x a**	**x a**													**x b**	**x b**	**xb**
1166 Crested newt (triturus cristatus)																											
1163 Freshwater sculpin (Cottus gobio)																											
1044 Southern coenagrion																											
6199 Jersey tiger (Euplagia quadripunctaria)																											
1083 Stag beatle (Lucanus cervus)																											
1308 Barbastelle (barbastelle barbastellus)																											
1364 Grey seal (Halichoerus grypus)																											
1323 Bechsteins bat (Myotis bechsteinii)																											
1321 Geoffroy's bat (Myotis emarginatus)																											
1324 Greater mouse-eared bat (Myotis myotis)																											
1365 Harbour seal (Phoca vitulina)																											
1351 Common Porpoise (Phocoena phocoena)																											
1304 Greater horseshoe bat (Rhinolophus ferrumequinum)																											
1303 Lesser horseshoe bat (Rhinolophus hipposideros)																											
1349 Bottle-nosed Dolphin (Tursiops truncates)																											
1170 Reefs																											
1220 Perennial vegetation of stony banks																											
1230 Vegetated sea cliffs of the Atlantic and Baltic coasts																											
3110 Oligatrophic waters containing very few minerals of sandy plains (littorelletalia uniflorae)																											
3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp																											

Name of European site and designation: Littoral Cauchois SAC (fish)																												
EU Code: FR2300139																												
Distance to Proposed Development: 52.7 km																												
European site features	**Adverse effect on integrity**																											
Effect	*Increased SSC*			*Physical Injury*			*Invasive species*			*Pollution events*			*Noise and vibration*			*Visual Disturbance*			*EMF*			*Temperature changes*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
3150 Natural eutrophic lakes and Magnopotamion or Hydrocharition – type vegetation																												
4020 Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix																												
4030 European dry heaths																												
6410 Molina meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)																												
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels																												
6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)																												
7220 Petrifying springs with tufa formation (Cratoneurion)																												
7230 Alkaline fens																												
8310 Caves not open to the public																												
9120 Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in shrublayer (Quercion robori-petraeae or Ilici-fagenion)																												
9130 Asperulo-Fagetum beech forests																												
9180 Tilio-Acerion forests of slopes, screes and ravines																												
9190 Old acidophilous oak woods with Quercus rubur on sandy plains																												
91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)																												

Evidence supporting conclusions (also see HRA Report Section 10.16):

- **a.** Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.
- **b.** Similar best practice measures are employed for the other plans and projects identified which could contribute to in combination effects. Therefore, there is no adverse effects on site integrity.in combination.

HRA Integrity Matrix 18: Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar (Marine Mammals)

Name of European site and designation: Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar (marine mammals)																		
EU Code: FR2200346																		
Distance to Proposed Development: 87 km																		
European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1349 Bottlenose dolphin													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1351 Harbour porpoise													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1364 Grey seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1365 Harbour seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1614 Apium repens																		
6199 Euplagia quadripunctaria																		
1099 Lampetra fluviatilis																		
1042 Leucorrhinia pectoralis																		
1903 Liparis loeselii																		
1321 Myotis emarginatus																		
1166 Triturus cristatus																		
1014 Vertigo angustior																		
1016 Vertigo moulinsiana																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1130 Estuaries																		
1140 Mudflats and sandflats not covered by seawater at low tide																		
1150 Coastal lagoons																		
1170 Reefs																		
1210 Annual vegetation of drift lines																		
1220 Perennial vegetation of stony banks																		
1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts																		
1310 Salicornia and other annuals colonizing mud and sand																		
1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)																		
1420 Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)																		
2110 Embryonic shifting dunes																		
2120 Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")																		
2130 Fixed coastal dunes with herbaceous vegetation ("grey dunes")																		
2160 Dunes with Hippophaë rhamnoides																		

Name of European site and designation: Estuaires et littoral picards (baies de Somme et d'Authie) SAC/Baie de Somme Ramsar (marine mammals)																		
EU Code: FR2200346																		
Distance to Proposed Development: 87 km																		
European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
2170 Dunes with Salix repens ssp. argentea (Salicion arenariae)																		
2180 Wooded dunes of the Atlantic, Continental and Boreal region																		
2190 Humid dune slacks																		
3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)																		
3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.																		
3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation																		
3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation																		
6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)																		
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels																		
6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)																		
7230 Alkaline fens																		
91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)																		

Evidence supporting conclusions (also see HRA Report Section 10.17):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Marine Outline Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Considering the very small and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 19: Baie de Canche et couloir des trois estuaires SAC (Marine Mammals)

Name of European site and designation: Baie de Canche et couloir des trois estuaires SAC (Marine Mammals)																		
EU Code: FR3102005																		
Distance to Proposed Development: 85 km																		
European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1351 Harbour porpoise													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1364 Grey seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1365 Harbour seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1095 Sea lamprey																		
1099 River lamprey																		
1102 Allis shad																		
1106 Atlantic salmon																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1130 Estuaries																		
1140 Mudflats and sandflats not covered by seawater at low tide																		
1210 Annual vegetation of drift lines																		
1310 Salicornia and other annuals colonising mud and sand																		
1330 Atlantic salt meadows																		

Evidence supporting conclusions (also see HRA Report Section 10.18):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Marine Outline Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Considering the very small and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 20: Baie de Seine Orientale SAC (Marine Mammals)

Name of European site and designation: Baie de Seine Orientale SAC (marine mammals)																		
EU Code: FR2502021																		
Distance to Proposed Development: 91 km																		
European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1349 Bottlenose dolphin													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1351 Harbour porpoise													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1364 Grey seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1365 Harbour seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1095 Sea lamprey																		
1099 River lamprey																		
1102 Allis shad																		
1103 Twaite shad																		
1106 Atlantic salmon																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1160 Large shallow inlets and bays																		
1170 Reefs																		

Evidence supporting conclusions (also see HRA Report Section 10.19):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Marine Outline Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Considering the very small and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 21: Littoral Cauchois SAC (Marine Mammals)

Name of European site and designation: Littoral Cauchois SAC (Marine Mammals)																		
EU Code: FR2300139																		
Distance to NSIP: 53 km																		
European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1349 Bottlenose dolphin													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1351 Harbour porpoise													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1364 Grey seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1365 Harbour seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1103 Alosa fallax																		
1308 Barbastella barbastellus																		
1044 Coenagrion mercurial																		
1163 Cottus gobio																		
6199 Euplagia quadripunctaria																		
1099 Lampetra fluviatilis																		
1083 Lucanus cervus																		
1323 Myotis bechsteinii																		
1321 Myotis emarginatus																		
1324 Myotis myotis																		
1095 Petromyzon marinus																		
1304 Rhinolophus ferrumequinum																		
1303 Rhinolophus hipposideros																		
1166 Triturus cristatus																		
1170 Reefs																		
1220 Perennial vegetation of stony banks																		
1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts																		
3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)																		
3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.																		
3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation																		
4020 Temperate Atlantic wet heaths with Erica ciliaris and Erica tetralix																		
4030 European dry heaths																		

Name of European site and designation: Littoral Cauchois SAC (Marine Mammals)

EU Code: FR2300139

Distance to NSIP: 53 km

European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)																		
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels																		
6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)																		
7220 Petrifying springs with tufa formation (Cratoneurion)																		
7230 Alkaline fens																		
8310 Caves not open to the public																		
9120 Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)																		
9130 Asperulo-Fagetum beech forests																		
9180 Tilio-Acerion forests of slopes, screes and ravines																		
9190 Old acidophilous oak woods with Quercus robur on sandy plains																		
91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)																		

Evidence supporting conclusions (also see HRA Report Section 10.16):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Marine Outline Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Considering the very small and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 22: Récifs Gris-Nez Blanc-Nez SAC (Marine Mammals)

Name of European site and designation: Récifs Gris-Nez Blanc-Nez SAC (Marine Mammals)																		
EU Code: FR3102003																		
Distance to Proposed Development: 104 km																		
European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1351 Harbour porpoise													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1364 Grey seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1365 Harbour seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1110 Sandbanks which are slightly covered by sea water all the time																		
1170 Reefs																		

Evidence supporting conclusions (also see HRA Report Section 10.22):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Marine Outline Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Considering the very small and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 23: Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC (Marine Mammals)

Name of European site and designation: Ridens et dunes hydrauliques du détroit du Pas-de-Calais SAC (Marine Mammals)																		
EU Code: FR3102004																		
Distance to Proposed Development: 59 km																		
European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1351 Harbour porpoise													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1364 Grey seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1365 Harbour seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1110 Sandbanks which are slightly covered by sea water all the time																		
1170 Reefs																		

Evidence supporting conclusions (also see HRA Report Section 10.20):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Marine Outline Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Considering the very small and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude. Therefore, there is no adverse effects on site integrity in combination.

HRA Integrity Matrix 24: Estuaire de la Seine SAC (Marine Mammals)

Name of European site and designation: Estuaire de la Seine SAC (Marine Mammals)																		
EU Code: FR2300121																		
Distance to NSIP: 90 km																		
European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1351 Harbour porpoise													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1364 Grey seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1365 Harbour seal													**×a**	**×a**	**×a**	**×b**	**×b**	**×b**
1044 Southern damselfly																		
1065 Marsh fritillary butterfly																		
1083 Stag beetle																		
1095 Sea lamprey																		
1096 Brook lamprey																		
1099 River lamprey																		

Name of European site and designation: Estuaire de la Seine SAC (Marine Mammals)																		
EU Code: FR2300121																		
Distance to NSIP: 90 km																		
European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
1103 Twaite shad																		
1106 Atlantic salmon																		
1166 Great crested newt																		
1304 Greater horseshoe bat																		
1308 Barbastelle																		
1324 Greater mouse-eared bat																		
5315 Bullhead																		
6199 Jersey tiger																		
1110 Sandbanks which are slightly covered by sea water all the time																		
1130 Estuaries																		
1140 Mudflats and sandflats not covered by seawater at low tide																		
1170 Reefs																		
1210 Annual vegetation of drift lines																		
1220 Perennial vegetation of stony banks																		
1310 Salicornia and other annuals colonizing mud and sand																		
1330 Atlantic salt meadows																		
2110 Embryonic shifting dunes																		
2120 Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")																		
2130 Fixed coastal dunes with herbaceous vegetation ("grey dunes")																		
2160 Dunes with Hippophae rhamnoides																		
2180 Wooded dunes of the Atlantic, Continental and Boreal region																		
2190 Humid dune slacks																		
3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.																		
3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation																		
3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation																		
6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)																		
6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels																		
6510 Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)																		

Name of European site and designation: Estuaire de la Seine SAC (Marine Mammals)																		
EU Code: FR2300121																		
Distance to NSIP: 90 km																		
European site features	**Adverse effect on integrity**																	
Effect	*Auditory injury*			*Disturbance*			*Collision*			*Indirect effects*			*Pollution*			*In combination effects*		
Stage of Development	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*	*C*	*O*	*D*
9120 Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)																		
9130 Asperulo-Fagetum beech forests																		
9180 Tilio-Acerion forests of slopes, screes and ravines																		

Evidence supporting conclusions (also see HRA Report Section 10.21):

a. Adoption of routine best practice management measures will ensure that the risk of pollution events (including litter) is minimised as far as is practicable, and as such there is no potential for adverse effects on integrity. These measures will be agreed through production of a Marine Outline Construction Environmental Management Plan (CEMP) and associated Marine Pollution Contingency Plan (MPCP). Therefore, there is no adverse effects on site integrity.

b. Considering the very small and localised effects predicted by the proposed work, its temporary nature, and the fact that any other activities which may result in in combination effects are likely to be similar or lesser in extent and magnitude. Therefore, there is no adverse effects on site integrity in combination.