

A1 in Northumberland: Morpeth to Ellingham

Scheme Number: TR010041

6.14 Habitats Regulations Assessment (HRA) Addendum Report

APFP Regulation 5(2)(g)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

September 2020

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

**The A1 in Northumberland: Morpeth to Ellingham
Development Consent Order 20[xx]**

Habitats Regulations Assessment (HRA) Addendum Report

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1. INTRODUCTION

1.1. OVERVIEW

- 1.1.1. This Habitats Regulations Assessment (HRA) Addendum Report (this Addendum Report) relates to an application for a Development Consent Order (DCO) made by Highways England (the Applicant) on 7 July 2020 to the Secretary of State for Transport via the Planning Inspectorate (the Inspectorate) under the Planning Act 2008 (the 2008 Act). If made, the DCO would grant consent for the A1 in Northumberland: Morpeth to Ellingham (the Scheme). The Scheme comprises:
- a. Part A: Morpeth to Felton (Part A) is located on the A1 between Warrener's House Interchange at Morpeth and the existing dual carriageway at Felton. It is approximately 12.6 km in length.
 - b. Part B: Alnwick to Ellingham (Part B) starts approximately 15 km north of the northern extent of Part A, is located along the A1 between Alnwick and Ellingham and is approximately 8 km in length.
- 1.1.2. A detailed description of the Scheme can be found in **Chapter 2: The Scheme, Volume 1** of the Environmental Statement (ES) (**Application Document Reference: TR010041/APP/6.1**).
- 1.1.3. The DCO application was accepted for examination by the Inspectorate on 4 August 2020. This Addendum Report has been prepared in response to a Procedural Decision issued by the Examining Authority on 5 August 2020. The Procedural Decision requested that a single revised Planning Inspectorate screening matrix be produced for each of those sites listed below to reflect the effects on the European Sites from the Scheme in its entirety. The European Sites are as follows:
- a. Northumbria Coast Special Protection Area (SPA);
 - b. Northumbria Coast Ramsar; and
 - c. Northumberland Marine SPA.
- 1.1.4. This Addendum Report should be read alongside the HRA Report (**Application Document Reference: TR010041/APP/6.14**), updated in September 2020 following the Procedural Decision issued on 5 August 2020. The HRA Report that presents screening matrices for Part A and Part B separately and details further context of the purpose of the HRA and its approach.
- 1.1.5. The conclusions drawn within this Addendum Report have not yet been discussed with Natural England, although the conclusions for the separate assessments of Part A and Part B presented within the HRA Report (**Application Document Reference: TR010041/APP/6.14**) have been agreed upon by Natural England. The assessments for both Part A and Part B (presented in the HRA Report) acknowledge the in-combination effects of Part A and Part B (i.e. the Scheme) and therefore a 'cumulative' assessment has already been undertaken. Neither individual assessment identifies any likely significant effects alone, in combination with each other or in-combination with any other scheme.

Consultation shall be undertaken prior to and in parallel with the DCO examination process.

1.2. LIMITATIONS

- 1.2.1. The limitations below are the same as those detailed within the HRA Report (**Application Document Reference: TR010041/APP/6.14**). There are no additional limitations specific to this Addendum Report.
- 1.2.2. To enable the environmental impact assessment (EIA) and HRA to be undertaken, future traffic levels are predicted. This is usually undertaken for the opening year and the design year, which is conventionally taken as the fifteenth year after opening. For the Scheme, this was undertaken using economic projections and known developments based upon an opening year predicted to be in 2023 and a consequent design year of 2038. Since that time, the opening year has been put back to 2024. Updated Goods Vehicle Growth from DfT Road Traffic Forecasts (2018) have also become available. Therefore, the Applicant has considered whether the predictions made using an opening year of 2023 are materially affected by this change.
- 1.2.3. A sensitivity analysis was carried out, in order to test whether these predicted traffic levels would materially affect assessments for the revised opening year and design year. The result of this sensitivity analysis was that there would be increases in vehicle movements (up to 4%) in the opening year (2024), and a decrease in predicted vehicle movements (up to 3%) in the design year (2039). Based on this level of change, the traffic data used to support the ES can be considered to be a reasonable representation of traffic in the new opening year of 2024. Therefore, there is not anticipated to be a material change in outcomes of those assessments that use traffic data, and the results and conclusions to date are considered to reasonably represent the impacts in 2024.

2. THE SCHEME – PLANNING INSPECTORATE SCREENING MATRICES

2.1. POTENTIAL EFFECTS

- 2.1.1. The assessment of potential effects is presented in the form of assessment matrices in accordance with the Planning Inspectorate’s Advice Note 10 – ‘Habitat Regulations Assessment relevant to NSIPs’ (Ref. 1).
- 2.1.2. Potential impacts upon the European Sites that are considered as part of this HRA Stage 1 Screening assessment are provided in the table below.

Table 2-1 - Effects considered within the screening matrices for each European Site

Designation	Effects Described in Submission Information	Presented in Screening Matrices As
Northumbria Coast SPA UK9006131	Habitat loss Spread of invasive plant species	Habitat loss
	Displacement from noise, lighting or odour Displacement from visual disturbance (human presence)	Displacement
	Vehicle emissions Waterborne pollution	Emissions
Northumbria Coast Ramsar UK11049	Habitat loss Spread of invasive plant species	Habitat loss
	Displacement from noise, lighting or odour Displacement from visual disturbance (human presence)	Displacement
	Vehicle emissions Waterborne pollution	Emissions
Northumberland Marine SPA UK9020325	Habitat loss Spread of invasive plant species	Habitat loss
	Displacement from noise, lighting or odour Displacement from visual disturbance (human presence)	Displacement
	Vehicle emissions and Waterborne pollution	Emissions

2.2. SCREENING MATRICES

2.2.1. Matrix key:

✓ = Likely significant effect cannot be excluded; and

✗ = Likely significant effect can be excluded.

2.2.2. Stages:

C = Construction;

O = Operation; and

D = Decommissioning.

Table 2-2 - Matrix 1: Northumbria Coast SPA

Name of European site and designation:		Northumbria Coast SPA											
EU Code:		UK9006131											
Distance to NSIP:		4.7 km from the Scheme in a straight line (at its closest point) and 9.2 km downstream (closest hydrological connection) via Shipperton Burn, which flows into Mill Burn and Brunton Burn (before discharging at the European Site).											
LIKELY EFFECTS OF THE SCHEME													
European Site feature	Effect	Habitat Loss			Displacement			Emissions			In combination effects		
	Stage of Development	C	O	D	C	O	D	C	O	D	C	O	D
Little tern – Article 4.1		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Arctic tern – Article 4.1		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Purple sandpiper – Article 4.2		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Ruddy turnstone – Article 4.2		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)

- a) The Scheme is located 4.7 km from the European Site at its closest point in a straight line. Construction activities, including routes for movement of construction vehicles, would not occur within the European Site. No habitats within the European Site would be lost as a result of construction activities associated with the Scheme. Due to distance, the only pathway for invasive species between the Scheme and the European Site is via watercourses. There were no invasive plant species recorded within the Order Limits of Part A (invasive species recorded were outside the Order Limits but within the wider ecological study areas; refer to **paragraphs 9.7.111 to 9.7.115 of Chapter 9: Biodiversity, Volume 2 of the ES (Application Document Reference: TR010041/APP/6.2)**), although Himalayan balsam is known to occur along the River Coquet downstream of the Scheme in Felton (informed during consultation with Natural England). The only invasive plant species recorded in the Phase 1 habitat Survey Area of Part B was Himalayan balsam (refer to **paragraph 9.7.17 of Chapter 9: Biodiversity, Volume 3 of the ES (Application Document Reference: TR010041/APP/6.3)**). The Scheme is upstream of the European Site and therefore the potential for construction works to spread invasive plant species to the European Site was assessed. The European Site is approximately 22.5 km downstream of Part A via the River Coquet and 9.2 km downstream of Part B via the Shipperton Burn, which flows into Mill Burn and Brunton Burn before discharging into the European Site. There are three waterbodies along the length of Shipperton Burn before it reaches Mill Burn, the largest of which is Doxford Lake, where Shipperton Burn enters to the south of the lake. Mill Burn flows from the north of the lake and continues eastwards towards the European Site, via Brunton Burn. These waterbodies will allow any seeds carried from Shipperton Burn to sink or settle out around the shoreline of the ponds/lake. This will greatly reduce the chances of seeds from Shipperton Burn being carried all the way to the coast. In addition, Himalayan balsam is intolerant of saline substrates or saline spray, with an Ellenberg value for salt tolerance of 0 (refer to “*Impatiens glandulifera*”, page 23 of **Ref. 2**). This equates to a species which is generally absent from saline sites and if present in coastal situations, only accidental and non-persistent (refer to Table 13 of **Ref. 2**). Overall, the risk of the spread of invasive plant species to the European Site is considered negligible.
- b) Operation of the Scheme does not require land take from the European Site. No habitat loss from within the European Site would occur as a result of operational activities of the Scheme.
- c) Decommissioning would be restricted within the Order Limits of the Scheme, located 4.7 km from the European Site at the closest point, and would not require land from the European Site. Decommissioning of the Scheme would therefore not give rise to any loss of habitats from the European Site.
- d) The European Site is situated approximately 4.7 km from the Scheme at its closest point. The Scheme does not support qualifying species of the European Site. Therefore, there would be no disturbance to qualifying species arising from human disturbance, noise, lighting or odour during the construction of the Scheme.
- e) The European Site is situated approximately 4.7 km from the Scheme at its closest point. The Scheme does not support qualifying species of the European Site. Therefore, there would be no disturbance to qualifying species arising from human disturbance, noise, lighting or odour during the operation of the Scheme.
- f) The European Site is situated approximately 4.7 km from the Scheme at its closest point. The Scheme does not support qualifying species of the European Site. Therefore, there would be no disturbance to qualifying species arising from human disturbance, noise, lighting or odour during the decommissioning of the Scheme.
- g) Construction traffic would be confined within the Order Limits, between the Part B Main Scheme Area and Lionheart Enterprise Park Compound (as defined in **paragraph 2.3.23 of Chapter 2: The Scheme, Volume 1 of the ES (Application Document Reference: TR010041/APP/6.1)**) and between the Order Limits of Part B and the Main Compound located within the Order Limits

- of Part A. As such, transportation activities would be approximately 4.7 km from the European Site. Diversion of A1 traffic would not affect roads or transport links in close proximity to the European Site (within 200 m) (as detailed on the diversion route plans within the **Construction Traffic Management Plan (CEMP)** (**Application Document Reference: TR10041/APP/7.4**)). The hydrological assessment screens out surface water and groundwater impacts over 1 km from the Scheme (for Part A, see **paragraphs 10.4.3, 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 2** of the ES (**Application Document Reference: TR010041/APP/6.2**); for Part B, see **paragraphs 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 3** of the ES (**Application Document Reference: TR010041/APP/6.3**)). The European Site is approximately 9.2 km downstream of the Scheme (closest hydrological connection) via Shipperton Burn, which flows into the Mill Burn and Brunton Burn (Part B) before discharging into the European Site. Even in the unlikely scenario that a pollution event or contamination incident should occur, it is considered highly unlikely that the Scheme would result in changes in water quality or quantity that would have any effect on the European Site or its qualifying interests. In addition, best practice measures would be implemented within a CEMP (including adherence to CIRIA's control of water pollution from construction sites and the Pollution Prevention Guidelines (PPG) published by the Environment Agency, as detailed in measure S-W8 in the **Outline CEMP** (**Application Document Reference: TR010041/APP/7.3**)) to reduce any risk of pollution incidents, contamination of watercourses or increase in suspended sediment occurring during construction of the Scheme. There is therefore no functional pollution pathway from the Scheme to the European Site. As such, there would be no impacts from emissions during the construction of the Scheme.
- h) The European Site is not located within 200 m of the ARN and therefore effects due to changes in air quality are not anticipated. The hydrological assessment screens out surface water and groundwater impacts over 1 km from the Scheme (for Part A, see **paragraphs 10.4.3, 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 2** of the ES (**Application Document Reference: TR010041/APP/6.2**); for Part B, see **paragraphs 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 3** of the ES (**Application Document Reference: TR010041/APP/6.3**)). The European Site is approximately 9.2 km downstream of the Scheme (closest hydrological connection) via Shipperton Burn, which flows into the Mill Burn and Brunton Burn (Part B) before discharging into the European Site. Even in the unlikely scenario that a pollution event or contamination incident should occur, it is considered highly unlikely that the Scheme would result in changes in water quality or quantity that would have any effect on the European Site or its qualifying interests. In addition, best practice measures would be implemented within a CEMP (including adherence to CIRIA's control of water pollution from construction sites and the Pollution Prevention Guidelines (PPG) published by the Environment Agency, as detailed in measure S-W8 in the **Outline CEMP** (**Application Document Reference: TR010041/APP/7.3**)) to reduce any risk of pollution incidents, contamination of watercourses or increase in suspended sediment occurring during construction of the Scheme. There is therefore no functional pollution pathway from the Scheme to the European Site. As such, there would be no impacts from emissions during the construction of the Scheme.
- i) Decommissioning traffic would be confined within the Order Limits, between the Part B Main Scheme Area and Lionheart Enterprise Park Compound (as defined in **paragraph 2.3.23 of Chapter 2: The Scheme, Volume 1** of the ES (**Application Document Reference: TR010041/APP/6.1**)) and between the Order Limits of Part B and the Main Compound located within the Order Limits of Part A. As such, transportation activities would be approximately 4.7 km from the European Site. Diversion of A1 traffic would not affect roads or transport links in close proximity to the European Site (within 200 m). The hydrological assessment screens out surface water and groundwater impacts over 1 km from the Scheme (for Part A, see **paragraphs 10.4.3, 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 2** of the ES (**Application Document Reference: TR010041/APP/6.2**); for Part B, see **paragraphs 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 3** of the ES (**Application Document Reference: TR010041/APP/6.3**)). The European Site is approximately 9.2 km downstream of the Scheme (closest hydrological connection) via Shipperton Burn, which flows into the Mill Burn and Brunton Burn (Part B) before discharging into the European Site. Even in the unlikely scenario that a pollution event or contamination incident should occur, it is considered highly unlikely that the Scheme would result in changes in water quality or quantity that would have any effect on the European Site or its qualifying interests. In addition, best practice measures would be implemented within a CEMP (including adherence to CIRIA's control of water pollution from construction sites and the Pollution Prevention Guidelines (PPG) published by the Environment Agency) to reduce any risk of pollution incidents, contamination of watercourses or increase in suspended sediment occurring during decommissioning of the Scheme. There is therefore no functional pollution pathway from the Scheme to the European Site. As such, there would be no impacts from emissions during decommissioning of the Scheme.
- j) As the Scheme would have no risk of adverse effects on the European Site or its qualifying resources alone, there would be no contribution to in-combination effects that may result in Likely Significant Effects to the European Site. No in-combination effects would occur during construction of the Scheme.
- k) As the Scheme would have no risk of adverse effects on the European Site or its qualifying resources alone, there would be no contribution to in-combination effects that may result in Likely Significant Effects to the European Site. No in-combination effects would occur during operation of the Scheme.
- l) As the Scheme would have no risk of adverse effects on the European Site or its qualifying resources alone, there would be no contribution to in-combination effects that may result in Likely Significant Effects to the European Site. No in-combination effects would occur during decommissioning.

Table 2-3 - Matrix 2: Northumbria Coast Ramsar

Name of European site and designation:		Northumbria Coast Ramsar											
EU Code:		UK11049											
Distance to NSIP:		4.7 km from the Scheme in a straight line (at its closest point) and 9.2 km downstream (closest hydrological connection) via Shipperton Burn, which flows into Mill Burn and Brunton Burn (before discharging at the European Site).											
LIKELY EFFECTS OF THE SCHEME													
European Site feature	Effect	Habitat Loss			Displacement			Emissions			In combination effects		
	Stage of Development	C	O	D	C	O	D	C	O	D	C	O	D
Little tern – Article 4.1.		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Purple sandpiper – Article 4.2.		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Ruddy turnstone – Article 4.2.		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)

- a) The Scheme is located 4.7 km from the European Site at its closest point in a straight line. Construction activities, including routes for movement of construction vehicles, would not occur within the European Site. No habitats within the European Site would be lost as a result of construction activities associated with the Scheme. Due to distance, the only pathway for invasive species between the Scheme and the European Site is via watercourses. There were no invasive plant species recorded within the Order Limits of Part A (invasive species recorded were outside the Order Limits but within the wider ecological study areas; refer to **paragraphs 9.7.111 to 9.7.115 of Chapter: 9: Biodiversity, Volume 2 of the ES (Application Document Reference: TR010041/APP/6.2)**), although Himalayan balsam is known to occur along the River Coquet downstream of the Scheme in Felton (informed during consultation with Natural England). The only invasive plant species recorded in the Phase 1 habitat Survey Area of Part B was Himalayan balsam (refer to **paragraph 9.7.17 of Chapter 9: Biodiversity, Volume 3 of the ES (Application Document Reference: TR010041/APP/6.3)**). The Scheme is upstream of the European Site and therefore the potential for construction works to spread invasive plant species to the European Site was assessed. The European Site is approximately 22.5 km downstream of Part A via the River Coquet and 9.2 km downstream of Part B via the Shipperton Burn, which flows into Mill Burn and Brunton Burn before discharging into the European Site. There are three waterbodies along the length of Shipperton Burn before it reaches Mill Burn, the largest of which is Doxford Lake, where Shipperton Burn enters to the south of the lake. Mill Burn flows from the north of the lake and continues eastwards towards the European Site, via Brunton Burn. These waterbodies will allow any seeds carried from Shipperton Burn to sink or settle out around the shoreline of the ponds/lake. This will greatly reduce the chances of seeds from Shipperton Burn being carried all the way to the coast. In addition, Himalayan balsam is intolerant of saline substrates or saline spray, with an Ellenberg value for salt tolerance of 0 (refer to *“Impatiens glandulifera”*, page 23 of **Ref. 2**). This equates to a species which is generally absent from saline sites and if present in coastal situations, only accidental and non-persistent (refer to Table 13 of **Ref. 2**). Overall, the risk of the spread of invasive plant species to the European Site is considered negligible.
- b) Operation of the Scheme does not require land take from the European Site. No habitat loss from within the European Site would occur as a result of operational activities of the Scheme.
- c) Decommissioning would be restricted within the Order Limits of the Scheme, located 4.7 km from the European Site at the closest point, and would not require land from the European Site. Decommissioning of the Scheme would therefore not give rise to any loss of habitats from the European Site.
- d) The European Site is situated approximately 4.7 km from the Scheme at its closest point. The Scheme does not support qualifying species of the European Site. Therefore, there would be no disturbance to qualifying species arising from human disturbance, noise, lighting or odour during the construction of the Scheme.
- e) The European Site is situated approximately 4.7 km from the Scheme at its closest point. The Scheme does not support qualifying species of the European Site. Therefore, there would be no disturbance to qualifying species arising from human disturbance, noise, lighting or odour during the operation of the Scheme.
- f) The European Site is situated approximately 4.7 km from the Scheme at its closest point. The Scheme does not support qualifying species of the European Site. Therefore, there would be no disturbance to qualifying species arising from human disturbance, noise, lighting or odour during the decommissioning of the Scheme.
- g) Construction traffic would be confined within the Order Limits, between the Part B Main Scheme Area and Lionheart Enterprise Park Compound (as defined in **paragraph 2.3.23 of Chapter 2: The Scheme, Volume 1 of the ES (Application Document Reference: TR010041/APP/6.1)**) and between the Order Limits of Part B and the Main Compound located within the Order Limits of Part A. As such, transportation activities would be approximately 4.7 km from the European Site. Diversion of A1 traffic would not affect roads or transport links in close proximity to the European Site (within 200 m) (as detailed on the diversion route plans within the **Construction Traffic Management Plan (CEMP) (Application Document Reference: TR10041/APP/7.4)**).

The hydrological assessment screens out surface water and groundwater impacts over 1 km from the Scheme (for Part A, see **paragraphs 10.4.3, 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 2** of the ES (**Application Document Reference: TR010041/APP/6.2**); for Part B, see **paragraphs 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 3** of the ES (**Application Document Reference: TR010041/APP/6.3**)). The European Site is approximately 9.2 km downstream of the Scheme (closest hydrological connection) via Shipperton Burn, which flows into the Mill Burn and Brunton Burn (Part B) before discharging into the European Site. Even in the unlikely scenario that a pollution event or contamination incident should occur, it is considered highly unlikely that the Scheme would result in changes in water quality or quantity that would have any effect on the European Site or its qualifying interests. In addition, best practice measures would be implemented within a CEMP (including adherence to CIRIA's control of water pollution from construction sites and the Pollution Prevention Guidelines (PPG) published by the Environment Agency, as detailed in measure S-W8 in the **Outline CEMP (Application Document Reference: TR010041/APP/7.3)**) to reduce any risk of pollution incidents, contamination of watercourses or increase in suspended sediment occurring during construction of the Scheme. There is therefore no functional pollution pathway from the Scheme to the European Site. As such, there would be no impacts from emissions during the construction of the Scheme.

- h) The European Site is not located within 200 m of the ARN and therefore effects due to changes in air quality are not anticipated. The hydrological assessment screens out surface water and groundwater impacts over 1 km from the Scheme (for Part A, see **paragraphs 10.4.3, 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 2** of the ES (**Application Document Reference: TR010041/APP/6.2**); for Part B, see **paragraphs 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 3** of the ES (**Application Document Reference: TR010041/APP/6.3**)). The European Site is approximately 9.2 km downstream of the Scheme (closest hydrological connection) via Shipperton Burn, which flows into the Mill Burn and Brunton Burn (Part B) before discharging into the European Site. Even in the unlikely scenario that a pollution event or contamination incident should occur, it is considered highly unlikely that the Scheme would result in changes in water quality or quantity that would have any effect on the European Site or its qualifying interests. In addition, best practice measures would be implemented within a CEMP (including adherence to CIRIA's control of water pollution from construction sites and the Pollution Prevention Guidelines (PPG) published by the Environment Agency, as detailed in measure S-W8 in the **Outline CEMP (Application Document Reference: TR010041/APP/7.3)**) to reduce any risk of pollution incidents, contamination of watercourses or increase in suspended sediment occurring during construction of the Scheme. There is therefore no functional pollution pathway from the Scheme to the European Site. As such, there would be no impacts from emissions during the construction of the Scheme.
- i) Decommissioning traffic would be confined within the Order Limits, between the Part B Main Scheme Area and Lionheart Enterprise Park Compound (as defined in **paragraph 2.3.23 of Chapter 2: The Scheme, Volume 1** of the ES (**Application Document Reference: TR010041/APP/6.1**)) and between the Order Limits of Part B and the Main Compound located within the Order Limits of Part A. As such, transportation activities would be approximately 4.7 km from the European Site. Diversion of A1 traffic would not affect roads or transport links in close proximity to the European Site (within 200 m). The hydrological assessment screens out surface water and groundwater impacts over 1 km from the Scheme (for Part A, see **paragraphs 10.4.3, 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 2** of the ES (**Application Document Reference: TR010041/APP/6.2**); for Part B, see **paragraphs 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 3** of the ES (**Application Document Reference: TR010041/APP/6.3**)). The European Site is approximately 9.2 km downstream of the Scheme (closest hydrological connection) via Shipperton Burn, which flows into the Mill Burn and Brunton Burn (Part B) before discharging into the European Site. Even in the unlikely scenario that a pollution event or contamination incident should occur, it is considered highly unlikely that the Scheme would result in changes in water quality or quantity that would have any effect on the European Site or its qualifying interests. In addition, best practice measures would be implemented within a CEMP (including adherence to CIRIA's control of water pollution from construction sites and the Pollution Prevention Guidelines (PPG) published by the Environment Agency) to reduce any risk of pollution incidents, contamination of watercourses or increase in suspended sediment occurring during decommissioning of the Scheme. There is therefore no functional pollution pathway from the Scheme to the European Site. As such, there would be no impacts from emissions during decommissioning of the Scheme.
- j) As the Scheme would have no risk of adverse effects on the European Site or its qualifying resources alone, there would be no contribution to in-combination effects that may result in Likely Significant Effects to the European Site. No in-combination effects would occur during construction of the Scheme.
- k) As the Scheme would have no risk of adverse effects on the European Site or its qualifying resources alone, there would be no contribution to in-combination effects that may result in Likely Significant Effects to the European Site. No in-combination effects would occur during operation of the Scheme.
- l) As the Scheme would have no risk of adverse effects on the European Site or its qualifying resources alone, there would be no contribution to in-combination effects that may result in Likely Significant Effects to the European Site. No in-combination effects would occur during decommissioning.

Table 2-4 - Matrix 3: Northumberland Marine SPA

Name of European site and designation:		Northumberland Marine SPA											
EU Code:		UK9020325											
Distance to NSIP:		3.7 km from the Scheme in a straight line (at its closest point) and 9.2 km downstream (closest hydrological connection) via Shipperton Burn, which flows into Mill Burn and Brunton Burn (before discharging at the European Site).											
LIKELY EFFECTS OF THE SCHEME													
European Site feature	Effect	Habitat Loss			Displacement			Emissions			In combination effects		
	Stage of Development	C	O	D	C	O	D	C	O	D	C	O	D
Sandwich tern – Article 4		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Common tern – Article 4		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Arctic tern – Article 4		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Roseate tern – Article 4		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Little tern – Article 4		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Atlantic puffin – Article 4		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Common guillemot – Article 4		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Great cormorant – Article 4.2 *		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
European shag – Article 4.2 *		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Black-headed gull – Article 4.2 *		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
Black-legged kittiwake – Article 4.2 *		×(a)	×(b)	×(c)	×(d)	×(e)	×(f)	×(g)	×(h)	×(i)	×(j)	×(k)	×(l)
* The four species listed under Article 4.2 are part of an assemblage qualification.													

- a) The Scheme is located 3.7 km from the European Site at its closest point in a straight line. Construction activities, including routes for movement of construction vehicles, would not occur within the European Site. No habitats within the European Site would be lost as a result of construction activities associated with the Scheme. Due to distance, the only pathway for invasive species between the Scheme and the European Site is via watercourses. There were no invasive plant species recorded within the Order Limits of Part A (invasive species recorded were outside the Order Limits but within the wider ecological study areas; refer to **paragraphs 9.7.111 to 9.7.115 of Chapter: 9: Biodiversity, Volume 2 of the ES (Application Document Reference: TR010041/APP/6.2)**), although Himalayan balsam is known to occur along the River Coquet downstream of the Scheme in Felton (informed during consultation with Natural England).
The only invasive plant species recorded in the Phase 1 habitat Survey Area of Part B was Himalayan balsam (refer to **paragraph 9.7.17 of Chapter 9: Biodiversity, Volume 3 of the ES (Application Document Reference: TR010041/APP/6.3)**). The Scheme is upstream of the European Site and therefore the potential for construction works to spread invasive plant species to the European Site was assessed. The European Site is approximately 18 km downstream of Part A via the River Coquet and 9.2 km downstream of Part B via the Shipperton Burn, which flows into Mill Burn and Brunton Burn before discharging into the European Site. There are three waterbodies along the length of Shipperton Burn before it reaches Mill Burn, the largest of which is Doxford Lake, where Shipperton Burn enters to the south of the lake. Mill Burn flows from the north of the lake and continues eastwards towards the European Site, via Brunton Burn.

These waterbodies will allow any seeds carried from Shipperton Burn to sink or settle out around the shoreline of the ponds/lake. This will greatly reduce the chances of seeds from Shipperton Burn being carried all the way to the coast. In addition, Himalayan balsam is intolerant of saline substrates or saline spray, with an Ellenberg value for salt tolerance of 0 (refer to “*Impatiens glandulifera*”, page 23 of **Ref. 2**). This equates to a species which is generally absent from saline sites and if present in coastal situations, only accidental and non-persistent (refer to Table 13 of **Ref. 2**). Overall, the risk of the spread of invasive plant species to the European Site is considered negligible.

Except for black-headed gull, the bird Survey Area does not contain habitat suitable to support the qualifying bird species. Black-headed gull were present within the Survey Area in significant numbers >1% of SPA population during the winter and during the March breeding bird survey (the majority within proximity to Part B). Considering the large influx of wintering birds from the continent increasing the UK population from 130,000 pairs (refer to page 91 of **Ref. 3**) to 2.2 million birds (refer to page 392 of **Ref. 4**) and the migratory habits of UK breeding gulls (refer to pages 356 to 360 of **Ref. 5**) these counts are judged likely to be dominated by continental breeding birds not associated with the SPA populations. SPA breeders therefore are likely to form only a low proportion of the gulls counted. The peak count in the March breeding bird survey (1,183 birds, of which 1,124 birds were recorded within the Survey Area for Part B (refer to Visit 1 in **Table 4-4 of Appendix 9.6: Breeding and Wintering Birds Report, Volume 8** of the ES (**Application Document Reference: TR010041/APP/6.8**), the remaining 59 birds recorded within the Part A Survey Area; refer to Visit 1 in **Table 4 of Appendix 9.13: Breeding Bird Survey Report, Volume 7** of the ES (**Application Document Reference: TR010041/APP/6.7**)) represents 13.5% of the SPA breeding population. However, migratory habits of black-headed gull (refer to pages 356 to 360 of **Ref. 5**) indicate that this peak count is likely to include birds on passage, both to breeding grounds in the SPA and other UK breeding sites and to continental breeding sites. This was evidenced by the surveys for Part A, where the majority of black-headed gull were recorded flying over the Survey Area, rather than using terrestrial habitats within the Survey Area. The core egg laying period for black-headed gulls in the UK extends from late April to early July (refer to page 135 of **Ref. 6**). Birds recorded in March, therefore, are unlikely to comprise actively breeding birds associated with the European Site. Significantly fewer black-headed gulls were recorded during surveys in April and July 2016 with peak counts of 63 and 8 recorded respectively across both parts of the Scheme (refer to Visits 2 and 4 in **Table 4 of Appendix 9.13: Breeding Bird Survey Report, Volume 7** of the ES (**Application Document Reference: TR010041/APP/6.7**) for Part A and **Table 4-4 of Appendix 9.6: Breeding and Wintering Birds Report, Volume 8** of the ES (**Application Document Reference: TR010041/APP/6.8**) for Part B). A peak of 237 black-headed gull were recorded during the May 2016 survey, of which 194 were recorded within proximity to Part A (refer to Visit 3 in **Table 4 of Appendix 9.13: Breeding Bird Survey Report, Volume 7** of the ES (**Application Document Reference: TR010041/APP/6.7**), the remaining 43 birds recorded within the Part B Survey Area; refer to Visit 3 in **Table 4-4 of Appendix 9.6: Breeding and Wintering Birds Report, Volume 8** of the ES (**Application Document Reference: TR010041/APP/6.8**)). However, the majority of black-headed gull were again recorded flying over the Survey Area. The Scheme would not result in the loss of wetland habitats typically used by this species and the loss of arable farmland (foraging habitat) is not considered significant due to the expanse of arable habitat in the wider landscape, including closer to the SPA. The land take of the Scheme represents a permanent loss of approximately 83 ha and a temporary loss of approximately 20 ha of agricultural habitat. The maximum foraging range of breeding black-headed gull is estimated at approximately 18.5 km from breeding colonies (refer to “*Summary*” on page 288 of **Ref. 7**). The total area of agricultural land within 18.5 km of the European Site is approximately 184,738 ha. The total loss of agricultural land in relation to the Scheme (both permanent and temporary) corresponds to approximately 0.06% of available terrestrial foraging habitat. The area lost is therefore a small proportion of the available foraging habitat for black-headed gull. In addition, black-headed gulls also forage in the marine environment, which provides an additional foraging resource to the birds. Due to the above factors, in parallel with the low number of black-headed gull recorded during the main breeding period, the loss of foraging habitat is considered to be of negligible effect.

- b) Operation of the Scheme does not require land take from the European Site. No habitat loss from within the European Site would occur as a result of operational activities of the Scheme.
- c) Decommissioning would be restricted within the Order Limits of the Scheme, located 3.7 km from the European Site (at the closest point), and would not require land from the European Site. Decommissioning of the Scheme would therefore not give rise to any loss of habitats from the European Site.
- d) As described in the ‘*Habitat loss – construction (a)*’ section relatively low numbers of black-headed gulls were recorded in the bird Survey Area during the main breeding period (April to July). Higher numbers of black-headed gull observed in March would likely comprise a high proportion of over wintering or migratory black-headed gull not associated with the European Site breeding population. In addition, black-headed gulls readily habituate to human activity and the highest species count during the surveys to inform this DCO application was linked to on-going human activity (ploughing). Tolerance to human disturbance, as evidenced by survey and anecdotal information and referred to in literature (refer to “*Introduction*” on page 200 of **Ref. 8**), in combination with the proportionally small area of potential habitat affected (0.06%) support the conclusion of negligible effects of disturbance during construction of the Scheme that may result in displacement.
- e) As described in the ‘*Habitat loss – construction (a)*’ section relatively low numbers of black-headed gulls were recorded in the bird Survey Area during the main breeding period (April to July). Higher numbers of black-headed gull observed in March would likely comprise a high proportion of over wintering or migratory black-headed gull not associated with the European Site breeding population. In addition, black-headed gulls readily habituate to human activity and the highest species count during the surveys to inform this DCO application was linked to on-going human activity (ploughing). Tolerance to human disturbance, as evidenced by survey and anecdotal information and referred to in literature (refer to “*Introduction*” on page 200 of **Ref. 8**), in combination with the proportionally small area of potential habitat affected (0.06%) support the conclusion of negligible effects of disturbance during operation of the Scheme that may result in displacement.
- f) As described in the ‘*Habitat loss – construction (a)*’ section relatively low numbers of black-headed gulls were recorded in the bird Survey Area during the main breeding period (April to July). Higher numbers of black-headed gull observed in March would likely comprise a high proportion of over wintering or migratory black-headed gull not associated with the European Site

breeding population. In addition, black-headed gulls readily habituate to human activity and the highest species count during the surveys to inform this DCO application was linked to on-going human activity (ploughing). Tolerance to human disturbance, as evidenced by survey and anecdotal information and referred to in literature (refer to “Introduction” on page 200 of **Ref. 8**), in combination with the proportionally small area of potential habitat affected (0.06%) support the conclusion of negligible effects of disturbance during decommissioning of the Scheme that may result in displacement.

- g) Construction traffic would be confined within the Order Limits, between the Part B Main Scheme Area and Lionheart Enterprise Park Compound (as defined in **paragraph 2.3.23 of Chapter 2: The Scheme, Volume 1 of the ES (Application Document Reference: TR010041/APP/6.1)**) and between the Order Limits of Part B and the Main Compound located within the Order Limits of Part A. As such, transportation activities would be approximately 3.7 km from the European Site. Diversion of A1 traffic would not affect roads or transport links in close proximity to the European Site (within 200 m) (as detailed on the diversion route plans within the **Construction Traffic Management Plan (CEMP) (Application Document Reference: TR10041/APP/7.4)**). The hydrological assessment screens out surface water and groundwater impacts over 1 km from the Scheme (for Part A, see **paragraphs 10.4.3, 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 2 of the ES (Application Document Reference: TR010041/APP/6.2)**; for Part B, see **paragraphs 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 3 of the ES (Application Document Reference: TR010041/APP/6.3)**). The European Site is approximately 9.2 km downstream of the Scheme (closest hydrological connection) via Shipperton Burn, which flows into the Mill Burn and Brunton Burn (Part B) before discharging into the European Site. Even in the unlikely scenario that a pollution event or contamination incident should occur, it is considered highly unlikely that the Scheme would result in changes in water quality or quantity that would have any effect on the European Site or its qualifying interests. In addition, best practice measures would be implemented within a CEMP (including adherence to CIRIA’s control of water pollution from construction sites and the Pollution Prevention Guidelines (PPG) published by the Environment Agency, as detailed in measure S-W8 in the **Outline CEMP (Application Document Reference: TR010041/APP/7.3)**) to reduce any risk of pollution incidents, contamination of watercourses or increase in suspended sediment occurring during construction of the Scheme. There is therefore no functional pollution pathway from the Scheme to the European Site. As such, there would be no impacts from emissions during the construction of the Scheme.
- h) The European Site is not located within 200 m of the ARN and therefore effects due to changes in air quality are not anticipated. The hydrological assessment screens out surface water and groundwater impacts over 1 km from the Scheme (for Part A, see **paragraphs 10.4.3, 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 2 of the ES (Application Document Reference: TR010041/APP/6.2)**; for Part B, see **paragraphs 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 3 of the ES (Application Document Reference: TR010041/APP/6.3)**). The European Site is approximately 9.2 km downstream of the Scheme (closest hydrological connection) via Shipperton Burn, which flows into the Mill Burn and Brunton Burn (Part B) before discharging into the European Site. Even in the unlikely scenario that a pollution event or contamination incident should occur, it is considered highly unlikely that the Scheme would result in changes in water quality or quantity that would have any effect on the European Site or its qualifying interests. In addition, best practice measures would be implemented within a CEMP (including adherence to CIRIA’s control of water pollution from construction sites and the Pollution Prevention Guidelines (PPG) published by the Environment Agency, as detailed in measure S-W8 in the **Outline CEMP (Application Document Reference: TR010041/APP/7.3)**) to reduce any risk of pollution incidents, contamination of watercourses or increase in suspended sediment occurring during construction of the Scheme. There is therefore no functional pollution pathway from the Scheme to the European Site. As such, there would be no impacts from emissions during the construction of the Scheme.
- i) Decommissioning traffic would be confined within the Order Limits, between the Part B Main Scheme Area and Lionheart Enterprise Park Compound (as defined in **paragraph 2.3.23 of Chapter 2: The Scheme, Volume 1 of the ES (Application Document Reference: TR010041/APP/6.1)**) and between the Order Limits of Part B and the Main Compound located within the Order Limits of Part A. As such, transportation activities would be approximately 3.7 km from the European Site. Diversion of A1 traffic would not affect roads or transport links in close proximity to the European Site (within 200 m). The hydrological assessment screens out surface water and groundwater impacts over 1 km from the Scheme (for Part A, see **paragraphs 10.4.3, 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 2 of the ES (Application Document Reference: TR010041/APP/6.2)**; for Part B, see **paragraphs 10.6.1 and 10.6.3 of Chapter 10: Road Drainage and The Water Environment, Volume 3 of the ES (Application Document Reference: TR010041/APP/6.3)**). The European Site is approximately 9.2 km downstream of the Scheme (closest hydrological connection) via Shipperton Burn, which flows into the Mill Burn and Brunton Burn (Part B) before discharging into the European Site. Even in the unlikely scenario that a pollution event or contamination incident should occur, it is considered highly unlikely that the Scheme would result in changes in water quality or quantity that would have any effect on the European Site or its qualifying interests. In addition, best practice measures would be implemented within a CEMP (including adherence to CIRIA’s control of water pollution from construction sites and the Pollution Prevention Guidelines (PPG) published by the Environment Agency) to reduce any risk of pollution incidents, contamination of watercourses or increase in suspended sediment occurring during decommissioning of the Scheme. There is therefore no functional pollution pathway from the Scheme to the European Site. As such, there would be no impacts from emissions during decommissioning of the Scheme.
- j) There are no other known projects or schemes that would incur impacts to the black-headed gull population of the SPA or with loss of functional habitat (arable or wetland) that, in combination with the Scheme, would constitute a Likely Significant Effect. As the Scheme would have no risk of other adverse effects on the European Site or its qualifying features alone, there would be no contribution to in-combination effects that may result in Likely Significant Effects to the European Site. No in-combination effects would occur during construction of the Scheme.
- k) There are no other known projects or schemes that would incur impacts to the black-headed gull population of the SPA or with loss of functional habitat (arable or wetland) that, in combination with the Scheme, would constitute a Likely Significant Effect. As the Scheme would have no risk of other adverse effects on the European Site or its qualifying features alone, there would be no contribution to in-combination effects that may result in Likely Significant Effects to the European Site. No in-combination effects would occur during operation of the Scheme.

- l) There are no other known projects or schemes that would incur impacts to the black-headed gull population of the SPA or with loss of functional habitat (arable or wetland) that, in combination with the Scheme, would constitute a Likely Significant Effect. As the Scheme would have no risk of other adverse effects on the European Site or its qualifying features alone, there would be no contribution to in-combination effects that may result in Likely Significant Effects to the European Site. No in-combination effects would occur during decommissioning.

3. REFERENCES

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