highways england

A14
Cambridge to Huntingdon improvement scheme
Development Consent Order Application

HE/A14/EX/132

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Assessment of implications on European sites,

revised screening matrices - Deadline 9

September 2015

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

A14 Cambridge to Huntingdon improvement scheme

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PINS advice note 10 screening matrices

1 Introduction

1.1 Purpose and scope

1.1.1 This report is a revised Annex C: PINS advice note 10 screening matrices from Appendix 11.12 of the Environmental Statement: *Assessment of implications on European sites Stage 1: No significant effects report* (AIES) (Applicant reference A14 6.3 ES Appendix 11.12, PINS reference APP-700) submitted with the Development Consent Order Application in December 2014. It has been submitted to consolidate and correct errors in previous revisions of the matrices submitted to the Examining Authority in order to provide a final full set of matrices for the AIES.

1.1.2 Separate assessments of implications of the impacts that might lead to significant effects from the scheme on the different designations and designated features for the Ouse Washes Special Protection Area (SPA), Ouse Washes Special Area for Conservation (SAC) and Ouse Washes Ramsar site were submitted in tabular form at Deadline 2 on 15 June 2015 in response to the Examining Authority's Written Question 1.2.17 (Applicant reference HE-A14-EX-29, PINS reference REP2-003).

1.1.3 The screening matrices were revised and submitted at Deadline 4 on 7 July 2015 (Applicant reference HE-A14-EX-62, PINS reference REP4-024) following the request from the Examining Authority in the last paragraph of Annex G of the letter issued under Rule 6 of the Infrastructure Planning (Examination Procedure) Rules 2010 (as amended) on 17 April 2015.

1.1.4 The screening matrices were further revised in response to the Examining Authority's Written Question 2.2.23 requesting submission of three separate matrices for the Ouse Washes SPA, Ouse Washes SAC and Ouse Washes Ramsar site. This revision was submitted at Deadline 7 on 19 August 2015 (Applicant reference HE-A14-EX-108, PINS reference REP7-043).

1.1.5 Following submission of comments on responses to the Examining Authority's Written Question 2.2.24 at Deadline 8 on 2 September 2015 (Applicant reference HE-A14-EX-121, PINS reference REP8-015) Highways England identified an error in the response to Written Question 2.2.23 and concluded that a full set of revised matrices would be necessary to consolidate previous revisions and correct errors, in order that the Examining Authority had available a single, full set of correct matrices to support/summarise the AIES.

1.1.6 This set of revised matrices updates all previous revisions of the matrices.

2 Annex C: PINS advice note 10 screening matrices

2.1 Potential Impacts

2.1.1 Potential impacts upon the European sites which are considered within the submitted AIES report are provided in the table below. Impacts have been grouped where appropriate for ease of presentation.

- Habitat Loss and Habitat Fragmentation;
- Changes to Water Levels and Water Quality;
- Inappropriate Management;
- Air Pollution; and
- Introduction of Invasive Species.

Table C.1: Impacts considered within the screening matrices

Designation	Impacts in submission information	Presented in screening matrices as below
Portholme SAC 6510 Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*)	Habitat loss and habitat fragmentation	Habitat loss / fragmentation
	Changes to water levels and water quality. Air pollution	Indirect changes to conditions
	Inappropriate management. Introduction of invasive species	Inappropriate management and alien introductions
Ouse Washes SAC 1149 Spined loach *Cobitis taenia*	Habitat loss and habitat fragmentation	Habitat loss / fragmentation
	Changes to water levels and water quality. Air pollution	Indirect changes to conditions
	Inappropriate management. Introduction of invasive species	Inappropriate management and alien introductions
Ouse Washes SPA A037 Bewick's swan; *Cygnus columbianus bewickii* (Non-breeding) A038 Whooper swan; *Cygnus cygnus* (Non-breeding) A050 Eurasian wigeon; *Anas penelope* (Non-breeding) A051 Gadwall; *Anas strepera* (Breeding) A052 Eurasian teal; *Anas crecca* (Non-breeding) A053 Mallard; *Anas platyrhynchos*	Habitat loss and habitat fragmentation	Habitat loss / fragmentation
	Changes to water levels and water quality. Air pollution	Indirect changes to conditions
	Inappropriate management. Introduction of invasive species	Inappropriate management and alien introductions

(Breeding) A054 Northern pintail; *Anas acuta* (Non-breeding) A055 Garganey; *Anas querquedula* (Breeding) A056 Northern shoveler; *Anas clypeata* (Non-breeding) A056 Northern shoveler; *Anas clypeata* (Breeding) A082 Hen harrier; *Circus cyaneus* (Non-breeding) A151 Ruff; *Philomachus pugnax* (Breeding) A156a Black-tailed godwit; *Limosa limosa limosa* (Breeding) Waterbird assemblage Breeding bird assemblage		
Ouse Washes Ramsar site Seasonally-flooding washland; Small water pepper *Polygonum minus;* Whorled water-milfoil *Myriophyllum verticillatum;* Greater water parsnip *Sium latifolium;* River waterdropwort *Oenanthe fluviatilis;* Fringed water-lily *Nymphoides peltata;* Long-stalked pondweed *Potamogeton praelongus;* Hair-like pondweed *Potamogeton trichoides;* Grass-wrack pondweed *Potamogeton compressus;* Tasteless water-pepper *Polygonum mite;* March dock *Rumex palustris;* Large darter dragonfly *Libellula fulva;* Rifle beetle *Oulimnius major;* 59133 waterfowl; Bewick's swan *Cygnus columbianus bewickii;* Whooper swan *Cygnus cygnus;* Eurasian wigeon *Anas penelope;* Gadwall *Anas strepera;* Eurasian teal *Anas crecca;* Northern pintail *Anas acuta;* Northern shoveler *Anas clypeata*	Habitat loss and habitat fragmentation	Habitat loss / fragmentation
	Changes to water levels and water quality. Air pollution	Indirect changes to conditions
	Inappropriate management. Introduction of invasive species	Inappropriate management and alien introductions
Eversden and Wimpole Woods SAC 1308 Barbastelle *Barbastella barbastellus*	Habitat loss and habitat fragmentation	Habitat loss / fragmentation
	Changes to water levels and water quality. Air pollution	Indirect changes to conditions
	Inappropriate management. Introduction of invasive species	Inappropriate management and alien introductions

Stage 1: Screening matrices

2.1.2 The European sites included within the screening assessment are:

- Portholme SAC (Matrix 1);
- Ouse Washes SAC (Matrix 2);
- Ouse Washes SPA (Matrix 3);
- Ouse Washes Ramsar (Matrix 4) and
- Eversden and Wimpole Woods SAC (Matrix 5).

2.1.3 As no likely significant effects have been identified, there is no requirement for matrices to summarise the implications for the integrity of each European site.

2.1.4 Evidence for likely significant effects on their qualifying features 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

D = decommissioning

a, b, c etc. = evidence supporting conclusions

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

2.1.6 All decommissioning effects are greyed out, as roads are not designed and managed to be decommissioned and thus consideration of effects during a decommissioning phase would be irrelevant. Were any decommissioning of all or part of the road to be proposed in the future, a separate project would be developed, which would be accompanied by a specific assessment of the implications for European sites.

2.1.7 Evidence in the matrices refers to Appendix 11.12: *Assessment of Implications for European Sites* of the Environmental Statement (Applicant reference A14 6.3 ES Appendix 11.12, PINS reference APP-700). This is referred to in the footnotes as the AIES. Figures referred to are figure numbers from the Environmental Statement (Applicant reference A14 6.2 ES Figure 11.14, PINS reference APP-401).

Stage 1 Matrix 1: Portholme SAC

Name of European site: Portholme SAC												
Distance to NSIP: 37 m at nearest point												
European site features	Likely Effects of NSIP											
	Habitat loss / fragmentation			Indirect changes to conditions			Inappropriate management and alien introductions			In combination effects		
Stage of Development	C	O	D	C	O	D	C	O	D	C	O	D
6510 Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis)*	×a	×b	×c	×d	×d	×c	×e	×e	×c	×f	×f	×c

Evidence supporting conclusions

a: There would be no habitat loss from the site during the construction phase as the site is 37m from the nearest point of the scheme. As the site is an independent, isolated habitat, there would be no fragmentation either (see *paragraphs 6.2.2 to 6.2.4 in the AIES and Figure 11.14: AIES European sites*).

b: There would be no habitat loss during operation of the road as there are no effects of habitat loss/fragmentation, which necessarily occurs at site clearance during the construction phase.

c: Roads are not designed and managed to be decommissioned and thus consideration of effects during a decommissioning phase would be irrelevant.

d: Best practice construction methods will prevent significant pollution during the construction phase. There would be an overall reduction in road surface area and a reduction in average traffic flows. This would result in benefits to the SAC related to decreased surface water run-off (and therefore flood risk and water quality improvements) and an improvement in air quality (due to a reduction in NOx and total nitrogen) in the operational phase. Changes in the water and air environment are predicted to be insignificant and in places beneficial (see *paragraphs 6.3.2 to 6.3.19 and 6.5.2 to 6.5.21 in the AIES*).

e: The scheme would not affect the traditional grazing and cutting for hay techniques currently employed at the SAC during either the construction or operational phases. Invasive species have been recorded near the scheme but best practice construction techniques would control spread of such species where present during the construction phase (see *paragraphs 6.4.2 to 6.4.5 and 6.6.2 to 6.6.8 in the AIES*).

f: As there would be no habitat loss or fragmentation due to the scheme, there would be no in-combination effects with other developments (see *paragraphs 6.2.4; 6.3.8; 6.3.13, 6.3.17; 6.3.19; 6.4.5 and 6.6.7 in the AIES*).

Stage 1 Matrix 2: Ouse Washes SAC

Name of European site: Ouse Washes SAC												
Distance to NSIP: 9,124 m at nearest point												
European site features	Likely Effects of NSIP											
	Habitat loss / fragmentation			Indirect changes to conditions			Inappropriate management and alien introductions			In combination effects		
Stage of Development	C	O	D	C	O	D	C	O	D	C	O	D
1149 Spined loach *Cobitis taenia*	×a	×b	×c	×d	×d	×c	×e	×e	×c	×f	×f	×c

Evidence supporting conclusions

a: There would be no habitat loss from the site during the construction phase as the site is over 9km from the nearest point of the scheme. There would be no significant loss or fragmentation of habitat used by spined loach outside the SAC (see *paragraphs 6.2.5 and 6.2.6 in the AIES and Figure 11.14: AIES European sites*).

b: There would be no habitat loss during operation of the road as there are no effects of habitat loss/fragmentation, which necessarily occurs at site clearance during the construction phase.

c: Roads are not designed and managed to be decommissioned and thus consideration of effects during a decommissioning phase would be irrelevant.

d: Changes in the water and air environment are predicted to be unlikely to be significant and in places beneficial during both the construction and operation phases. The SAC or habitats likely to be used by spined loach from the SAC are not likely to be significantly affected (see *paragraphs 6.3.20 to 6.3.23 and 6.5.22 in the AIES*).

e: As the scheme at its nearest point would be above 9km from the SAC, there would be no change to the management of the site or any habitat significantly used by spined loach from the site during either the construction or operational phases. Invasive species have been recorded near the scheme but best practice construction techniques would control spread of such species where present during the construction phase (see *paragraphs 6.4.6 and 6.6.9 to 6.6.12 in the AIES*).

f: Other projects in the area (e.g. large residential developments) could conceivably act in combination to affect habitat used by spined loach from the site or through changes to water quantity and quality. The distance from the site however makes it unlikely that any in-combination effects on the site would occur. As the effects of the scheme are likely to be beneficial for changes in the water environment, no in-combination effects are predicted (see *paragraphs 6.2.10; 6.3.24; 6.5.22 and 6.6.11 in the AIES*).

Stage 1 Matrix 3: Ouse Washes SPA

Name of European site: Ouse Washes SPA												
Distance to NSIP: 9,124 m at nearest point												
European site features	Likely Effects of NSIP											
	Habitat loss / fragmentation			Indirect changes to conditions			Inappropriate management and alien introductions			In combination effects		
Stage of Development	C	O	D	C	O	D	C	O	D	C	O	D
Bewick's swan; *Cygnus columbianus bewickii* (Non-breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i
Whooper swan; *Cygnus cygnus* (Non-breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i
Eurasian wigeon; *Anas penelope* (Non-breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i
Gadwall; *Anas strepera* (Breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i
Eurasian teal; *Anas crecca* (Non-breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i
Mallard; *Anas platyrhynchos* (Breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i
Northern pintail; *Anas acuta* (Non-breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i

Garganey; *Anas querquedula* (Breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i
Northern shoveler; *Anas clypeata* (Non-breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	
Northern shoveler; *Anas clypeata* (Breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	
Hen harrier; *Circus cyaneus* (Non-breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	
Ruff; *Philomachus pugnax* (Breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i
Black-tailed godwit; *Limosa limosa limosa* (Breeding)	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i
Waterbird assemblage	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i
Breeding bird assemblage	×g	×h	×i	×j	×j	×i	×k	×k	×i	×l	×l	×i

Evidence supporting conclusions

g: There would be no habitat loss from the site during the construction phase as the site is over 9km from the nearest point of the scheme. There would be no significant loss or fragmentation of habitat used by mobile species from the SPA (see *paragraphs 6.2.5 to 6.2.9 in the AIES and Figure 11.14: AIES European sites*).

h: There would be no habitat loss during operation of the road as there are no effects of habitat loss/fragmentation, which necessarily occurs at site clearance during the construction phase.

i: Roads are not designed and managed to be decommissioned and thus consideration of effects during a decommissioning phase would be irrelevant.

j: Changes in the water and air environment are predicted to be unlikely to be significant and in places beneficial during both the construction and operation phases. The site or habitats likely to be used by species from the SPA are not likely to be significantly affected (see *paragraphs 6.3.20 to 6.3.23 and 6.5.22 in the AIES*).

k: The scheme would not affect the management of the site or any habitat significantly used by SPA species from the site during either the construction or operational phases. Invasive species have been recorded near the scheme but best practice construction techniques would control spread of such species where present during the construction phase (see *paragraphs 6.4.6 and 6.6.9 to 6.6.12 in the AIES*).

l: Other projects in the area (e.g. large residential developments) could conceivably act in combination to affect habitat used by SPA species from the site or through changes to water quantity and quality. The abundance of suitable habitat in the area and distance from the SPA however make it unlikely that any in-combination effects on the SPA would occur. As the effects of the scheme are likely to be beneficial for changes in the water environment, no in-combination effects are predicted (see *paragraphs 6.2.10; 6.3.24; 6.4.6; 6.5.22 and 6.6.11 in the AIES*).

Stage 1 Matrix 4: Ouse Washes Ramsar site

Name of European site: Ouse Washes Ramsar site												
Distance to NSIP: 9,124 m at nearest point												
European site features	Likely Effects of NSIP											
	Habitat loss / fragmentation			Indirect changes to conditions			Inappropriate management and alien introductions			In combination effects		
Stage of Development	C	O	D	C	O	D	C	O	D	C	O	D
Ramsar criterion 1 – Seasonally-flooding washland	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Ramsar criterion 2 - Nationally scarce plants												
Small water pepper *Polygonum minus*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Whorled water-milfoil *Myriophyllum verticillatum*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Greater water parsnip *Sium latifolium*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
River waterdropwort *Oenanthe fluviatilis*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Fringed water-lily *Nymphoides peltata*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o

Long-stalked pondweed *Potamogeton praelongus*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Hair-like pondweed *Potamogeton trichoides*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Grass-wrack pondweed *Potamogeton compressus*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Tasteless water-pepper *Polygonum mite*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
March dock *Rumex palustris*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Ramsar criterion 2 – Relict fenland fauna, including British Red Data Book species												
Large darter dragonfly *Libellula fulva*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Rifle beetle *Oulimnius major*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Ramsar criterion 5 - Assemblages of international importance												
59133 waterfowl (5 year peak mean 1998/99-2002/2003)	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Ramsar criterion 6 – Species/populations occurring at levels of international Importance: Qualifying species												
Bewick's swan *Cygnus columbianus bewickii*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Whooper swan *Cygnus cygnus*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o

Eurasian wigeon *Anas penelope*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Gadwall *Anas strepera*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Eurasian teal *Anas crecca*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Northern pintail *Anas acuta*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o
Northern shoveler *Anas clypeata*	×m	×n	×o	×p	×p	×o	×q	×q	×o	×r	×r	×o

Evidence supporting conclusions

m: There would be no habitat loss from the site during the construction phase as the site is over 9km from the nearest point of the scheme. There would be no significant loss or fragmentation of habitat used by mobile species from the Ramsar site (see *paragraphs 6.2.5 to 6.2.9 in the AIES and Figure 11.14: AIES European sites*).

n: There would be no habitat loss during operation of the road as there are no effects of habitat loss/fragmentation, which necessarily occurs at site clearance during the construction phase.

o: Roads are not designed and managed to be decommissioned and thus consideration of effects during a decommissioning phase would be irrelevant.

p: Changes in the water and air environment are predicted to be unlikely to be significant and in places beneficial during both the construction and operation phases. The site or habitats likely to be used by features from the site are not likely to be significantly affected (see *paragraphs 6.3.20 to 6.3.23 and 6.5.22 in the AIES*).

q: The scheme would not affect the management of the site or any habitat significantly used by mobile species from the site during either the construction or operational phases. Invasive species have been recorded near the scheme but best practice construction techniques would control spread of such species where present during the construction phase (see *paragraphs 6.4.6 and 6.6.9 to 6.6.12 in the AIES*).

r: Other projects in the area (e.g. large residential developments) could conceivably act in combination to affect habitat used by mobile species from the site or through changes to water quantity and quality. The abundance of suitable habitat in the area and distance from the site however make it unlikely that any in-combination effects on the site would occur. As the effects of the scheme are likely to be beneficial for changes in the water environment, no in-combination effects are predicted (see *paragraphs 6.2.10; 6.3.24; 6.4.6; 6.5.22 and 6.6.11 in the AIES*).

Stage 1 Matrix 5: Eversden and Wimpole Woods SAC

Name of European site: Eversden and Wimpole Woods SAC												
Distance to NSIP: >10 km												
European site features	Likely Effects of NSIP											
	Habitat loss / fragmentation			Indirect changes to conditions			Inappropriate management and alien introductions			In combination effects		
Stage of Development	C	O	D	C	O	D	C	O	D	C	O	D
1308 Barbastelle- *Barbastella barbastellus*	×s	×t	×u	×v	×v	×u	×w	×w	×u	×x	×x	×u

Evidence supporting conclusions

s: There would be no habitat loss from the site during the construction phase as the site is over 10km from the nearest point of the scheme. Habitat used by barbastelle bats from the SAC could conceivably be fragmented by the scheme if the SAC population used areas near to the scheme and connective habitat was affected. However, it is unlikely that the SAC population use any habitat areas near to the scheme (see *paragraphs 6.2.11 to 6.2.19 in the AIES and Figure 11.14: AIES European sites*).

t: There would be no habitat loss during operation of the road as there are no effects on habitat loss/fragmentation, which necessarily occurs at site clearance during the construction phase.

u: Roads are not designed and managed to be decommissioned and thus consideration of effects during a decommissioning phase would be irrelevant.

v: Changes in the water and air environment are predicted to be insignificant and in places beneficial during both the construction and operational phases. No habitat likely to be used by SAC barbastelle bats is likely to be significantly affected (see *paragraphs 6.3.25 and 6.5.23 in the AIES*).

w: The scheme would not affect the management of the site or foraging / commuting habitat outside the site that is likely to be used by SAC bats during either the construction or operational phases. Invasive species have been recorded near the scheme but best practice construction techniques would control spread of such species where present during the construction phase (see *paragraphs 6.4.7 and 6.6.13 in the AIES*).

x: Other projects in the area (e.g. large residential developments) could conceivably act in combination to reduce the connectivity and foraging resource for barbastelle bats to the north of the area of importance for the SAC. However, the lack of connectivity between the area of importance for the SAC and the area in the vicinity of the scheme also suggests it is unlikely that any in combination effects on barbastelle bat habitat in the vicinity of the scheme would have an adverse effect on the SAC (see *paragraphs 6.2.20; 6.3.25; 6.4.7; 6.5.23 and 6.6.13 in the AIES*).