

### **Appendix A.** Planning Inspectorate screening matrices

Potential effects upon the designated sites which are considered in this assessment are provided below in Table C.1 to be in line with Planning Advice Note Ten.

The European sites included within the screening assessment are:

- The Broads SAC
- Broadland SPA
- Broadland Ramsar site

Table C.1 Potential effects upon the designated sites with reference to Planning Inspectorate Advice Note Ten

Designation	Effects in submission information	Presented in screening matrix as			
	Mortality of vegetation through pollution Water pollution as a result of hydrological linkage	Vegetation mortality - pollutionWater pollution			
The Broads SAC	Acidification of water column and substrate through sediment run-off and subsequent change in botanical communities Public access/disturbance – disturbance of otter by noise and lighting	Change in botanical communities Disturbance			
	Disturbance to faunal species from the severance of commuting routes Air pollution as a result of atmospheric nitrogen deposition	Disturbance – severance of commuting routesAir pollution			
	Cumulative effects in combination with other developments	Cumulative effects			
	Water pollution and hydrological changes – reduction in nesting/drinking/preening/foraging habitat Mortality through increased air or ground water pollution	Mortality - pollutionWater pollution & hydrological changes			
Broadland SPA	Air pollution - reduction in nesting/roosting/foraging habitatMortality through traffic collision	Mortality - collisionAir pollution			
	Disturbance associated with human activity in the form of noise and light. Reducing foraging habitat can increase competition for resources and affect survival	Mortality reduced food sources Disturbance			
	Increased noise disturbance reducing breeding successCumulative effects in combination with other developments	Cumulative effectsReduced breeding success- Noise disturbance			

## A47/A11 Thickthorn Junction Report to Inform the Habitat Regulations Assessment



Designation	Effects in submission information	Presented in screening matrix as				
	Water pollution and hydrological changes – adverse effects on qualifying featuresMortality through increased air or ground water pollution	Water pollution & hydrological changes Mortality pollution				
D 11 1 D	Air pollution - adverse effects on qualifying features Acidification of water column and substrate through sediment run-off and subsequent change in botanical communities	Air pollution Change in botanical communities				
Broadland Ramsar	Disturbance associated with human activity in the form of noise and light. Mortality of vegetation through increase in disease from sediment run-off	<u>Disturbance</u> <del>Vegetation mortality - disease</del>				
	Cumulative effects in combination with other developments Increased noise disturbance reducing breeding success	Cumulative effectsReduced breeding success- Noise disturbance				

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 in Tables C.2 to C.4, inclusive.

#### Matrix Key:

- ✓ = Likely significant effect cannot be excluded
- x = Likely significant effect can be excluded
- C = construction
- O = operation
- D =decommissioning
- n/a = where effects are not applicable.



#### **The Broads SAC**

Table C.2 Screening matrix of the potential likely significant effects upon The Broads SAC.

Name of European Site	Name of European Site and Designation: The Broads SAC												
EU Code: UK0013577													
Distance to NSIP: 11.5k	m												
European site features  Likely effects of NSIP													
Effect	mortanty	– <del>polluti</del> Vater poll			nce <del>- seve</del> n <del>g routes</del>	rance of	Asidification - Change in botanical communities <u>Air</u> pollution			Cumulative effects			
Stage of Development	С	0	D	С	0	D	С	0	D	С	0	D	
Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara spp</i>	×a	<b>x</b> -a	n/a	n/a	n/a	n/a	×an/a	×an/a	n/a	×e	×e	n/a	
Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> -type vegetation	×a	<b>x</b> -a	n/a	n/a	n/a	n/a	×an/a	×an/a	n/a	×e	×e	n/a	
Transition mires and quaking bogs	×a	×-a	n/a	n/a	n/a	n/a	×an/a	×an/a	n/a	×e	×e	n/a	
Calcareous fens with Cladium mariscus and species of the Caricion davallianae	×a	<b>x</b> -a	n/a	n/a	n/a	n/a	×a	×-a	n/a	×e	×e	n/a	
Alkaline fens	<b>x</b> a	×-a	n/a	n/a	n/a	n/a	×a	<b>x</b> -a	n/a	×e	×e	n/a	
Alluvial forests with Alnus glutinosa and Fraxinus excelsior	×a	×-a	n/a	n/a	n/a	n/a	×an/a	×an/a	n/a	×e	×e	n/a	
Molinia meadows on calcareous, peaty or	×a	×-a	n/a	n/a	n/a	n/a	×an/a	×an/a	n/a	×e	×e	n/a	



Name of European Site and Designation: The Broads SAC												
EU Code: UK0013577												
Distance to NSIP: 11.5k	m											
European site features	TIKAN ATTACTS OF NSIP											
Effect	Mortality pollution and disease Water pollution			Disturbance severance of commuting routes			Asidification – Change in botanical communities <u>Air pollution</u>			Cumulative effects		
Stage of Development	С	0	D	С	0	D	С	0	D	С	0	D
clayey silt laden soils (Molinion caeruleae)												
Desmoulin's whorl snail	× <del>b</del> a	×-b <u>a</u>	n/a	n/a	n/a	n/a	×an/a	×an/a	n/a	×e	×e	n/a
Lesser whirlpool ram's horn snail	×b <u>a</u>	× ba	n/a	n/a	n/a	n/a	n/a	n/a	n/a	×e	×e	n/a
Fen orchid Liparis loeselii	× <u>a</u> e	× <u>a</u> e	n/a	× <u>a</u> e	× <u>a</u> e	n/a	n/a	n/a	n/a	×e	×e	n/a
Otter	× <u>a,b</u> d	× <u>a,b</u> d	n/a	× <u>b</u> d	× <u>b</u> d	n/a	×an/a	×an/a	n/a	×e	×e	n/a

#### Aa.

None of the qualifying habitats for the Broads SAC are located where there is a direct hydrological link between the Proposed Scheme and these qualifying habitats. The nearest point of the Broads SAC lies 11.5 km east from the Proposed Scheme. There is a hydrological link that starts at Cantley Steam at the Proposed Scheme, which flows into Mill Stream and eventually into the River Yare, which runs into Broadlands Ramsarthe Broads SAC. No habitats suitable to support qualifying habitats of the Broads SAC were found within the respective study areas of the species from the Proposed Scheme during the surveys. The large distance of 11.5km from the Proposed Scheme and the SAC means that any pollutions pollutants would have sufficiently diluted such that there will be no likely significant effects upon the SAC or its qualifying features during construction. Similarly, as described in Section 5. 8 of ES Chapter 5 – Air Quality (APP-



<u>042</u>), the distance of the NSN and Ramsar sites from the Proposed Scheme is such that there will be no likely significant effects as a result of air pollution.

<u>₿b.</u>

Neither species of lesser whirlpool ram's horn snail or Desmoulin's whorl snail was found during the aquatic invertebrate surveys. Therefore, both snail species has been screened out from further assessment as the Proposed Scheme does not affect any waterbodies that have suitable habitat for supporting this species therefore no effect pathways to populations of these species within the Broads SAC. **No likely significant effect** is expected.

C

Fen orchid was not found during the botanical surveys over the study area. Therefore, this species has been screened out from further assessment as there are no effect pathways to populations of these species within the Broads SAC. **No likely significant effect is expected**.

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It is proposed that the realignment of Cantley Steam will occur with the realignment being constructed and ecologically matured to optimum condition prior its connection to the existing Cantley Stream and the decommissioning of the existing stretch of Cantley Steam. This construction measure is with reference to best practice for protecting otters by maintaining the existing commuting <u>route</u> for otters to remain in situ with no impact upon otters <u>themselves or the integrity of their habitat</u> throughout construction.\_-No likely significant effect is expected.

<u>€c.</u>

There are no likely significant cumulative effects of the A47/A11 Thickthorn Junction scheme in combination with other identified projects will be assessed upon the receipt of this information as detailed within the Environmental StatementES Chapter 15 – Cumulative Effects Assessment (APP-052) and Chapter 8 — Biodiversity (APP-045).



#### **Broadlands SPA**

Table C.3 Screening matrix of the potential likely significant effects upon Broadlands SPA.

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Name of European Site	and Desig	nation: Bro	oadlands S	PA								
EU Code: UK9009253												
Distance to NSIP: 11.5k	im .											
European site features  Likely effects of NSIP												
Effect	Mortality - pollutionWater Pollution & Hydrological Changes			inor camey		Poduced breeding of			success— isturbance		ive effects	
Stage of Development	С	0	D	С	0	D	С	0	D	С	0	D
Ruff Wigeon Gadwall	×a	×a	n/a	×a×a	×a×a	n/a	<u>×b</u> ×a	<u>×b</u> +a	n/an/a	×c×f	×c×f	n/an/a
<u>Wigeon</u>	<u>xa</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	n/a	<u>×b</u>	<u>×b</u>	<u>n/a</u>	×c	×c	<u>n/a</u>
Gadwell	<u>xa</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×b</u>	<u>×b</u>	<u>n/a</u>	×c	×c	<u>n/a</u>
Marsh harrier (breeding population)	<u>×a</u> ×b	<u>×a</u> ×b	n/a	<u>×a</u> ×b	<u>×a</u> ×	n/a	<u>×b</u> ×b	<u>×b</u> ×b	n/an/a	×c×f	×c×f	<u>n/a</u> n/a
Hen harrier	<u>×a</u> ×b	<u>×a</u> ×b	n/a	<u>×a</u> ×b	<u>×a</u> ×	n/a	<u>×b</u> +b	<u>×b</u> +b	<u>n/a</u> n/a	×c×f	×c×f	<u>n/a</u> n/a
Shoveler	<u>×a</u> ×e	<u>×a</u> ×e	n/a	×an/a	×an/a	n/a	<u>×b</u> +e	<u>×b</u> +€	n/an/a	×c×f	×c×f	<u>n/a</u> n/a
Great Bbittern (breeding population)	<u>×a</u> ×d	<u>×a</u> ×d	n/a	×an/a	×an/a	n/a	<u>×b</u> ×d	<u>×b</u> ×d	n/a <del>n/a</del>	×c×f	×c×f	n/an/a
Bewick's swan <del>Whooper swan</del>	<u>×a</u> ×e	<u>×a</u> ×e	n/a	<u>×a</u> ×e	<u>×a</u> ×e	n/a	<u>×b</u> ×e	<u>×b</u> ×e	n/an/a	×c×f	×c×f	n/an/a
Whooper swan	<u>xa</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	n/a	<u>×b</u>	<u>×b</u>	n/a	×c	×c	n/a



<u>a.</u>

There is a hydrological link that starts at Cantley Steam at the Proposed Scheme, which flows into Mill Stream and eventually into the River Yare, which runs into the Broadlands SPA. The large distance of 11.5km from the Proposed Scheme and the SPA means that any pollutants would have sufficiently diluted such that there will be **no likely significant effects** upon the SPA or its qualifying features during construction or operation. Similarly, as described in Section 5. 8 of ES Chapter 5 – Air Quality (APP-042), the distance of the NSN and Ramsar sites from the Proposed Scheme is such that there will be no likely significant effects as a result of air pollution.

<u>b.</u>

None of the qualifying bird species were recorded in the area of the Proposed Scheme during the 2017, 2018 and 2019 bird surveys. Furthermore, the Proposed Scheme will not improve access to the Broadlands SPA, nor will it contribute to recreational pressure. As such there will be **no likely significant effects** upon the SPA or its qualifying features during construction or operation.

<u>C.</u>

There are no likely significant cumulative effects of the A47/A11 Thickthorn Junction scheme in combination with other identified projects as detailed within the ES Chapter 15 – Cumulative Effects Assessment (APP-052) and Chapter 8 – Biodiversity (APP-045).A

1.1.1. For ruff, gadwall and wigeon, the loss of habitat will be minimal for junctions and access roads are not considered to have a likely significant effect. The scheme is near the existing A47 in an environment dominated by road noise, it is considered unlikely that the qualifying bird species will be found in the vicinity of the road. None of these species were recorded in the area during surveys and therefore **no likely significant effect is expected**.

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1.1.2. Neither marsh harrier nor hen harrier were recorded as present within the study area during the wintering or breeding bird surveys. In addition, it is considered that the loss of agricultural grassland and arable land is not likely to be



significant for this species as there is more suitable habitat within and closer to the SPA boundary. **No likely significant** effect is expected.

C

1.1.3. Shoveler were not recorded during the wintering bird surveys and it is unlikely they would be found in the vicinity of the Proposed Scheme due to lack of suitable habitat. **No likely significant effect is expected**.

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1.1.4. Bittern were not found on site during the breeding bird surveys. They have specific habitat requirements and are not likely to be found in the vicinity of these options. Suitable habitat for them is too far from the scheme for construction noise to be an issue. **No likely significant effect is expected**.

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1.1.5. Neither Bewick's swan nor whooper swan were recorded in the study area during the 2017, 2018 or 2019 wintering bird surveys. Although the arable fields are likely to provide a food source during the winter, it is considered likely that there is more suitable foraging habitat within and closer to the boundary of the SPA. It is considered that the loss of agricultural grassland/arable land is not likely to be significant for these species. **No likely significant effect is expected**.

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There are no likely significant cumulative effects of the A47/A11 Thickthorn Junction scheme in combination with other identified projects as detailed within the Environmental Statement Chapter 15 — Cumulative Effects Assessment and Chapter 8 - Biodiversity.

1.1.1. There are no likely significant cumulative effects of the A47/A11 Thickthorn Junction scheme in combination with other identified projects will be assessed upon the receipt of this information.



#### **Broadlands Ramsar**

Table C.4 Screening matrix of the potential likely significant effects upon Broadlands Ramsar.

Name of European Site and Designation: Broadlands Ramsar

EU Code: UK9009253

Distance to NSIP: 11.5km

European site features

Likely effects of NSIP

<u>Effect</u>	Water Polydrolog	llution & ical Chang	<u>es</u>	Air Pollut	<u>ion</u>		<u>Disturbance</u>			Cumulative effects			
Stage of Development	<u>c</u>	<u>o</u>	<u>D</u>	<u>c</u>	<u>o</u>	<u>D</u>	<u>c</u>	<u>o</u>	<u>D</u>	<u>c</u>	<u>o</u>	<u>D</u>	
Calcareous fens with Cladium mariscus and species of the Caricion davallianae (sedges)	<u>×a</u>	<u>×a</u>	n/a	<u>×a</u>	<u>×a</u>	n/a	n/a	n/a	n/a	×d	×d	n/a	
Alkaline Fens	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>×d</u>	<u>×d</u>	<u>n/a</u>	
Alluvial forests with Alnus glutinosa (alder) and Fraxinus excelsior (ash).	<u>×a</u>	<u>×a</u>	n/a	<u><b>×</b>a</u>	<u>×a</u>	n/a	n/a	<u>n/a</u>	n/a	<u>×d</u>	<u>×d</u>	n/a	
Desmoulin's whorl snail	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>×d</u>	<u>×d</u>	<u>n/a</u>	

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<u>Effect</u>	Water Pollution & Hydrological Changes			Air Pollution			Disturban	ice_		Cumulative effects			
Stage of Development		<u>o</u>		<u>c</u>		₽	<u>c</u>	<u>o</u>	₽	<u>c</u>	<u>o</u>	<u>D</u>	
<u>Otter</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	×c	×c	<u>n/a</u>	<u>×d</u>	<u>×d</u>	<u>n/a</u>	
Fen orchid	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>n/a</u>	<u>×d</u>	<u>×d</u>	<u>n/a</u>	
Bewick's swan	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×b</u>	<u>×b</u>	<u>n/a</u>	<u>×d</u>	<u>×d</u>	<u>n/a</u>	
Wigeon	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×b</u>	<u>×b</u>	<u>n/a</u>	<u>×d</u>	<u>×d</u>	<u>n/a</u>	
Gadwall	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×b</u>	<u>×b</u>	<u>n/a</u>	<u>×d</u>	<u>×d</u>	<u>n/a</u>	
Shoveler	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×b</u>	<u>×b</u>	<u>n/a</u>	<u>×d</u>	<u>×d</u>	<u>n/a</u>	
Pink-footed goose	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×b</u>	<u>×b</u>	<u>n/a</u>	<u>×d</u>	<u>×d</u>	<u>n/a</u>	
Greylag goose	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u>×a</u>	<u>×a</u>	<u>n/a</u>	<u><b>x</b>b</u>	<u>×b</u>	<u>n/a</u>	<u>×d</u>	<u>×d</u>	<u>n/a</u>	
Effect	Mortality	-pollution	/-disease	Reduced- noise-dist		ding success— nce Acidification - Change in botanical communities				-Cumulative effects			
Stage of Development		0		C		D	C	0	D	c	0	D	
Calcareous fens with Cladium mariscus and species of the Caricion davallianae (sedges)	<del>*</del> a	<del>*</del> a	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>×</del> a	<del>*</del> a	<del>n/a</del>	<b>×</b> h	<del>×</del> h	n/a	
Alkaline Fens	<del>×</del> a	<del>×</del> a	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>×</del> a	<del>×</del> a	<del>n/a</del>	<b>×</b> h	<del>×</del> h	<del>n/a</del>	
Alluvial forests with Alnus glutinosa (alder) and Fraxinus excelsior (ash).	<del>×a</del>	<del>×</del> a	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	n/a	<del>×a</del>	<del>×a</del>	<del>n/a</del>	<b>×</b> h	<b>×</b> h	<del>n/a</del>	

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<u>Effect</u>	Water Pollution & Hydrological Changes			Air Pollut	<u>ion</u>		Disturbance			Cumulative effects		
Stage of Development		<u>o</u>	<u>D</u>	<u>c</u>	<u>o</u>	<u>D</u>	<u>c</u>	<u>o</u>	D	<u>c</u>	<u>o</u>	<u>D</u>
<del>Desmoulin's</del> <del>whorl snail</del>	<b>x</b> b	<b>×</b> b	<del>n/a</del>	<b>×</b> h	<del>×</del> h	<del>n/a</del>						
Otter	<b>×</b> €	<b>×</b> €	<del>n/a</del>	<b>×</b> €	<b>×</b> €	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<b>×</b> h	<b>×</b> h	<del>n/a</del>
<del>Fen orchid</del>	<del>×</del> a	<del>×</del> a	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>×</del> a	<del>×</del> a	<del>n/a</del>	<b>×</b> h	<del>×</del> h	<del>n/a</del>
Bewick's swan	<del>×</del> d	<del>×</del> d	<del>n/a</del>	<del>×</del> d	<del>×</del> d	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<b>×</b> h	<del>×</del> h	<del>n/a</del>
Wigeon	<del>×</del> e	<b>×</b> e	<del>n/a</del>	<del>×</del> e	<del>×</del> e	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<b>×</b> h	<del>×</del> h	<del>n/a</del>
Gadwall	<del>×</del> e	<del>×</del> e	<del>n/a</del>	<del>×</del> e	×e	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<b>×</b> h	<b>×</b> h	<del>n/a</del>
Shoveler	<del>×</del> f	<b>×</b> f	<del>n/a</del>	<del>×</del> f	<del>×</del> f	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<b>×</b> h	<b>×</b> h	<del>n/a</del>
Pink-footed goose	<b>×</b> g	<del>×</del> g	<del>n/a</del>	<b>×</b> g	<del>×</del> g	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>×</del> h	<b>×</b> h	<del>n/a</del>
Greylag goose	<del>×</del> g	<del>×</del> g	<del>n/a</del>	<b>×</b> g	<b>×</b> g	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<del>n/a</del>	<b>×</b> h	<b>×</b> h	<del>n/a</del>

<u>a.</u>

There is a hydrological link that starts at Cantley Steam at the Proposed Scheme, which flows into Mill Stream and eventually into the River Yare, which runs into the Broadlands SPA. The large distance of 11.5km from the Proposed Scheme and the SPA means that any pollutants would have sufficiently diluted such that there will be **no likely significant effects** upon the SPA or its qualifying features during construction or operation. Similarly, as described in Section 5. 8 of ES Chapter 5 – Air Quality (APP-042), the distance of the NSN and Ramsar sites from the Proposed Scheme is such that there will be no likely significant effects as a result of air pollution.



<u>b.</u>

None of the qualifying bird species were recorded in the area of the Proposed Scheme during the 2017, 2018 and 2019 bird surveys. Furthermore, the Proposed Scheme will not improve access to the Broadlands SPA, nor will it contribute to recreational pressure. As such there will be **no likely significant effects** upon the SPA or its qualifying features during construction or operation.

<u>C.</u>

It is proposed that the realignment of Cantley Steam will occur with the realignment being constructed and ecologically matured to optimum condition prior its connection to the existing Cantley Stream and the decommissioning of the existing stretch of Cantley Steam. This construction measure is with reference to best practice for protecting otters by maintaining the existing commuting route for otters to remain in situ with no impact upon otters or the integrity of their habitat throughout construction. No likely significant effect is expected.

<u>d.</u>

There are no likely significant cumulative effects of the A47/A11 Thickthorn Junction scheme in combination with other identified projects as detailed within the ES Chapter 15 – Cumulative Effects Assessment (APP-052) and Chapter 8 – Biodiversity (APP-045). A

None of the qualifying habitats for Broadlands Ramsar are located where there is a direct hydrological link between the Proposed Scheme and these qualifying habitats. The nearest point of the Broadlands Ramsar lies 11.5 km east of the Proposed Scheme. There is a hydrological link that starts at Cantley Steam at the Proposed Scheme, which flows into Mill Stream and eventually into the River Yare, which runs into Broadlands Ramsar. No habitats suitable to support qualifying features of the Broadlands Ramsar, and no qualifying features themselves were found within the respective study areas of the species from the Proposed Scheme during the surveys. **No likely significant effect is expected.** 

B

No Desmoulin's whorl snails were found during the aquatic invertebrate surveys. Therefore, this species has been screened out from further assessment as the Proposed Scheme does not affect any waterbodies that have suitable habitat for supporting this species therefore no effect pathways to populations of these species within the Broadlands Ramsar. There is a hydrological link that starts at Cantley Steam at the Proposed Scheme, which flows into Mill Stream and eventually into the River Yare, which runs into Broadlands Ramsar. **No likely significant effect is expected.** 



C

It is proposed that the realignment of Cantley Steam will occur with the realignment being constructed and ecologically matured to optimum condition prior its connection to the existing Cantley Stream and the decommissioning of the existing stretch of Cantley Steam. This construction measure is with reference to best practice for protecting otters by maintaining existing commuting for otters to remain in situ with no impact upon otters themselves throughout construction. **No likely significant effect is expected**.

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Bewick's swan were recorded in the study area during the 2017, 2018 or 2019 wintering bird surveys. Although the arable fields are likely to provide a food source during the winter, it is considered likely that there is more suitable foraging habitat within and closer to the boundary of the SPA. It is considered that the loss of agricultural grassland/arable land is not likely to be significant for these species. **No likely significant effect is expected.** 

E

For ruff, gadwall and wigeon, the loss of habitat will be minimal for junctions and access roads are not considered to have a likely significant effect. The scheme is near the existing A47 in an environment dominated by road noise, it is considered unlikely that the qualifying bird species will be found in the vicinity of the road. None of these species were recorded in the area during surveys and therefore **no likely significant effect is expected**.

F

Shoveler were not recorded during the wintering bird surveys and it is unlikely they would be found in the vicinity of the Proposed Scheme due to lack of suitable habitat. **No likely significant effect is expected**.



G

For greylag goose and pink-footed goose it is considered unlikely that these species will forage around the study area. There is more suitable foraging habitat within and closer to the boundary of the Ramsar and that these species do not use the site. Neither species of greylag goose nor pink-footed goose was not found in the vicinity of the site during the wintering and breeding bird surveys. It is considered that the loss of agricultural grassland/arable land is not likely to be significant for these species. **No likely significant effect is expected**.

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There are no likely significant cumulative effects of the A47/A11 Thickthorn Junction scheme in combination with other identified projects as detailed within the Environmental Statement Chapter 15 — Cumulative Effects Assessment and Chapter 8 - Biodiversity.

There are no likely significant cumulative effects of the A47/A11 Thickthorn Junction scheme in combination with other identified projects will be assessed upon the receipt of this information.